

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

Case Number

3980

Application

Transcripts.

Small Exhibits

ETC.



dearnley-meier reporting

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

1120 SIMMS BLDG. • P. O. BOX 1002 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

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

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.

Q 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.

Q 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 diagrammatic 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.

Q 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.

Q 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.

Q 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.

Q 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.

Q 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.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
JACK MCGRAW	
Direct Examination by Mr. Eaton	2
Cross Examination by Mr. Nutter	9

<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits Numbers 1 through 4	2	8

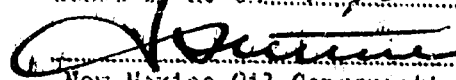
STATE OF NEW MEXICO)
)
 COUNTY OF BERNALILLO)

ss

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

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Bernalillo hearing of Case No. 3988
 heard by me on 12/2, 1968.


 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil 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.
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

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. 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-3523

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 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.



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David F. Cargo
DAVID F. CARGO, Chairman

Guyton B. Hays
GUYTON B. HAYS, Member

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

CASE 3978: Application of Texas Pacific Oil 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 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.

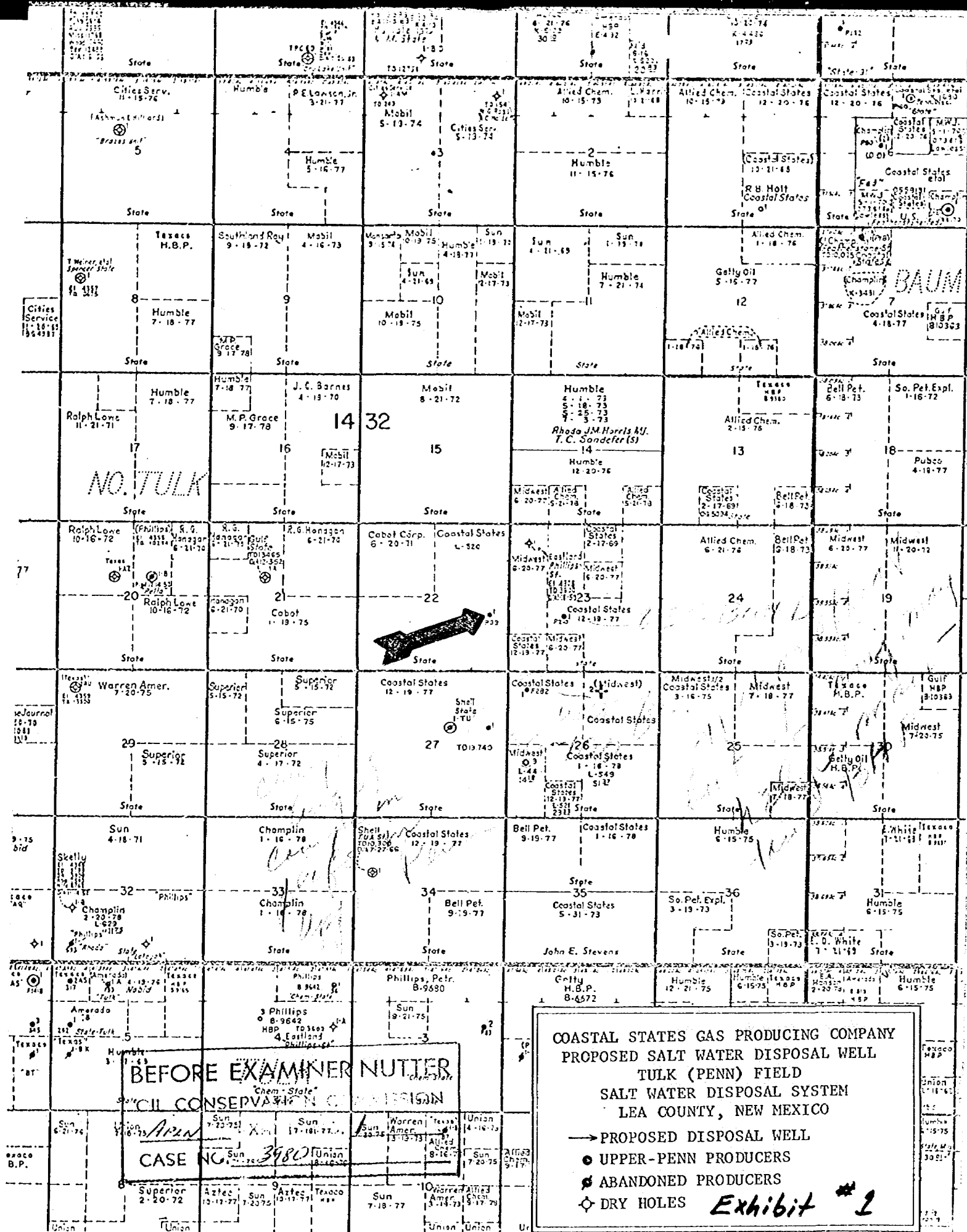
CASE 3980: Application of Coastal States Gas Producing Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Upper Pennsylvanian formation in the perforated interval from approximately 9791 feet to 9954 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



