CASE 3980: Application of COASTAL STATES FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ase Number 398

Application Transcripts.

Small Exhibits

T / C

# BEFORE THE

# NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

December 2, 1968

EXAMINER HEARING

IN THE MATTER OF:

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

Case No. 3980

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING



dearnley-meier

MR. NUTTER: Case 3980.

MR. HATCH: Case No. 3980, application of Coastal States Gas Producing Company for salt water disposal, Lea County, New Mexico.

MR. EATON: Paul Eaton, representing the applicant. We have one witness.

(Whereupon, Applicant's Exhibits Numbers 1 through 4, inclusive, were marked for identification.)

### JACK McGRAW

called as a witness by the Applicant, 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 as Division Petroleum Engineer for Coastal States Gas Producing Company in Midland, Texas.
- Q You are 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?

- A Yes.
- Q Have you previously testified before the Oil Conservation Commission?
  - A Yes, I have.
- Q Have your qualifications been previously accepted by the Commission?
  - A Yes.

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

MR. NUTTER: Yes, they are.

- O Mr. McGraw, what does Coastal States seek by its application in this case?
- A Coastal States seeks permission to convert its State 22 No. 1 Well to salt water disposal status.
- Q Mr. McGraw, I hand you what has been marked as Exhibit No. 1, and ask you to state what it represents.
- A Exhibit Number 1 is a land plat of the area in question, and it shows the location of the requested disposal well. This is indicated by the red arrow, and shows all wells that are producing within a two-mile radius, and shows the lease ownership, and so forth.
- Q Is Coastal States the operator of the injection well, and have the property on which it is located?

- A Yes.
- Ω Will you briefly give the history of the injection well?
- A Coastal States drilled and completed the State 22

  No. 1 in August of 1968. It was completed in the Upper

  Pennsylvanian Formation through perforations that are shown on

  Exhibit 2, if you would like to refer to that at this time.
  - Q You are now testifying from Exhibit 2?

A Yes. Exhibit Number 2 is a Xerox copy of the detailed pay section of the subject well. It shows the intervals that have been perforated in the well. The well was completed as an oil producing well from the upper two sets of perforations. I believe those are at 9,791 to 9,799, and 9,811 to 9,819. The well was initially potential for 99 barrels of oil, plus 117 barrels of water per day. A severe decline was observed almost immediately, and the well was reacidized with 15,000 gallons of acid in September. No improvement in the productive capacity was effected, and a continued decline was observed.

The well is now producing about 16 barrels of oil a day, and about 75 barrels of water, and it has a hydraulic pump equipment, and this is at or near the economic limit for this type of equipment.

Q Do you have anything else you want to testify to with

respect to Exhibit Number 2?

A Yes, I might mention that drill stem tests were run on the porosity zones that are shown by the two upper sets of perforations, and this test recovered some oil which, of course, was the reason we tried to complete the well as an oil producer. A drill stem test was also run over the interval shown by the lower three sets of perforations, and recovered a slight amount of gas and water. Now, since this time, or we plan to perforate all the zones and inject in all our disposal water in all porosity zones.

Q Next, Mr. McGraw, I hand you what has been marked as Exhibit Number 3, and ask you to state what that represents.

A Exhibit Number 3 is a diagramatic sketch of the down-hole conditions that we plan to use in order to utilize the subject well as a salt water disposal well. As I said before, all porosity zones will be opened. We will inject water down tubing with a packer set at 9,700 feet, which is well below the calculated cement top on the five and a half.

We will use a non-corrosive fluid in the annular space behind the tubing, and the tubing will be plastic-coated.

Q What is the source of the fluid which will be injected?

A The source of the fluid is the water that is being

produced from the Tulk-Pennsylvanian Field, Upper Penn Field, which are in Sections 23, 26, and 27.

Q I hand you what has been marked as Exhibit Number 4, and ask you to state what that exhibit represents.

A Exhibit Number 4 is a water analysis of the water obtained on drill stem tests in the subject well. This is also comparable to the water that will be disposed of in this zone, since it is produced from other wells in the area that are producing from the Upper Penn Formation. This analysis shows that the water is highly mineralized, and is not potable quality.

Q Will the water be injected under pressure?

A We anticipate it will go in on vacuum for a period of time, but if our volume gets very high, and we anticipate it will, we will have to use pressure.

Q What volume of water do you anticipate will be injected at the outset?

A Currently, we have about 800 to 900 barrels per day in the field, and we are planning our system such that we could handle up to 3,000 barrels a day.

Q I believe you stated that the annulus would be filled with inert fluid?

A Inert fluid, yes.

Q Will a pressure gauge be attached to the annulus, or

will the annulus be left open at the surface?

A Yes, we will attach a pressure gauge and observe for any leaks, or anything that might occur.

Now, I believe your Exhibit Number 1 does show production half a mile to the east of the proposed injection well?

A Yes, that is the Coastal States State 23 No. 1, approximately a half a mile east. Then we have our State 26 No. 1, which is approximately half a mile southeast. And then we have our State 27 No. 1, which is half a mile due south.

Q Are those wells producing from the same Upper Pennsylvanian Formation?

A Yes, they are.

Ω In your opinion, will injection of water in the proposed injection well be detrimental to the existing oil production from those other wells you have just mentioned?

A No, sir, in my opinion it probably will not have any effect on it. However, if it should have any effect, it might actually help maintain bottom hole pressure in the area.

Q In your opinion, is the injection well cased and cemented in such a fashion that there will be no danger to any fresh water or other oil or gas reservoirs which may be

encountered by the well?

A Yes, sir, it is cased in a manner that is approved, has been approved by the Oil Conservation Commission for a completed oil well in this area. The surface casing is thirteen and three-eighths, and is set through all fresh water, and cement was circulated. The intermediate casing is set into the top of the San Andres Formation, and has all the salt sections cemented off or cased off, at least.

O Mr. McGraw, have these four exhibits been either prepared by you or under your supervision?

A Yes, they have.

MR. EATON: We offer Applicant's Exhibits 1 through 4 into evidence.

MR. NUTTER: Applicant's Exhibits 1 through 4 will be admitted into evidence.

(Whereupon, Applicant's Exhibits Numbers 1 through 4, inclusive, were admitted in evidence.)

Q (By Mr. Eaton) Mr. McGraw, in your opinion, will approval of the subject application prevent waste, and protect correlative rights in the area?

A Yes.

MR. EATON: That is all.

### CROSS EXAMINATION

### BY MR. NUTTER:

Q Mr. McGraw, you mentioned when the well was originally completed, it made 171 barrels of water and 99 barrels of oil, and now even after the treatment has declined to 16 barrels of oil. What volume of water is it making at this time?

