

CASE 4389: Application of COASTAL
STATES PRODUCING COMPANY FOR SALT
WATER DISPOSAL, LEA COUNTY.

Case Number

4389

Application
Transcripts.

Small Exhibits

ETC.

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

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 5, 1970

EXAMINER HEARING

IN THE MATTER OF:

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

Case No. 4389

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4389.

MR. HATCH: Case 4389, Application of Coastal States Gas Producing Company for salt water disposal, Lea County, New Mexico.

MR. UTZ: Appearances?

MR. HINKLE: Clarence E. Hinkle, Hinkle, Bondurant, Cox & Eaton, Roswell, New Mexico, appearing on behalf of Coastal States. We have one witness, Mr. Jack R. McGraw, whom we would like to have sworn.

(Witness sworn.)

MR. UTZ: Other appearances in this case? You may proceed.

JACK R. MCGRAW

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence and by whom you are employed.

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

Q Have you previously testified before the Commission?

A Yes, I have.

Q And your qualifications as a petroleum engineer

are a matter of record with the Commission?

A Yes, sir.

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

A Yes, I am.

Q What is Coastal States seeking to accomplish by this application?

A Coastal States is seeking permission from the Commission to convert our State "27" Number 2 Well in the Tulk-Pennsylvanian Field to salt water disposal status.

Q Have you made a study of this area?

A Yes, I have.

Q Have you prepared certain exhibits for introduction in this case?

A Yes, sir.

(Whereupon, Exhibits 1 through 4 were marked for identification.)

Q Refer to Exhibit Number 1.

A Number 1 is a plat of the area showing the Tulk Field and the arrow pointing to the proposed soft water disposal well. This plat shows that there are six producing wells in the vicinity of this disposal well and also one salt water disposal well in Section 22.

Q Any further comments with respect to Exhibit Number

1?

MR. UTZ: What is the location of the disposal well?

A In Section 22 the northeast of the southeast, 22. I might locate the wells here. The map is a little dim. In Section 23 in the northeast of the southwest it is our State 23 Number 1, that is Coastal States well. Then in Section 26 in the northwest of the northwest Coastal States State 26 Number 1. Then our 26 Number 3 is in the northwest of the southwest of 26. Then Bell Petroleum Corporation has a well in Section 35. This is in the northwest-northwest of 35. Coastal States has another well in Section 34. It's in the southeast of the northeast of 34. Then, of course, the wells in 27, the Number 2 well is in the southeast-southeast quarter. The Number 1 well is in the southeast-northeast, and back to the Number 22 which we previously described.

Q (By Mr. Hinkle) Now refer to Exhibit Number 2 and explain what this shows.

A Exhibit Number 2 is a diagrammatic sketch of the well bore as it will be conditioned in order to dispose of salt water. This shows that the well has 13 3/8 inch casing set at 382 feet cement circulated, 8 5/8 casing set at 4,050 cemented with 300 sacks, 5 1/2 inch casing was set to 10,009 feet, cemented with 200 sacks. The well is perforated from

9,789 all the way down to the bottom perforate, 9,970. This is a bridge plug in the well over the purfs at 9,960 to 70. This bridge plug is set at 9,950 and it will remain in place. The disposal zones are the zones that are perforated above this bridge plug beginning at 9,789 and going to 9,910.

Q Geologically, what is the perforated zone?

A It is the Upper Pennsylvanian Formation, Bo Series.

Q Is this formation from which wells are producing in the area?

A Yes, it is.

MR. UTZ: You said 9,910 and I believe this exhibit shows 9,924.

A I'm sorry, 9,924, that's right.

Q (By Mr. Hinkle) Any further comment with respect to Exhibit 2?

A Injection will be through plastic coated tubing and a non-corrosive fluid will be placed in the annulus.

Q Now refer to Exhibit 3 and explain that.

A Exhibit 3 is a water analysis of the water taken from the drill stem test number two in the 27, Number 2. This is intended simply to show the chloride and the character of the water that is produced in this field. This particular sample is not necessarily -- it doesn't look like all other samples in the field but all of them are salty and are not,

of course, not potable water.

Q Did you furnish all of the offset operators with copies of the application in this case?

A Yes, we did.

Q Have you had any response from any of them?