Coastal States

State 22 #1

BEFORE EXAMINER NUTTER	
OIL FIELD INVESTIGATION COMMISSION	
APLN	EXHIBIT NO. 3
CASE NO.	3980

Handwritten notes:
 1. 2 3/8" EUE tubing plastic coated
 2. 5 1/2" casing 15.5" ID 17.0" O.D.
 3. Non-corrosive fluid in annulus
 4. Tension Pkr. set @ 9700'
 5. PBTD - 9991

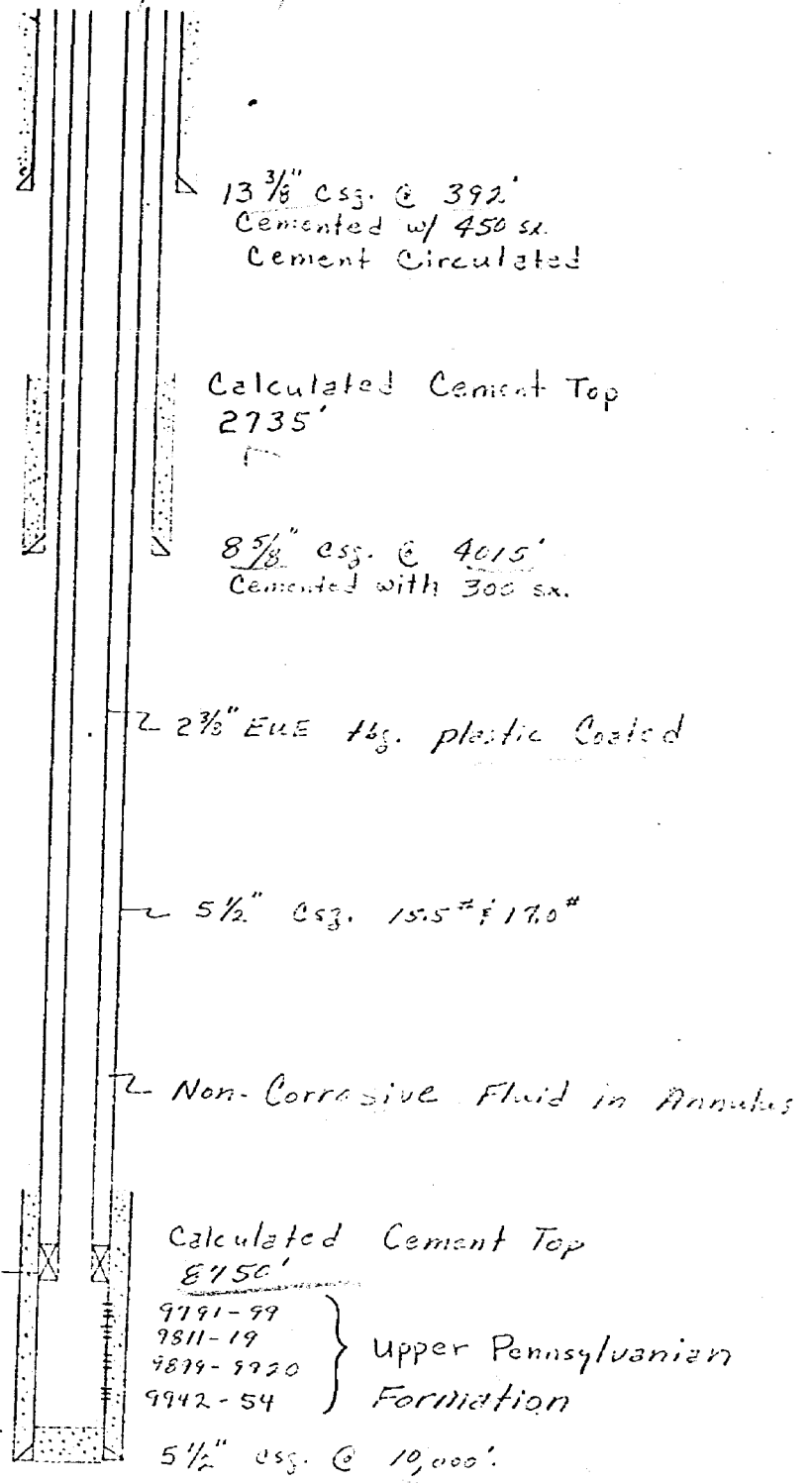


Exhibit # 3



DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

WATER ANALYSIS

Date 8/23/68

Lab no. 5148

COASTAL STATES

Lab. Location #10335

S. no. 2

Source			Pool			Formation	
DST TEST #2			Legal Description			BHT	Depth
Total Solids			STATE 22-1				
mg/L			8.1			Specific Gravity	
meq/L						1.023 @ 80 °F	
Constituents	mg/L	meq/L	Constituents	mg/L	meq/L		
Sodium	13900	607	Chloride	21660	610		
Calcium	880	44	Bicarbonate	366	6		
Magnesium	312	26	Sulfate	3020	61		
Iron	—	—	Carbonate	0	0		

Stiff Diagram
(meq/L)

	6	5	4	3	2	1	0	1	2	3	4	5	6	
Na/1000														Cl/1000
Ca/100														HCO ₃ /10
Mg/100														SO ₄ /10
Fe/10														CO ₃ /10

Remarks:

BEFORE EXAMINED NUTTER
OIL CONSERVATION COMMISSION
APEN EXHIBIT NO. 4
CASE NO. 3980

CSGP CO.		
Drig. & Prod. Dept.		
Midland Div.		
AUG 28 1968		
To	In	Out
JAH	8/15	J
CIM	7/15	✓
L.M.		
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

*leg**Case
3980*

RECEIVED NOV 12 1968

'68 Nov 12 AM 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

Date 11-21-68

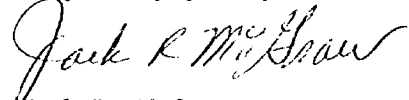
bridge plug and dispose of water into all zones. Coastal States' producing wells in Sections 23 and 26 will be carefully observed in order to detect any affect from injecting into the Upper Penn in the subject disposal well.

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:lm
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

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PERTINENT INFORMATION

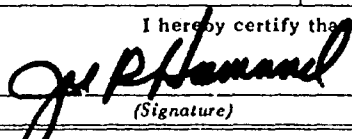
1. Injection will be made into the Upper Pennsylvanian formation from 9791-9954'.