A Seventy-five. The well has continued to decline, and it is making ten to twelve barrels of oil, and I would estimate 50 or 60 barrels of water.

O So the water, percentagewise, continues to go up?

A Yes, somewhat. The water has declined along with the oil.

- Q The total production of fluid has declined?
- A Yes.

Q Is this any limitation of the pumping equipment, or the well bore just doesn't yield the fluid it once did?

A The well bore doesn't yield the fluid. That is out of the upper two sets of perforations. Now, the lower three sets, we feel like it yields a substantial amount of fluid.

- $\Omega$  That is mostly water, though?
- A It would be all water.
- Q But you do intend to use those lower zones for disposal?

A Yes, we feel that is where probably all of our water will go, and we would expect to leave the upper sets of perforations open in case we might get some benefit from this.

Q Are the other three wells completed in the upper and lower, or all in the upper only?

A Well, two other wells in the area, the 23 and the 26, are actually completed from a porosity zone that is at the very top of this C zone. Do you see the mark on the log showing the top of the C?

Q Yes.

A It is not the same porosity streak here. It is higher in the section, but they are completed from the C zone.

Q And you are producing substantial amounts of oil and water?

A Number 3 makes a lot of water. The No. 1 doesn't make any. Now, both wells have possible oil productive zones in the B section that are not open.

Q And the two wells, you mentioned one well doesn't make any water, so the other two wells are making from 800 to 900 a day?

A The 23 is making about 850 barrels of water a day. Now, the 27 has just been completed, and it appears that it probably will make 50 to 100 barrels of water a day.

Q And the four wells that are here now, including the disposal well, are the only wells completed in the pool at the present time?

A Yes, sir, that is true. Now, you can see that we drilled a dry hole on the -- in the northeast quarter of Section 26. We plugged that well. It was tight all the way. And we are presently drilling the State 26 No. 3 in the southwest quarter of Section 26.

Q Now, what is the top of the cement on the five and a half-inch casing -- oh, I see it here, it is 8,750?

A Yes, sir.

MR. NUTTER: Any further questions of Mr. McGraw?

You may be excused. Do you have anything further, Mr. Eaton?

MR. EATON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3980? We will take the case under advisement.

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| WITNESS                         | PAGE |
|---------------------------------|------|
| JACK McGRAW                     |      |
| Direct Examination by Mr. Eaton | 2    |
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|                      |        | OFFERED AND |
|----------------------|--------|-------------|
| EXHIBITS             | MARKED | ADMITTED    |
| Applicant's Exhibits |        |             |
| Numbers 1 through 4  | 2      | 8           |

| STATE  | OF | NEW | MEXICO   | ) |    |
|--------|----|-----|----------|---|----|
|        |    |     |          | ) | SS |
| COUNTY | OF | BEI | RNALILLO | ) |    |

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

COURT REPORTER

GOVERNOR DAVID F. CARGO CHAIRMAN

# State of New Mexico

# Bil Conservation Commission

LAND COMMISSIONER GUYTON B. HAYS MEMBER



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

P. O. BOX 2088 SANTA FE

December 9, 1968

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

| Re: | Case No    | 3980   |  |
|-----|------------|--------|--|
|     | Order No.  | R-3623 |  |
|     | Applicant: | *      |  |

Coastal States Gas Producing Co.

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 drder also sent to: |  |
| Hobbs OCC X                        |  |
| Artesia OCC                        |  |
| Aztec OCC                          |  |
| Other State Engineer Office        |  |

# BEFORE THE OIL CONSERVATION COMMISSION OF THE LEATE 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. 3980 Order No. R-3623

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 2, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 9th 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 State "22" Well No. 1, located in Unit I of Section 22, Township 14 South, Range 32 East, NMPM, Tulk-Pennsylvanian Pool, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Upper Pennsylvanian formation, with injection into the perforated interval from approximately 9791 feet to 9954 feet.
- (4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 9700 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be

-2-CASE No. 3980 Order No. R-3623

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 pravent waste and protect correlative rights.

### IT IS THEREFORE ORDERED:

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to utilize its State "22" Well No. 1, located in Unit I of Section 22, Township 14 South, Range 32 East, NMPM, Tulk-Pennsylvanian Pool, Lea County, New Mexico, to dispose of produced salt water into the Upper Pennsylvanian formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 9700 feet, with injection into the perforated interval from approximately 9791 feet to 9954 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.

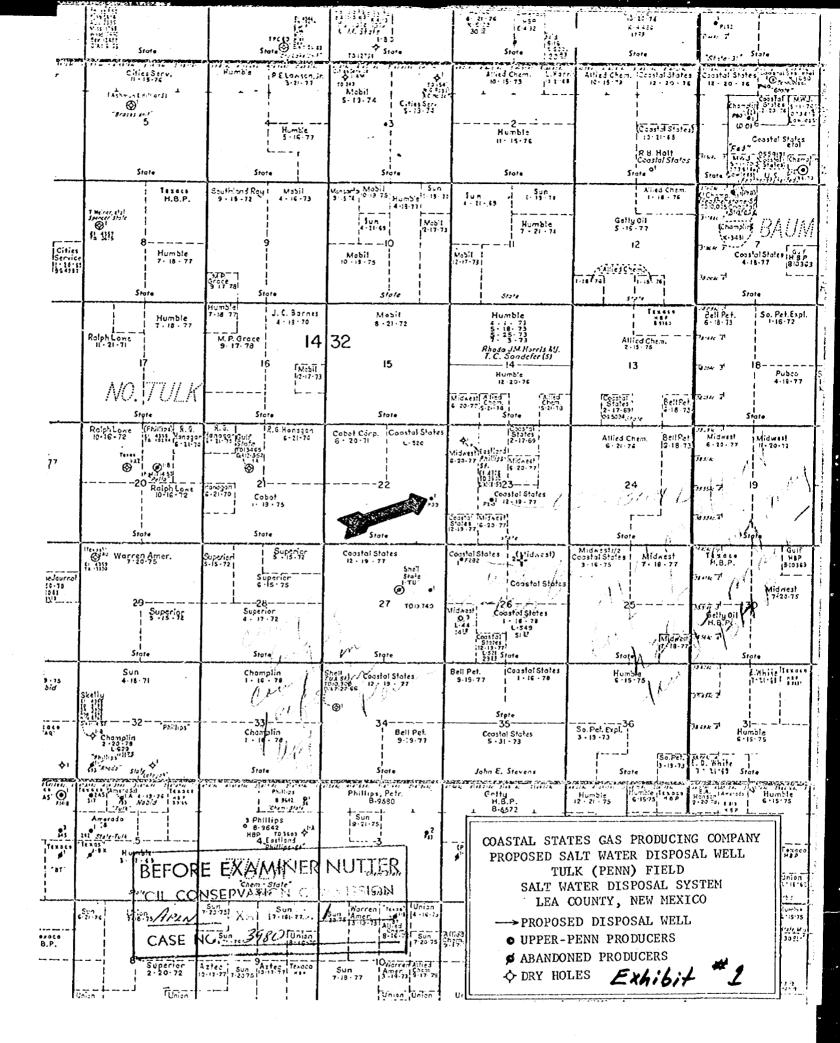
OIL CONFERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON HAVE, Member