A We received a letter, as did the Commission, from Bell Petroleum, as did the Commission, voicing an objection to this.

Q Is that the only objection that you have received?

A Yes. Midwest Petroleum is the other operator and they did not contact us one way or the other.

Q What was the nature of the objection of Bell Petroleum Company?

A We might just read their letter. You do have a copy of it?

MR. UTZ: Yes, we do; copy of both of them, as a matter of fact.

A They say in their letter that "Saturation calculations from electric logs of their DeSoto State Number 1 indicates several oil zones in the corresponding interval proposed for salt water disposal. Therefore, Bell Petroleum would like to suggest that all the operators in the area, including Phillips Petroleum Company, consider other alternatives prior to a hearing by the Commission regarding water disposal in the

Penn-Tulk Field."

Q (By Mr. Hinkle) Have you made any study with relation to the wells of Bell's?

A Yes, we have. We have a cross section that we prepared that shows the producing zones.

Q You are referring to Exhibit Number 4?

A Yes. Could we put this on the wall and discuss it?

Q Would you refer to Exhibit 4 and explain it to the Commission?

A Exhibit 4 is a cross section. If you refer to the plat, I believe it runs counter from north to south starting with Number 27 in the Well Number 263 which jumps to the east and back to the west in Section 27 West, Number 2, the disposal well, and it jumps back again to Bell's well in Section 34, I believe, and then Coastal States State 34 Number 1 -- 35.

This cross section shows the way the area is, what I would refer to as somewhat complicated. The producing zones in this area are somewhat draped across a high in the Tulk Field. The cross section doesn't show it because it's running down one side and more or less on strike, but each of the producing zones pinch out at various places and in this area the Bo Formation produces from several zones and it's hard to identify, for instance, the Bo "C" or Bo "B" or Bo "A". A

lot of them are draped across this little high. Some of them are very small in nature. We found this out from perforating this well, for instance. It has a lot of pay in it and yet it did not produce very much oil. There are several zones in here that were ten to fifteen feet thick and would normally produce a goodly amount of oil but this well did not and others in the area have not, indicating these zones do not extend very far horizontally.

This log, of course, shows this cross section, shows the Bell Well here in 34, does not have or has very little porosity in any of the zones that were producing in these wells. However, they did pick up a zone higher in the section that is productive and in their well is not productive, in the disposal well, and it's over-productive in one of the wells that Coastal has -- excuse me, two, 34 Number 1 to the south on here has it, but the point of this is that many of these zones are not continuous throughout the entire zone, the entire field.

Now specifically, we would like to show with this cross section that the zone that Bell is producing from in this well is not present in the disposal well, and therefore we will not be putting water into the zone that they are producing. We will be putting water into zones that we are producing. We don't object to doing this ourselves, neither do other

operators in the field. We feel any benefit or any effect might be beneficial. These zones make water anyway, a little bit of additional water, if it does get to it, would not be a problem. We have high volume pumping equipment and we move considerable volumes from each well.

Q In your opinion, the disposal of water in this area would not be injurious to any of the wells in the area?

A The disposal of water in this area would not be injurious to any wells in the area.

Q Do you have any other source of water disposal?

A Yes, we have a disposal well in Section 22. That well, we have been disposing of water into it for approximately two years and it has to be pumped in at rather high pressures and we would like to use this well in addition to that one because we feel it would go under gravity conditions for quite a long time.

Q In the other disposal well you referred to, is it producing from or was it producing from the same formation?

A Yes, it was. We have noticed no adverse effects from the injection in that well for the past two years.

Q Do you have any further testimony to offer?

A Not at this point.

MR. UTZ: Would you take a red pencil and make a vertical line in your injection zone, in your well there?

MR. HINKLE: You mean, mark the perforations?

MR. UTZ: Just show the zones you are going to inject.

A They are shown. Those are the zones. I might add this one I couldn't correlate over here but it will be used also.

MR. UTZ: And the well is not producing from that?

A No, sir, they took a drill stem test in this interval right here, from 9,858 to 9,900. They recovered 175 feet of drilling mud from this, so this area is obviously very tight.

MR. HINKLE: We would like to offer in evidence Exhibits 1 through 4.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered into the record of this case.

(Whereupon, Exhibits 1 through 4 were admitted.)