2. The fluid to be injected is produced salt water (see attached analysis) from the Tulk (Penn) Field, Lea County, New Mexico.
3. The anticipated volume will be 1000-3000 BPD.
4. The anticipated injection pressure is 2000 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
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

3980

OPERATOR Coastal States Gas Producing Company		ADDRESS Box 235, Midland, Texas 79701			
LEASE NAME State "22"	WELL NO. 1	FIELD Tulk (Penn)	COUNTY Lea		
LOCATION UNIT LETTER <u>I</u> ; WELL IS LOCATED <u>660</u> FEET FROM THE <u>east</u> LINE AND <u>1980</u> FEET FROM THE <u>south</u> LINE, SECTION <u>22</u> TOWNSHIP <u>14S</u> RANGE <u>32E</u> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13-3/8"	392'	450 sx.	Circulated	Visual
INTERMEDIATE	8-5/8"	4015'	300 sx.	2735'	Calculations
LONG STRING	5-1/2"	10,000'	200 sx.	8750'	Calculated
TUBING	2-3/8"	9,730'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model R		
NAME OF PROPOSED INJECTION FORMATION Upper Pennsylvanian		TOP OF FORMATION 9791'		BOTTOM OF FORMATION 9954'	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations		PROPOSED INTERVAL(S) OF INJECTION 9791-9954'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil production		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 400'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM 1000 BPD	MAXIMUM 3000 BPD	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 2000 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mr. Stanley Goode, Kenna, New Mexico; Mr. Tom Standifer, Bledsoe, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Midwest Oil Corporation 1500 Wilco Bldg. Midland, Texas 79701					
'68 Nov 12 AM 8 03					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Not applicable	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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


(Signature)

Div. Prod. Supt.