L. PORTER, Jr., Member & Secretary

- CASE 3978: Application of Texas Pacific Oil Company too salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers-Queen formations in the perforated interval from 3148 feet to 3450 feet in its McKinney Well No. 1 located in Unit A of Section 36, Township 24 South, Range 36 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3979: Application of Consolidated Oil & Gas, 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 Abo formation in the perforated and open-hole interval from 8500 feet to 9200 feet in its Shipp Well No. 2 located in the NE/4 SE/4 of Section 17, Township 17 South, Range 37 East, Midway-Abo Pool, Lea County, New Mexico.
- CASE 3980: 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 Upper Pennsylvanian formation in the perforated interval from approximately 9791 feet to 9954 feet in its State "22" Well No. 1 located in Unit I of Section 22, Township 14 South, Range 32 East, Tulk-Pennsylvanian Pool, Lea County, New Mexico.
- CASE 3981: 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 Yates-Seven Rivers formations, Lynch Yates-Seven Rivers Pool, Lea County, New Mexico, through the following two wells located in Section 34, Township 20 South, Range 34 East:
  - B. V. Lynch "A" Federal Well No. 8 in Unit I; Disposal Interval - 3690 feet to 3753 feet; B. V. Lynch "A" Federal Well No. 11 in Unit G; Disposal Interval - 3538 feet to 3617 feet.
- CASE 3982: Application of Texaco, Inc. for a dual completion and water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its C. C. Fristoe "A" Federal NCT-1 Well No. 6 located in Unit D of Section 35, Township 24 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas through the casing-tubing annulus from the Jalmat Gas Pool in the perforated interval from 2708 feet to 2796 feet and



13 1/8" Cs3. @ 392' Cemented w/ 450 sx. Cement Circulated Calculated Coment Top 2735' BEFORE EXAMPLER NUTTER OIL COMMISSION 8 1/8" ess. 6 4015' Cemented with 300 sx. APLN XHOT NO. 3 . 12 2% EUE tog. plastic Coaled 11 mg. to 3000 4 ~ 5½" Csz. 15.5# 17.0# 12 Non-Corrasive Fluid in Annulus Calculated Cement Top Tension PKr. set @ 9705 upper Pennsylvanian Formation PBTD - 9991 51/2" ess. @ 10,000'.

 $\frac{1}{2} \left( \frac{1}{2} + \frac{1}{2} \right) \leq \frac{1}{2} \left( \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) \leq \frac{1}{2} \left( \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) \leq \frac{1}{2} \left( \frac{1}{2} + \frac{1}{2}$ 

Exhibit # 3



DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

WATER AVALYSIS
Date 8/23/68
Lab. Location 40335

Lab no. 5148

· COASTAL STATES

S. no. 2

|                        |          |       | 12001                        | Formation    | <u> </u>  |
|------------------------|----------|-------|------------------------------|--------------|-----------|
| •                      |          |       | Legal Description STATE 22-/ | BHY          | Depth     |
| Source<br>DST T=57 # 2 | Total So |       | pri 8. 1                     | Specific 3 6 | Gravity F |
| Constituents           | mg/L     | mec/L | Constituents                 | mg/L         | meq/L     |
| Sodium                 | 13900    | 607   | Chloride                     | 21660        | 610       |
| Calcium?               | 880      | 11.16 | Bicarbonate                  | 366          | .6        |
| Mágnesium              | 312-     | 26    | Sulfate                      | 3020         | 61        |
| Iron                   |          |       | Carbonate                    | 0            | —ಲ        |

Stiff Diegram ( meq/L )

|         | 6 | 9 | 5 | Ł | Ļ. | . 3 | , | 2 |   | ı" | 37. | 3 | ì. | 2 |     | 3 | 1 | le.   |   | 5        | 6                   |
|---------|---|---|---|---|----|-----|---|---|---|----|-----|---|----|---|-----|---|---|-------|---|----------|---------------------|
| Na/1000 |   |   |   |   |    |     | 1 | T | Ĭ | Π  |     |   |    |   | 1   | 1 | T | i -   | Ī | <u> </u> | C1/1000             |
| Ca/100  |   |   |   |   |    |     |   |   |   |    |     | ~ |    |   | 1   |   |   |       |   |          | <br>HCO3/10         |
| M2/100  |   |   |   |   |    |     |   |   |   |    |     |   |    |   |     |   |   |       |   |          | so <sub>4</sub> /10 |
| Fe/10   | - |   |   |   |    |     |   |   |   |    |     |   |    |   | - - |   |   |       |   | <b></b>  | <br>003/10          |
|         |   |   |   | 1 |    |     |   | ł |   |    |     |   |    |   |     |   | } | }<br> |   |          |                     |

Remarks:

| BEFORE  | EXAMINEP NUTTER       |
|---------|-----------------------|
|         | ERVATION C. MUNISSION |
|         | EXHIBIT NO.           |
| CASE NO | 3980                  |

esar co. Drlg. & Prod. Dept. Midland Div. VAUG 28 1968 C111\_ 1-11 File

Analysis Based On API Recommended Procedure

Exhibit #4

#### COASTAL STATES GAS PRODUCING COMPANY

NORTH TEXAS DIVISION WILCO BUILDING MIDLAND, TEXAS 79701

November 7, 1968

he of

3980

'60 Nov 12 AH 8 02

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

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

Re: Coastal States' State "22" No. 1
Tulk (Penn) Field
Lea County, New Mexico
Proposed Salt Water Disposal Well

#### Gentlemen:

Coastal States Gas Producing Company requests permission to convert the Coastal States State "22" No. 1 located in the NE/4 of the SE/4 of Section 22, T-14-S, R-32-E to salt water disposal status.

This well was drilled and completed by Coastal States in August, 1968. It was completed in the Upper Pennsylvanian formation through perforations at 9791-99' and 9811-19', and was potentialed for 99 BO plus 171 BW per day. A severe decline was observed almost immediately and the well was re-acidized with 15,000 gallons of acid in September, 1968. No improvement in the productive capacity was effected and a continued decline was observed. The well is now producing 16 BO plus 75 BW per day with hydraulic pumping equipment. At the current decline rate, the economic limit will be reached this month and therefore we are proposing to convert the well to salt water disposal.