CROSS EXAMINATION

BY MR. UTZ:

Q While you are standing close to your map, let me read from the log Mr. Salman has sent here and you can mark the zones he objects to and says you might contaminate, so we will have an idea how they correlate with yours.

A Right, sir.

Q He really ought to be here to do this himself inasmuch as it is his objection. Approximately 9,570 - 78.

A All right.

Q And 9,720?

A All right.

Q To about 36?

A All right.

Q 9,770 to 80, approximate?

A All right.

Q 9,813 to 9,830?

A All right.

Q And 9,848 to 50?

A All right.

Q And 9,890 to 96?

A All right.

Q 9,902 to 12?

A All right.

Q And 9,923 to 33?

A Okay.

Q That's all.

A All right, sir.

Q He has one zone way above his producing zone which you are not going to inject in?

A That's true and he has marked this zone which he

is producing from now and we are not going to inject in. It is not porous and he has other zones that were drilled. One of them, possibly two, were drill stem tested and recovered only 175 feet of drill.

Q The well is not open?

A It's not open in these zones, and in this particular well it is open through here but it's depleted so the bottom hole pressure is four or five-hundred pounds.

Q And they are not producing any oil at all in your proposed injection zone?

A No, sir. We have depleted it.

Q All right, sir.

MR. UTZ: Are there other questions of the witness?

Witness may be excused.

Statements in this case?

Case will be taken under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
JACK R. McGRAW	
Direct Examination by Mr. Hinkle	2
Cross Examination by Mr. Utz	10

E X H I B I T S

<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits 1 through 4	3	10

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, SOVEIDA GONZALES, Court Reporter, 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.

Soveida Gonzales
 COURT REPORTER

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Bernalillo hearing of Case No. 8-5-70
 heard by me on 8-5-70, 19
[Signature], Chairman
 New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

August 12, 1970

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

Re: Case No. 4389 and 4390
Order No. R-4007 & R-4008
Applicant:
Coastal States & Murphy H. Baxter

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

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC R-4007 to State Engineer

Other R-4008 to Unit Division - State Land 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. 4389
Order No. R-4007

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 August 5, 1970, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of August, 1970, 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 "27" Well No. 2, located in Unit P of Section 27, 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 9789 feet to 9924 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 9770 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

-2-

CASE No. 4389
Order No. R-4007

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

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Coastal States Gas Producing Company, is hereby authorized to utilize its State "27" Well No. 2, located in Unit P of Section 27, 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 9770 feet, with injection into the perforated interval from approximately 9789 feet to 9924 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

Alex J. Armiijo
ALEX J. ARMIJO, Member

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

4389

Heard 8-5-70

Rec. 8-7-70

Grant. Coastal Sta. permission
to connect their st. 27 #2
5656-27-145-32E - Dulk - Penn.
to an SWD in the Penn. fm.
Injection shall be thru ²⁷ tubing
under a packer set at approx. 9770.
& into the Penn. thru perfor. from
9789 to 9924. The Annulus
shall be filled w/ non corrosive
fluid. w/ gauge at surface.
Beel Pet. objected to this
but did not show up for
formal objection at hearing.

Tracy



Petroleum Company

SUITE 400
700 WILSHIRE BOULEVARD
LOS ANGELES, CALIFORNIA 90017

70 AUG 5 11 8 27

(213) 629-3143

August 3, 1970

Mr. A. L. Porter, Jr.,
Secretary-Director
NM Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Coastal States Gas Producing Company which appears on Docket No. 18-70 - Case 4389.

Please be advised that Bell Petroleum Company is the operator of a well (#1 DeSoto State) which is a diagonal offset (660' from the North line and 660' from the West line of Section 35, Unit "D") to the proposed salt water disposal well of Coastal States.

This well produces from the perforated interval of 9726-9736 approximately 100 B/D of oil and no water. An examination of the attached "movable oil plot log of this well" indicates 4 or 5 possible zones in the suggested water disposal interval. Therefore we respectfully recommend that other alternatives be considered for disposal purposes.

Yours very truly,

BELL PETROLEUM COMPANY

O. M. Salman,
Vice President

OMS/hs
Encl.