(Title)

November 7, 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 3980

OPERATOR Coastal States Gas Producing Company		ADDRESS Box 235, Midland, Texas 79701			
LEASE NAME State "22"	WELL NO. 1	FIELD Tulk (Penn)	COUNTY Lea		
LOCATION UNIT LETTER I ; WELL IS LOCATED 660 FEET FROM THE east LINE AND 1980 FEET FROM THE south LINE, SECTION 22 TOWNSHIP 14S RANGE 32E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	13-3/8"	392'	450 sx.	Circulated	Visual
INTERMEDIATE	8-5/8"	4015'	300 sx.	2735'	Calculations
LONG STRING	5-1/2"	10,000'	200 sx.	8750'	Calculated
TUBING	2-3/8"	9,730'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model R		
NAME OF PROPOSED INJECTION FORMATION Upper Pennsylvanian		TOP OF FORMATION 9791'		BOTTOM OF FORMATION 9954'	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations		PROPOSED INTERVAL(S) OF INJECTION 9791-9954'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil production		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 400'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 1000 BPD	MINIMUM 3000 BPD	MAXIMUM 3000 BPD	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 2000 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE Yes			WATER TO BE DISPOSED OF Yes		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mr. Stanley Goode, Kenna, New Mexico; Mr. Tom Standifer, Bledsoe, New Mexico			NATURAL WATER IN DISPOSAL ZONE Yes		
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Midwest Oil Corporation RM 1500 Wilco Bldg. Midland, Texas 79701			ARE WATER ANALYSES ATTACHED? Yes		
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Not applicable	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		FLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

Joe R. Howard (Signature) Div. Prod. Supt. (Title) November 7, 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