We propose to dispose of the produced water from the Tulk (Penn) Field (currently 900 BPD) into the Upper Penn formation from 9791' to 9954'. During the initial completion of the State "22" No. 1, two zones at 9894-9920' and 9942-54' were tested and found to be water productive. A cast iron bridge plug was set at 9850' above these zones prior to completing the well as an oil producer from the zones at 9791-99' and 9811-19'. We propose to drill out the

DOCKET MARKED

New Mexico 0il Conservation Commission November 7, 1968 Page 2

bridge plug and dispose of water into all zones. Coastal States' producing wells in Sections 23 and 26 will be carefully observed in order to detect any affect from injecting into the Upper Penn in the subject disposal well.

The attached plat shows the location of the subject well and all wells within a two-mile radius. As shown on this plat, there are only two producing wells within two miles of the proposed disposal well. Both are operated by Coastal States. Coastal is also drilling a well 1/2 mile south of the proposed disposal well in Section 27.

A diagrammatic sketch of the proposed disposal well is also attached. This sketch shows that we plan to inject through tubing with the packer set at 9700', well below the calculated top of the cement on the 5-1/2" casing at 8750'. A non-corrosive fluid will be placed in the annular space behind the packer.

Coastal States respectfully requests that this be approved administratively or that it be set down for hearing at the next regular hearing date.

Very truly yours

Jack R. McGraw

Division Petroleum Engineer

JRMcG:1m Attachments

cc: Mr. Stanley Goode Kenna, New Mexico

Mr. Tom Standifer Bledsoe, Texas

Clarence Hinkle W. D. Elliott Joe R. Howard Frank Qualia, Midwest Oil Co.

New Mexico State Engineers Office Santa Fe, New Mexico Attn: Mr. Frank Irby MAIN OFFICE OCC

'68 Nov 12 AH 8 02

# PERTINENT INFORMATION

- 1. Injection will be made into the Upper Pennsylvanian formation from 9791-9954.
- 2. The fluid to be injected is produced salt water (see attached analysis) from the Tulk (Penn) Field, Lea County, New Mexico.
- 3. The anticipated volume will be 1000-3000 BPD.
- 4. The anticipated injection pressure is 2000 psi.
- 5. The disposal zone contains water similar to that being injected. Both waters are highly mineralized and are unfit for domestic use.

# NEW MEXICO OIL CONSERVATION COMMISSION

Form C-108
Revised 1-1-65

(Acres 3980

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

| OPERATOR   |                  |                     | ADDRESS                   |                      |                   |            |                                      |                    |
|--|------------------|---------------------|---------------------------|----------------------|-------------------|------------|--------------------------------------|--------------------|
| Coastal States Gas I   | Producing (      | Company             | Box                       | 235, Mi              | ldland, Tex       | as 79      | 701                                  |                    |
| LEASE NAME   |                  | WELL NO.            | FIELO                     |                      |                   |            | COUNTY                               |                    |
| State "22"   |                  | 1                   | Tu1k                      | (Penn)               |                   |            | Lea                                  |                    |
| LOCATION   |                  |                     |                           |                      |                   |            |                                      |                    |
| UNIT LETTER  | <u>I</u> .; w:   | ELL IS LOCATED      | 660                       | FROM THE _           | east              | LINE AND   | 1980                                 | ET FROM THE        |
| south Line, section  | 22 το            | NNSHIP 145          | RANGE 32                  |                      | NMPM.             |            |                                      |                    |
|  |                  |                     | G AND TUBING              |                      |                   |            |                                      |                    |
| NAME OF STRING   | SIZE             | SETTING DEPTH       | SACKS CE                  | MENT                 | TOP OF CEM        | ENT        | TOP DETERMI                          | NED BY             |
| 3011.00  |                  |                     |                           | i                    |                   |            |                                      |                    |
| INTERMEDIATE   | 13-3/8"          | 3921                | 450 s>                    |                      | Circulate         | d          | Visual                               |                    |
| INTERMEDIATE   |                  |                     |                           | -                    |                   |            |                                      |                    |
|  | 8-5/8"           | 4015'               | 300 sx                    | •                    | 2735 <b>'</b>     |            | Calculatio                           | ns                 |
| LONG STRING  |                  |                     | }                         | 1                    |                   | 1          |                                      |                    |
| ļ  | 5-1/2"           | 10,000              | 200 sx                    |                      | 8750              |            | Calculated                           |                    |
| TUBING   |                  |                     | NAME, MODEL AN            | D DEPTH OF T         | UBING PACKER      |            |                                      |                    |
| <b> </b>   | 2-3/8"           | 9,7301              | Baker                     | Model R              |                   |            |                                      |                    |
| NAME OF PROPOSED INJECTION FORMATI   | ON               |                     | TOP UF F                  | RMATION              |                   | BOTTOM     | OF FORMATION                         |                    |
| Unner Pennsylvanian  |                  |                     | 97                        | 91'                  |                   | 9          | 9541                                 |                    |
| Upper Pennsylvanian is injection through tubing, casing,                   | OR ANNULUS?      | PERFORATION         | NS OR OPEN HOLE?          |                      | TERVAL(S) OF INJ  |            |                                      |                    |
| Tubing   |                  | Peri                | forations                 | 9791-                | 99541             |            |                                      | 1                  |
| IS THIS A NEW WELL DRILLED FOR<br>DISPOSAL?                                | IF ANSWER IS     | NO, FOR WHAT PURPO  |                           |                      |                   | HAS WEL    | L EVER BEEN PERFORMER THAN THE PROPO | RATED IN ANY       |
| ••   | Pos              | ad 1 mandung        | ež an                     |                      |                   | TION ZON   | HER THAN THE PROPU                   | SED INJEC-         |
| NO<br>LIST ALL SUCH PERFORATED INTERVALS                                   | AND SACKS OF CE  | oil product         | CLOII<br>OFF OR SQUEEZE E | ACH                  |                   | J          | No                                   |                    |
|  |                  |                     |                           |                      |                   |            |                                      | 1                  |
| None DEPTH OF BOTTOM OF DEEPEST  |                  | DERTH OF BOTTOM O   | S NEVY WICHES             | ····                 | 100000 05 70      | 0.05 2527  | LAWER                                |                    |
| FRESH WATER ZONE IN THIS AREA  |                  | DEPTH OF BOTTOM O   | THIS AREA                 |                      | DEPTH OF TO       | ONE IN THE | SAREA                                | 1                  |
| ANTICIPATED DAILY MINIMUM  | DOT I MAXIMUM    |                     | Non                       |                      |                   |            | None                                 |                    |
| INJECTION VOLUME   (BBLS.)   | MAXIMUM          | OPEN OR CLOS        | SEO TYPE STATEM           | PRESSUR              | TION TO BE BY GRA | VITY OR    | APPROX. PRESSUR                      | E (PSI)            |
| 1000 BPD   | 1 3000 BP        |                     |                           |                      | Pressure          |            | 2000 psi                             |                    |
| ANSWER YES OR NO WHETHER THE FOLLO<br>ERALIZED TO SUCH A DEGREE AS TO BE I | UNFIT FOR DOMEST | IC. WATER           | R TO BE DISPOSED          | F NATURAL<br>SAL ZON | WATER IN DISPO-   | ARE WATE   | ER ANALYSES ATTACI                   | HED?               |
| STOCK, IRRIGATION, OR OTHER GENERAL  |                  |                     | Yes                       | 1<br>l               | Yes               |            | Yes                                  |                    |
| NAME AND ADDRESS OF SURFACE OWNER  | (OR LESSEE, IF S | TATE OR FEDERAL LA  | ND                        |                      |                   |            |                                      |                    |
| Mr. Stanley Coode, Ke  | enna. New 1      | Mexico: Mr.         | . Tom Stand               | ifer. B              | ledsoe. Nev       | √ Mexic    | 20                                   | [                  |
| LIST NAMES AND ADDRESSES OF ALL OPE  | RATORS WITHIN O  | NE-HALF ( ) MILE OF | F THIS INJECTION W        | ELL                  |                   |            |                                      |                    |
| Midwest Oil Corporati  | ion              |                     |                           |                      |                   |            |                                      | 1                  |
| induced oir corporae.  |                  |                     |                           |                      |                   |            |                                      |                    |
| MXX 1500 Wilco Bldg.   |                  |                     |                           |                      |                   |            | outly sees                           |                    |
| MAN 1500 WILLY BIGG.   |                  |                     |                           |                      |                   |            | <del>MAIN OFFI</del>                 | <del>71. 000</del> |
| Midland, Texas 7970  | <u> </u>         |                     |                           |                      | <del></del>       |            |                                      |                    |
|  |                  |                     |                           |                      |                   | ,          | '88 Nov 12                           | to But             |
|  |                  |                     |                           |                      |                   |            |                                      | 111001             |
|  |                  |                     |                           |                      |                   |            |                                      |                    |
| TAYE COPIES OF THIS APPLICATION BEEN                                       | SURFACE OWNE     | A                   | EACH OPER                 | ATOR WITHIN          | ONE-HALF MILE     | THE NEW I  | MEXICO STATE ENGIN                   | EER                |
| ENT TO EACH OF THE FOLLOWING?  | Ye               | es.                 |                           | Not appl             |                   | i Ye       | :S                                   | }                  |
| RE THE FOLLOWING ITEMS ATTACHED TO   |                  |                     | FLECTRICA                 |                      |                   |            | ATIC SKETCH OF WE                    |                    |
| HIS APPLICATION (SEE RULE 701-B)   | 1                | ve.                 | <b>1</b> -                | čes                  |                   | Ye         |                                      |                    |
|  | Ye               |                     |                           |                      |                   | ·          |                                      |                    |
| I hereby certi   | fy than the info | rmation above is    | true and comple           | te to the be         | st of my knowle   | edge and   | belief.                              |                    |