SUITE 400
700 WILSHIRE BOULEVARD
LOS ANGELES, CALIFORNIA 90017

July 9, 1970

(213) 629-3143

Case 4389

Coastal States Gas Producing Company
Post Office Box 235
Midland, Texas 79701

Attention: Mr. Joe R. Howard

Re: Proposed Salt Water Disposal
Well, Coastal States' State
"27" No. 2, Tulk (Penn) Field
Lea County, New Mexico

Gentlemen:

Please be advised that Bell Petroleum Company is the operator of a well (#1 DeSoto State) which is a diagonal offset (660' from the N. line and 660' from the W. line of Section 35) to the above captioned well. Saturation calculations made from electrical logs of #1 DeSoto State indicate several oil zones in the corresponding interval proposed for water disposal in your well. Therefore Bell Petroleum Company would like to suggest that all the operators in the area, including Phillips Petroleum Company, consider other alternatives prior to a hearing by the Commission regarding water disposal in the Tulk (Penn) Field.

Yours very truly,

BELL PETROLEUM COMPANY

O. M. Salman
O. M. Salman,
Vice President

OMS/h/
cc: A. L. Porter, Jr.
New Mexico Oil Cons. Com.
State Land Office Bldg.
Santa Fe, New Mexico 87501

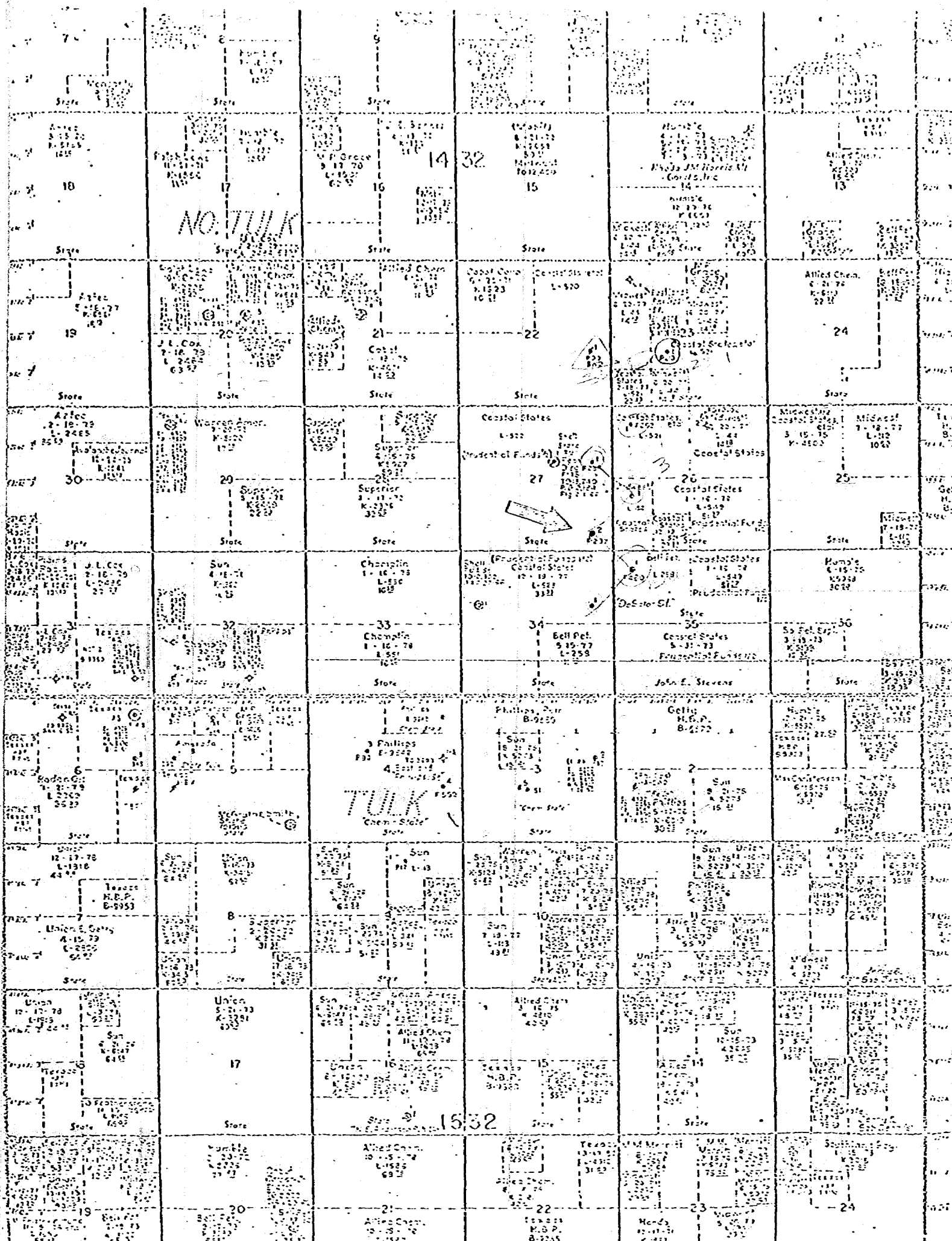
Midwest Oil Corp.
1500 Wilco Bldg.,
Midland, Texas 79701