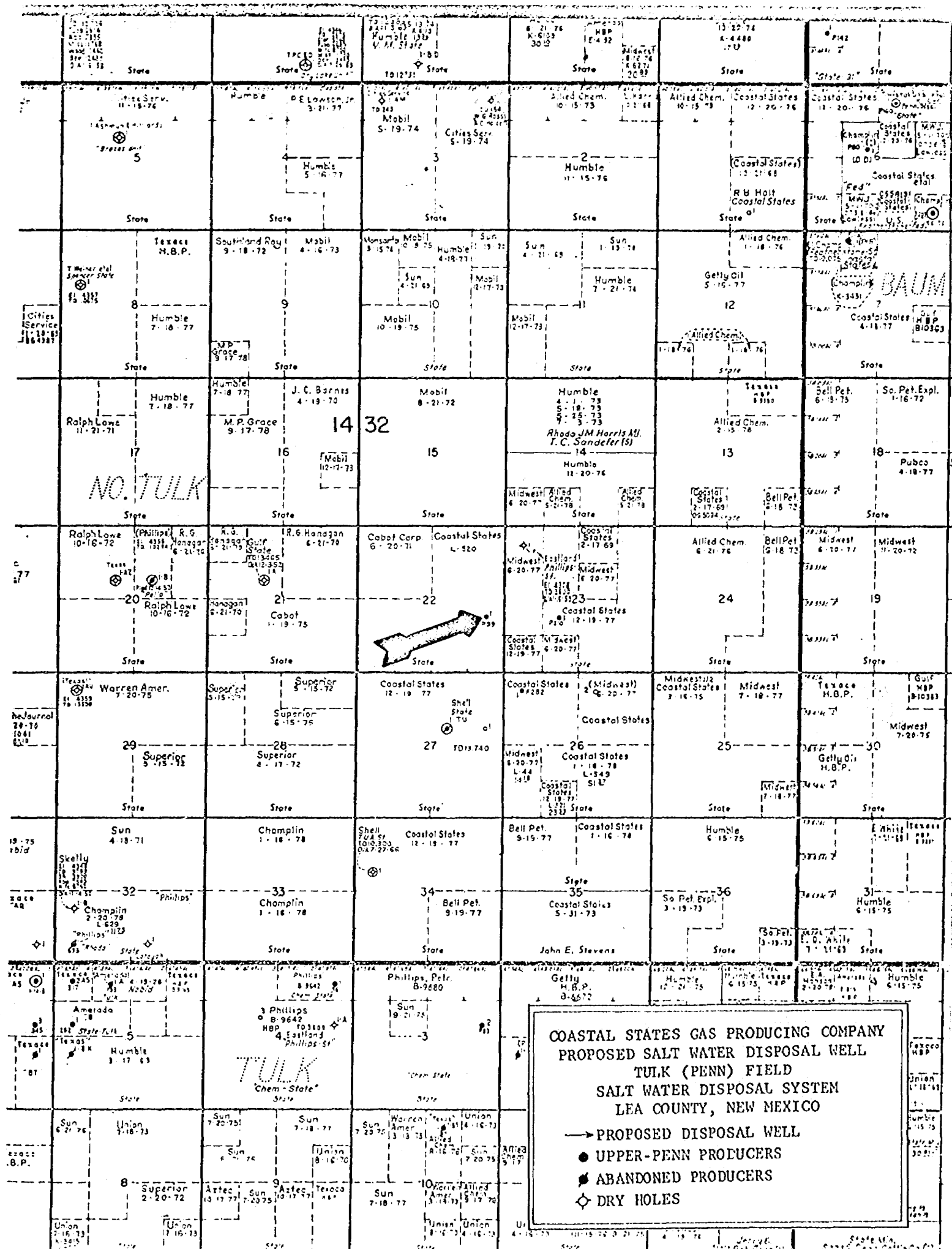
Case 3980

OPERATOR Coastal States Gas Producing Company		ADDRESS Box 235, Midland, Texas 79701			
LEASE NAME State "22"	WELL NO. 1	FIELD Tulk (Penn)	COUNTY Lea		
LOCATION UNIT LETTER I ; WELL IS LOCATED 660 FEET FROM THE east LINE AND 1980 FEET FROM THE south LINE, SECTION 22 TOWNSHIP 14S RANGE 32E NMPM.					
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IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations		PROPOSED INTERVAL(S) OF INJECTION 9791-9954'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil production		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 400'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 1000 BPD	MINIMUM 3000 BPD	MAXIMUM 3000 BPD	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 2000 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Yes		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mr. Stanley Goode, Kenna, New Mexico; Mr. Tom Standifer, Bledsoe, New Mexico			NATURAL WATER IN DISPOSAL ZONE Yes		
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Midwest Oil Corporation			ARE WATER ANALYSES ATTACHED? Yes		
1500 Wilco Bldg.			MAIN OFFICE 000		
Midland, Texas 79701			'68 Nov 12 AM 8 03		
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Not applicable	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				THE NEW MEXICO STATE ENGINEER Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