November 7, 1968 Div. Prod. Supt. (Title) (Date)

NOTE: Spould waivers from the State Ergineer, 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

| OPERATOR  |                  |                    | ADDRESS              |  |  |
|---|------------------|--------------------|----------------------|--|--|
| Coastal States Gas  | Producing (      | lompany            | Box 235,             | Midland, Tex   |  |
| State "22"  |                  | 1                  | Tulk (Per            | nn)  | Lea  |
| LOCATION  | •                |                    | 40                   |  | 1000   |
| UNIT LETTER   | ; w              | ELL IS LOCATED     | 60 FEET FROM         | ATHEeast   | LINE AND 1980 FEET FROM TH   |
| 8outh LINE, SECTION   | 22 ro            | WNSHIP 148         | HANGE 32 E           | NMPM.  |  |
| NAME OF STRING  | SIZE             | SETTING DEPTH      | SACKS CEMENT         | TOP OF CEM   | ENT TOP DETERMINED BY  |
| SURFACE CASING  |                  |                    |                      |  |  |
|   | 13-3/8"          | 392'               | 450 sx.              | Circulate  | d Visual   |
| NTERMEDIATE   |                  |                    |                      |  |  |
|   | 8-5/8"           | 4015               | 300 sx.              | 27351  | Calculations   |
| ONG STRING  | - 4 4011         |                    | 000                  | orcol  |  |
| UBING   | 5-1/2"           | 10,000'            | 200 SX.              | 8750'  | Calculated   |
|   | 2-3/8"           | 9,730'             | Baker Mode           | a1 ' p   |  |
| AME OF PROPOSED INJECTION FORMA                                   | TION             | 7,750              | TOP OF FORMAT        |  | SOTTOM OF FORMATION  |
| Honer Pennsylvanian   |                  |                    | 9791                 |  | 9954*  |
| Upper Pennsylvanian singertion through tubing, casin              | GOR ANNULUS?     | PERFORATION        | S OR OPEN HOLE? PROP | OSED INTERVAL(S) OF INJ  | ECTION   |
| Tubing STHIS A NEW WELL DRILLED FOR ISPOSAL?                      |                  | Perfo              | orations 97          | 791-9954'  | ·  |
|   |                  |                    |                      | Y DRILLED?   | HAS WELL EVER BEEN PERFORATED IN AN ZONE OTHER THAN THE PROPOSED INJECTION ZONE? |
| No<br>ISY ALL SUCH PERFORATIO INTERVA                             | For              | oil product        | ion                  | The state of the s | No   |
|   |                  |                    |                      |  |  |
| NONE EPTH OF BOTTOM OF DEEPEST RESH WATER ZONE IN THIS AREA       |                  | DEPTH OF BOTTOM OF | NEXT HIGHER          | DEPTH OF TO  | P OF NEXT LOWER  |
|   | 400'             | OIL OR GAS ZONE IN | None                 | OIL OR GAS 2   | None   |
| NTICIPATED DAILY MINIMUM  | I MAXIMUM        | OPEN OR CLOS       |                      | SINJECTION TO BE BY GRA  |  |
|   | 3000 BP          | D Close            | j                    | Pressure   | 2000 psi   |
| 1000 BPD  | LOWING WATERS AR | E MIN- WATER       | TO BE DISPOSED OF H  | ATURAL WATER IN DISPO-<br>AL ZONE  | ARE WATER ANALYSES ATTACHED?   |
| ME AND ADDRESS OF SURFACE OWNE                                    |                  |                    | Yes .                | <u>Yes</u>   | Yes  |
|   |                  |                    |                      |  |  |
| Mr. Stanley Goode. I  | Kenna, New       | Mexico: Mr.        | Tom Standifer        | , Bledsoe, Nev   | Mexico   |
|   |                  |                    |                      |  |  |
| Midwest O'l Corpora   | tion             |                    |                      |  |  |
| NAW 1500 Wilco Blde   |                  |                    |                      |  | 114111 000   |
| ARE LOW MILLO DING  | <b>•</b>         |                    |                      |  | - MAIN OFFICE OFF  |
| Midland, Texas 7970   | 01               |                    |                      |  |  |
|   |                  |                    |                      |  | 268 Nov 12 AH 8 03   |
|   | ·                |                    |                      |  | 00 KOV 12 AH 8 US  |
|   |                  |                    |                      |  |  |
| VE COPIES OF THIS APPLICATION BE<br>NT TO EACH OF THE FOLLOWING?  | EN SURFACE OWN   | CPI CPI            | TEACH OPERATOR Y     | WITHIN ONE-HALF MILE   | THE NEW MEXICO STATE ENGINEER  |
| NT TO EACH OF THE FOLLOWING?                                      |                  | 20                 | JOF THIS WELL        | applicable   | Ye <b>s</b>  |
|   | 1 02             |                    | , 400                | ~~~~~~~  |  |
| E THE FOLLOWING ITEMS ATTACHED                                    | TO PLAT'OF AREA  |                    | ELECTRICAL LOG       |  | DIAGRAMMATIC SKETCH OF WELL  |
| E THE FOLLOWING ITEMS ATTACHED<br>IS APPLICATION (SEE RULE 701-B) |                  |                    | LECTRICAL LOG        |  | DIAGRAMMATIC SKETCH OF WELL  Yes   |