New Mexico State Engineers Office
Santa Fe, New Mexico 87501
Attn: Mr. Frank Irby

Mr. Jerry Dean
Box 1285
Lovington, New Mexico 88260

DOCKET MAILED

Date 7/23/70



COASTAL STATES GAS PRODUCING COMPANY
PROPOSED SALT WATER DISPOSAL WELL
TULK (PENN) FIELD
SALT WATER DISPOSAL SYSTEM
LEA COUNTY, NEW MEXICO

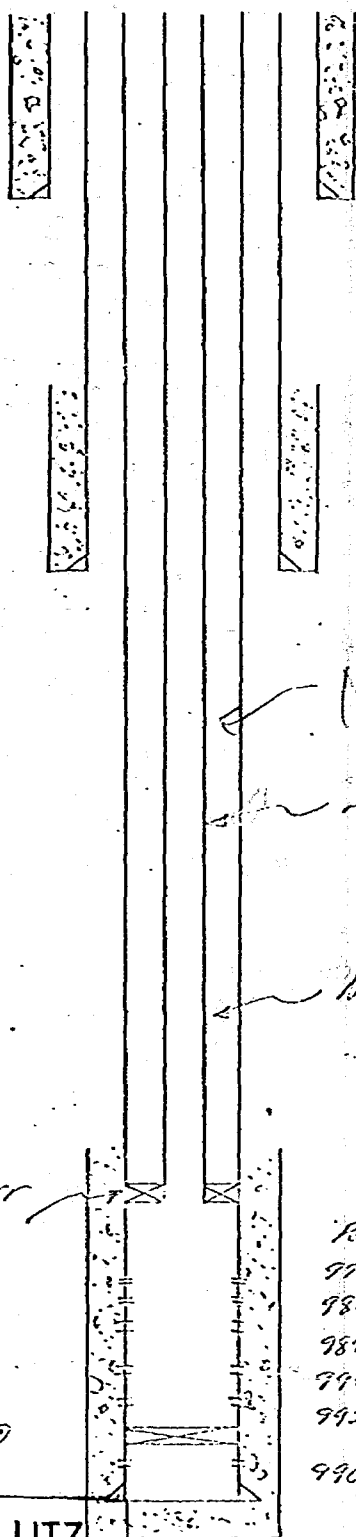
BEFORE EXAMINER UTZ

EXHIBIT NO. 1

NO. 4389

- PROPOSED DISPOSAL WELL
○ UPPER-PENN PRODUCERS
✱ ABANDONED PRODUCERS
✱ DRY HOLES
✱ DISPOSAL WELL

Coastal States Gas Producing Co.
State 29 #2



13 3/8" @ 382' cmt. w/ 400 lbs class C.
circulated cmt.

2300' top of cmt. by calculation

8 5/8" @ 4050' cmt. w/ 300 lbs class C
top cmt @ 2300' by calculation

11' Coupling

2 3/4" EUE 16g. plastic coated

Non Corrosive Fluid in Annulus

top of cmt. 7400' by calculation

Perfs.

9779-98

9840-47

9870-80

9904-10

9920-24

9960-70

Upper Pennsylvanian Form.

5 1/2" @ 10,009 cmt. w/ 200 lbs class C.