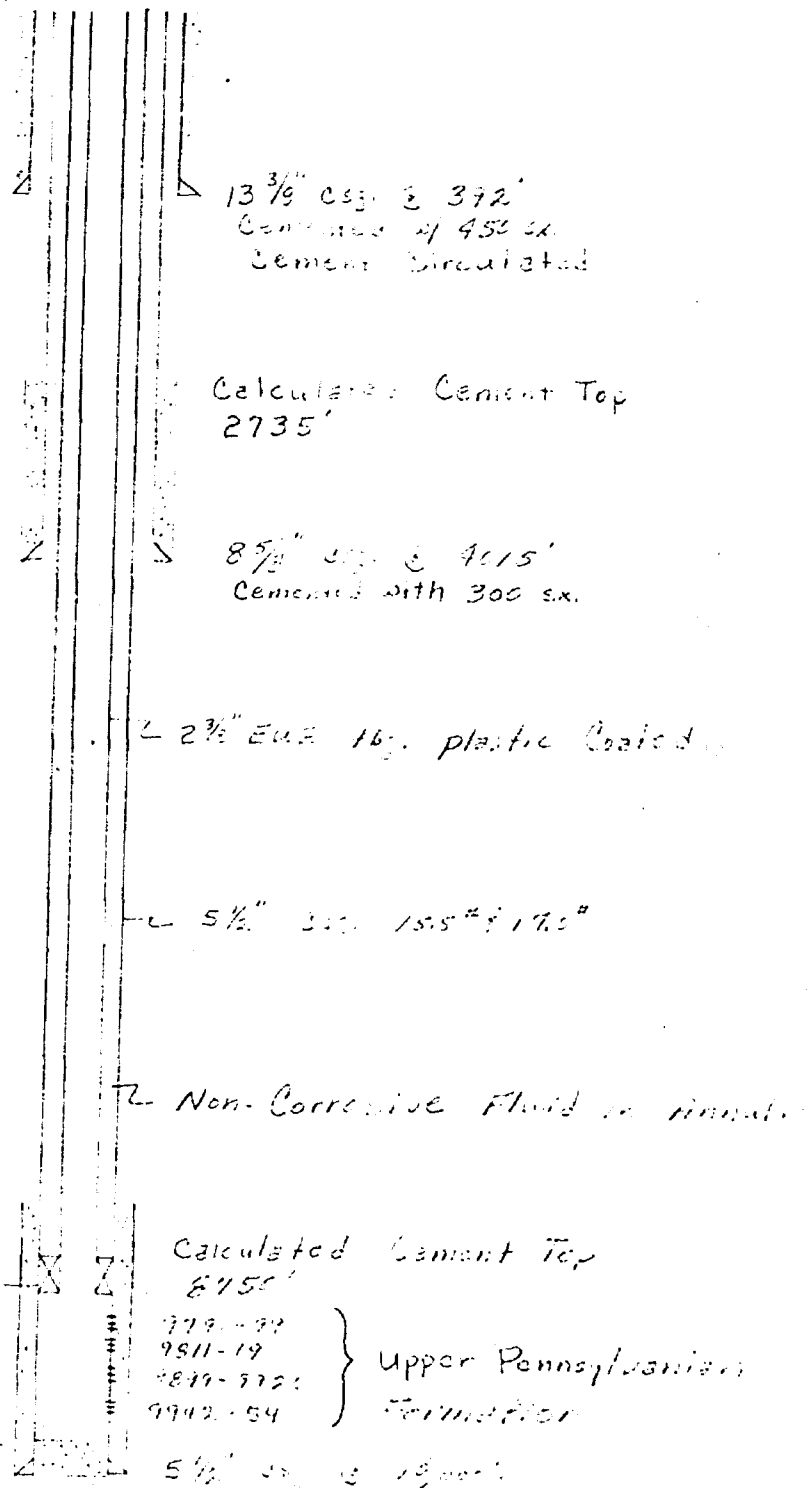

(Signature)Div. Prod. Supt.
(Title)November 7, 1968
(Date)

NOTE: Would 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.



Control Station

State 22 #1





DOWELL, DIVISION OF THE DOW CHEMICAL COMPANY

WATER ANALYSIS

Date 8/23/68

Lab no. 5148

COASTAL STATES

Lab. Location #0335

S. no. 2

Source			Pool			Formation	
Legal Description			BHT			Depth	
DST TEST #2			STATE 22-1			Specific Gravity	
Total Solids			8.1			1.023 @ 80°F	
Constituents			Constituents			Constituents	
mg/L			mg/L			meq/L	
Sodium			Chloride			610	
13900			Bicarbonate			6	
Calcium			Sulfate			61	
880			Carbonate			0	
Magnesium							
312							
Iron							

Stiff Diagram
(meq/L)

Na/1000	6	5	4	3	2	1	0	1	2	3	4	5	6	Cl/1000
Ca/100														HCO ₃ /10
Mg/100														SO ₄ /10
Fe/10														CO ₃ /10

Remarks:

CSGP CO.		
Drig. & Prod. Dept.		
Midland Div.		
K AUG 28 1968		
To	In	Out
JAH	8/18	✓
CIM	8/25	✓
L-M		
File	✓	

Analysis Based On API Recommended Procedure

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. 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 ^{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 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 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 ~~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 hereinafter designated.