November 7, 1968 Div. Prod. Supt. (Title)

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

Con 3980 APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

| JI CRATOR  |                          |                      | ADDRESS                     |                               |                   |   |
|--|--------------------------|----------------------|-----------------------------|-------------------------------|-------------------|---|
|  |                          | C                    |                             |                               | 70701             |   |
| Coastal States Gas I   | Producing                | WELL NO.             | BOX 235,                    | Midland, Tex                  | Kas /9/UI         |   |
| State "22"   |                          | 1                    | Tulk (Pen                   | in)                           |                   | Lea   |
| LOCATION   |                          |                      |                             |                               |                   |   |
|  | ; w                      | ELL IS LOCATED6      | 560 FFET FROM               | THE CAST                      | LINE AND          | 80 FEET FROM THE                                |
| south CINE, SECTION  | 22 ro                    | WASHIP 14S           | RANGE 32E                   | NMPM.                         |                   |   |
|  | ·····                    | ···                  | AND TUBING DATA             |                               | <del></del>       |   |
| NAME OF STRING   | SIZE                     | SETTING DEPTH        | SACKS CEMENT                | TOP OF CEN                    | ENT TO            | DETERMINED BY                                   |
| SURFACE CASING   | 13-3/8"                  | 3921                 | 450 sx.                     | Circulate                     | d Vis             | ы <b>1</b>                                      |
| INTERMEDIATE   |                          |                      |                             |                               |                   |   |
|  | 8-5/8"                   | 4015                 | 300 sx.                     | 2735'                         | Cal               | culations                                       |
| LONG STRING  |                          |                      |                             |                               |                   |   |
|  | 5-1/2"                   | 10,000'              | 200 sx.                     | 6750°                         | Cal               | ulated  |
| TUBING   |                          |                      | NAME, MODEL AND DEPTH       | OF TUBING PACKER              |                   |   |
| AME OF PROPOSED INJECTION FORMAT   | 2-3/8"                   | 9,730                | Baker Mode                  |                               | BOTTOM OF FOR     |   |
| TAME OF PROPOSED INJECTION FORMAT  | 100                      |                      | İ                           | 'N                            | J                 | WATION  |
| Upper Pennsylvanian s indection through Yusing, casing   | OR ANNULUS?              | PERFORATION          | 3791 PROPOS                 | SED INTERVAL(S) OF IN.        | 9954'             |   |
|  |                          | 225                  |                             | of onest                      |                   |   |
| Tubing S THIS A NEW WELL DRILLED FOR DISPOSAL?   | IF ANSWER IS             | NO, FOR WHAT PURPO   | orations 979                | 91-9954'                      | HAS WELL EVER     | BEEN PERFORATED IN ANY<br>N THE PROPOSED INJEC- |
|  | -                        |                      |                             |                               | TION ZONE?        |   |
| NO<br>IST ALL SUCH PERFORATED INTERVALS  | AND SACKS OF C           | MENT USED TO SEAL O  | LOII<br>OFF OR SQUEEZE EACH |                               | _lN               | )   |
|  |                          |                      |                             |                               |                   |   |
| RODE EPTH OF BOTTOM OF DEEPEST RESH WATER ZONE IN THIS AREA  |                          | DEPTH OF BOTTOM OF   | NEXT HIGHER                 | DEPTH OF TO                   | OP OF NEXT LOWER  |   |
|  | 001                      | OIL OR GAS ZONE IN T |                             | OIL OR GAS                    | ZONE IN THIS AREA | None  |
| NTICIPATED DAILY MINIMUM   | 00 1                     | OPEN OR CLOS         | None                        | INJECTION TO BE BY GR         | AVITY OR APPR     | None  |
| NTICIPATED DAILY MINIMUM NIECTION VOLUME   BBL5.)  | 1 2000 111               | n (1-7-              |                             | <b></b> .                     |                   | 0004  |
| 1000 BPD NEWER YES OR NO WHETHER THE FOLL  | 3000 BP                  | D   Close            | TO BE DISPOSED OF NAT       | PYESSURE URAL WATER IN DISPO- |                   | OOO psi   |
| NSWER YES OR NO WHETHER THE FOLLS<br>RALIZED YO SUCH A DEGREE AS TO BE<br>TOCK, IRRIGATION, OR OTHER GENERAL | UNFIT FOR DOMES<br>USE - | TIC. }               | 1                           | . ZONE                        | Y                 |   |
| AME AND ADDRESS OF SURFACE OWNER   | (OR LESSEE, IF S         | TATE OR FEDERAL LAN  | Yes i                       | Yes                           | Yes               |   |
|  |                          |                      | m                           | 51.1 W                        | 344               |   |
| Mr. Stanley Goode, K   | ENNA NEW                 | Mexico: Mr.          | TOM Standiter               | Riedade We.                   | w mexico          |   |
|  |                          | -                    |                             |                               |                   |   |
| Midwest Oil Corporat   | lon                      |                      |                             |                               |                   |   |
| mar 1500 1111 . n1 1   |                          |                      |                             |                               |                   | . ]   |
| MAK 1500 Wilco Bldg.   |                          |                      |                             |                               | - HAIT            | <del>  000 000</del>                            |
| Midland, Texas 7970  |                          |                      |                             |                               |                   |   |
| MICHARD, TEXAS 1910  | <b>.</b>                 |                      |                             |                               | ero II            | ov 12 AH 8 03                                   |
|  |                          |                      |                             |                               | 768 H             | BA 15 448 03                                    |
|  |                          |                      |                             |                               |                   |   |
|  | :                        |                      |                             |                               | Y2                |   |
| AVE COPIES OF THIS APPLICATION BEEN<br>ENT TO EACH OF THE FOLLOWING?   | SURFACE OWN              | ER                   | OF THIS WELL                | THIN ONE-HALF MILE            | THE NEW MEXICO    | TTATE ENGINEER                                  |
|  |                          | ខន                   |                             | pplicable                     | Yea               |   |
| TE THE FOLLOWING ITEMS ATTACHED TO<br>THE APPLICATION (SEE RULE 701-8)                                       | PLAT'OF AREA             |                      | ELECTRICAL LOG              |                               | DIAGRAMMATIC 5    | ETCH OF WELL                                    |
|  | Y                        | 28                   | Yes                         |                               | Yes               |   |
| I here <b>je</b> y certi   | fy that the info         | rmation above is t   | rue and complete to th      | e best of my knowl            | ledge and belief. |   |

Div. Prod. Supt. November 7, 1968

NOTE: Yould waivers from the State Engineer, the surface owher, 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.

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|--|--|--|--|--|--|--|
|  | 12 11 11 14<br>12 12 11 14<br>12 12 13 15<br>12 13 13 15<br>12 13 14 18<br>14 14 14 14 14 14 14 14 14 14 14 14 14 1  | Store  | To last of the part of the par | 6-21-76 HBP<br>K-6109 E-4-92 Midwest   | K-4488<br>ITU  | PMI T  |
|  | 2 A S 33 Storio  | 1 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2  |  | State 2021   | State  | State 3: State   |
|  | Office Serv.   | Humble PE Lowson Jr.   | 10743  | Allied Chem. 1. Harri<br>10: 15: 73   23:164   | Attied Chem, 13costal States<br>10-15-73 12-20-76  | 12 · 20 · 76 PED TY M. NIE.  |
| J  | Sagaran ( an art)  |  | Mobil   \$10 42551<br>S- 19-74   Cities Serv.<br>\$-19-74  |  |  | Consel WW Chamber 3 12 13 14 15 11 12 12 12 12 12 12 12 12 12 12 12 12   |
| 1  | **************************************   | Humks<br>5-16-27   | 3  | Humble   | (Coostal States)   | 1 2 2  |
| 1  | 1  | 1  |  | 11. 12-12  | R B Holt<br>Coostal States   | Fey Constal States   |
|  | Stote  | State  | State  | Sicie  | State al   | State Com essi U.S.  |
| 1  | lexaca<br>ਮ.B.P.   | Southland Roy ! Mabit<br>9 - 18 - 72   1 4 - 16 - 73   | Monsario Mobil Sun<br>3 :5 74   0 :5 75 Humblef : 19 : 21<br>4:18-77 (:  | 5 um   5 um   1 13 - 74   4 - 21 - 65  | Allied Chem.   | Commissioners<br>Society States  |
| 1  | T minar etal  senser state  Silvaniar  Et 4557   | 1  | Sun   Mabil<br>4:21 65   12:17:73  | Humble<br>7 - 21 - 74  | Gelty Gil<br>5-15-77   | Chanaling BAUN   |
| Cities   | Fa 1888 8 Humble   | 9  | Mobil 1  |  | 12   | Ccostol Stotes Hup   |
| 789111<br>10.19.81<br>1264/156                               | 7:16:77  | 7.17.0-7.1<br>6.0ce 18.1   | 10 - 19 - 75   | 12-17-73   | ्रां श्रीरिवर्ष देशकेलोहरू<br>चित्रकेरको स्टिकरेरको  | 4-18-77  Bio363  |
|  | State  | State  | Stote  | 5/0/0  | 5.910  | Stote  |
|  | Humble<br>7-18-77  | Humblel J. C. Barnes<br>7-18-77 4-19-70  | Mobil<br>8 - 21 - 72   | Humble<br>4 - 1 - 73<br>5 - 18 - 73  | Texeta<br>   | Bell Pet.   So. Pet. Expl.   6-13-75   1-16-72   |
|  | Raiph Lowe   | M.P. Grace<br>9-17-78  | 32   | 5: 15: 73<br>7: 13: 73<br>Ahodo JM Horris XV.  | Allied Chem.<br>2-15-76  | Same T   |
| 1  | 17   | 16 FMobil 112-17-73  | 15   | 7. C. Sandefer (5) 14  | 13   | Pubco  |
|  | NO. TULK   | <b> </b>   |  | 12 - 20 - 76  Midwest Alled Alled Chem. Ch | Cegatal ; Bell Pet   | 4-18-77<br>Gun 7   |
|  | Stote  | State  | State  | State  | Cogstal BellPet. States 1 8:17-691 8:18 72 06:5074 1-576   | 31a1+  |
| -  | RalphLowe (Phillips) R.G.<br>10-16-72   14 4314   Janegar<br>12 1314   6-21-76   | R.S. R.S. Handgan (capagan) (capagan | Cabot Carp.   Coastal States   6 - 20-71   L-520   | \$1, 12-17-69  <br>  Neather (1  | Allied Chem. Bell Pet<br>6-21-76 G-18-73   | Midwest   Midwest  |
| -<br>-77   | 76.11<br>(a) 12 (b) 18 (c) 18 (c |  | i i f  | 6-20-77 Chimps Midweet   |  | ītuk   |
| }  | 20 80 0  | ন্তুন্তু <sub>ই</sub> না 2\  | 22   | [1 4]: [<br>13 1 1 23  | 24   | 77.59.7 19   |
|  |  | Cabat<br>1- 19 - 75  | 3  | P20 12 - 19 - 77   | ,  | 303117 <sup>34</sup>   |
|  | State  | State  | State  | Cocstol TM JACST<br>Stotes 6-20-77<br>12-19-77   | State  | Store :  |
| 1  | Warren Amer. 37 20-75  | Superior<br>Superior<br>Superior   | Coostal States<br>12 - 19 77<br>She'l  | Coastal States 2 (Midwest)   | Midwestille<br>Coastal States   Midwest<br>3 18-75   7 18 77   | Texoco   Gujt<br>H.B.P.   Hap<br>  |
| heJournal<br>20-10   | 75 (3550   | Superior<br>6-15-75  | Shell<br>State<br>(TV)   | Coastal States   |  | Midwest  |
| 1041<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000<br>1000 | 29   | Superior   | 27 1019.740  | Widnest Coastal States   | 25   | 7-20-75  |
| 1  | 5 -12 - 14   | 4 - 17 - 72  | ı T  | 5-70-77<br>1-44  | <b>जिन्न</b>   | Gellyon<br>H.B.P.<br>There T   |
|  | State  | State  | State <sup>*</sup>   | Costal SIV   | 7 - 14 - 77<br>  | State  |
| 19 · 75  | Sun<br>4-18-71   | Chemplin 5   | Shell Coastal States<br>10/4.51 Coastal States<br>10/4.300 (2 - 12 - 27<br>0/47-27-66  | Bell Pet.   Coastal States   1 - 16 - 78   | Humble<br>6 15-75  | france france  |
| sbid S   | Skelly   | , ,  | ©17727-66  |  | , ,  | ona?   |
|  | Phidips Phidips  | Champlin   | 34   | State 35 Coastal States  | So Pet Expl. 1   | Humble   |
| - 1  | 2 - 20 - 78<br>L-629<br>*Phillips" 1175  | 1 - 16 - 78  | 9-19-77  | 5 - 31 - 73  | 1 <sup> </sup>   | Cost Alije   |
| φι<br>7000. τα   | Si treta state   | State  | State<br>State   | John E. Stevens  | State  | 7 11'63 State  |
| ":: (o)   '  | er ges (Americas)   tenece   | arana alazanie glarine glarana<br>Philippi<br>  8 asaz 🐉   | Phillips, Petc.<br>B-9680  | Getty<br>H.B.P.  | Humble Gists 48P   | Handle State Control of |
| · †  | Amerada  | 3 Phillips<br>8 9642   | Sun<br>19-21-75  | 1 3-467?   |  |  |
| Texace 1   | Texas K Humble   | 4 Eastland<br>Phillips St  | L3 №   | PROPOSED SA  | TES GAS PRODUCING ALT WATER DISPOSA  | IG COMPANY   |
| 207  | 5.00   | TULK I   | com state  | TUI  | IK (PENN) FIELD  | la Tar   |
| i 1  | چون ب <sub>ه</sub>   | Chem - State   | 500  | SALT WATER DISPOSAL SYSTEM LEA COUNTY, NEW MEXICO  |  |  |
| 1  | <del></del> ,  | Sun<br>7: 70:751 Sun   | Sun   Warren   Tesse   Union   7 20 75   3 13 73   Apred   | 11   | ED DISPOSAL WELL   | 1 15 75  |
| -   es   | Sun   Union   7  | '''''''''''  | 17 T T Affect  | • UPPER-PENN PRODUCERS   |  |  |
| Erac:<br>B.P.  | Sun (Inion 7:18-73   | Sun (1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/  | 8 16 76 Sun 1 3  |  |  | 30.21  |
| *****  | 77.16-73   | Sun (Union)   8 - 1 6 - 20   | A 16 78 Sun A 10 Years 15 16 16 16 16 16 16 16 16 16 16 16 16 16   | ▲ ABANDON  | NED PRODUCERS  | 30.51:   |
| eroce<br>B.P.  | 77.16-73   | Sun (100)  | Alicing   Sim   Alicing    |  | NED PRODUCERS  | -g 19<br>-g 19   |

The state of the s

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# Constal States State 22 #1

13 3/9" CS3 & 372" Central of 450 SX Calculates Cament Top 85% 300 & 4015' Cement with 300 s.x. 12 2% Eus 16. plantic Coaled LL 51/2" 340 15.5" 17.5" 12- Non- Corrective Fluid in ringal. Tension PKR Set & 9708 - S & Calculated Coment Top Upper Pennsylvanian 5% 00



DOMELL DIVISION OF THE DOW CHEMICAL COMPANY

WATER ANALYSIS
Date 8/23/68

Lab no. 5148

· COASTAL STATES

Lab. Location from 35

S. no. 2

|  |       |         | Pool                         | Formation |          |
|--|-------|---------|------------------------------|-----------|----------|
|  |       |         | Legal Description State 22-/ | BHT       | Depth    |
| Source Test # 2 Total Solids DST Test # 2 M:DOLE |       | pa 8. 1 | Specific Gravity             |           |          |
| Constituents                                     | mg/L  | mec/L   | Constituents                 | mg/L      | meq:/L   |
| Sodium   | 13900 | 607     | Chloride                     | 21660     | 610      |
| Calciúm?   | 880   | 144     | Bicarbonate                  | 366       | .6       |
| Magnesium  | 1 312 | 26      | Sulfate                      | 3020      | 61       |
| Iron   |       |         | Carbonate                    | 0         | <i>ა</i> |

Stiff Diegram (mec/L)

Na/1000
Ca/100
Mg/100
Fe/10

Stiff Diegram (mec/L)

C1/1000
HC03/10
S04/10
C03/10

Remarks:

CSGP CO.
Drlg. & Flee

Analysis Based On API Recommended Proceduro

# SEFORE THE SIL 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:

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CASE No. 3980

Order No. R- 3623

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 2, 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 State "22" Well No. 1

  located in Unit I of Section 22, Township 14 South, Range

  32 East , NMPM, Tulk-Pennsylvanian Pool , Lea

  County, New Mexico
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Pennsylvanian formation, with injection into the perforated interval from approximately 9791 feet to 9954 feet.
- (4) That the injection should be accomplished through 238 -inch plastic-lined tubing installed in a packer set at

approximately <u>frot</u> feet; that the casing-tabing 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 CRDERED:

| (1) That the a                  | ipplicant, Coasta | 1 States Gas I | Producing Co | mpany,                               |
|---------------------------------|-------------------|----------------|--------------|--------------------------------------|
| is hereby authorized            | l to utilize its  | State "22" V   | Well No. 1   | أميمت تشهيم                          |
| located in Unit $I$             | of Section 22     | Township 14    | South, Ra    | auge                                 |
| 32 East, NMPM,                  | Tulk-Pennsylv     | anian Pool     | Lea          | au z stilut fuzzu, samambiribir i ma |
| County, New Mexico,             | to dispose of pro | oduced salt wa | ter into the | 9                                    |
| upper Pennsylvanian             | formation, injec  | ction to be ac | complished t | through                              |
| $\frac{2^{3/8}}{}$ -inch tubing | installed in a p  | oacker set at  | approximate  | Ly                                   |
| 9700 feet, wit                  | h injection into  | the perfor     | ated in      | terval                               |
| from approximately _            | 9791 feet to      | 9954 fe        | eet;         |                                      |

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.

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