Baker Model R Packer
@ 9770'

Baker Model N CP. @
9750

BEFORE EXAMINER UTZ

CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 4309

C.M. 5-5-70

SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

WATER ANALYSIS

Operator	Coastal States	Date Sampled	
Well	State 27 #2	Date Received	2-5-69
Field	Baum	Submitted by	Hobbs District
Formation	Penn	Worked by	Koehl
Depth		Other Description	DST #2 (oil skim)
County	Lea, New Mexico		

CHEMICAL DETERMINATIONS

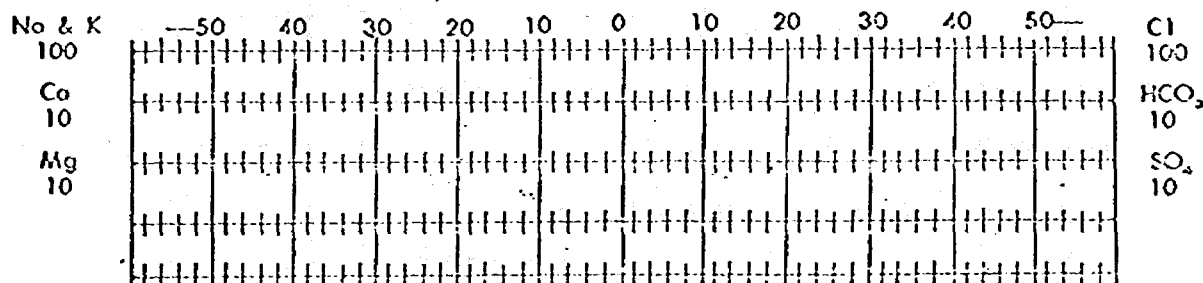
Density	1.020 @ 74°F	pH	8.4
Iron	Very Faint Trace	Hydrogen Sulfide	Very Strong Trace
Sodium and Potassium	10,900 ppm	Bicarbonate	1,672 ppm
Calcium	960 ppm	Sulfate	8,700 ppm
Magnesium	292 ppm	Phosphate	ppm
Chloride	12,000 ppm	as Sodium Chloride	ppm

Remarks:

BEFORE EXAMINER UTZ

CONSULTANT
EXHIBIT 3
CASE NO. 4369

for Stiff type plot (in meq./l.)



Per _____

BOX 235

PHONE MU 2-7925

COASTAL STATES GAS PRODUCING COMPANY

NORTH TEXAS DIVISION
WILCO BUILDING
MIDLAND, TEXAS
79701

July 2, 1970

70 JUL 6 AM 8 29

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 "27" No. 2
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 "27" No. 2, located in the SE/4 of SE/4 of Sec. 27, T-14-S, R-32-E, to salt water disposal status.

This well was drilled and completed by Coastal States in February, 1969. It was completed in the Upper Pennsylvanian formation through perforations at 9870-80', 9904-10' and 9920-24' and was potentialed for 237 BO plus 343 BW per day. The well declined to 120 BO and 85 BW per day by March 15, 1969. At this time two additional zones at 9840-47' and 9879-98' were perforated and acidized. The well has continued to decline and is now below the economic limit.

Coastal States is presently disposing of 850 BPD of produced water from this field in our State "22" No. 1 well at a pressure of 1400 psi. We plan to inject water into the State "27" No. 2 by gravity. If it will not take all the produced water on a vacuum, then the excess will be injected into our State "22" No. 1 well.

We propose to dispose of the produced water into the Upper Penn formation from 9789-9924'. There is a bridge plug at 9950'. A zone at 9960-70' was tested on initial completion and found to contain water. We propose to leave this bridge plug in the well since the water zone is at a higher pressure than the depleted oil zones. Coastal States' producing wells in Sections 23, 26 and 27 will be carefully observed in order to detect any affect from injecting water into the Upper Penn in the subject disposal well. No adverse results have been seen from injecting into the State "22" No. 1 well.

DOCKET MAILED

Date 7/23/70

New Mexico Oil Conservation Comm. 2.

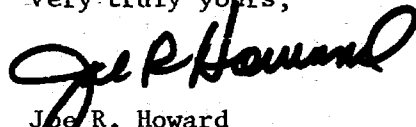
July 2, 1970

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 nine producing wells within two miles of the proposed disposal well.

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 9770', well below the calculated top of the cement on the 5-1/2" casing at 7400'. 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,



Joe R. Howard
Division Production Manager

JRH:CM:sg

Attachments

cc: Midwest Oil Corp.
1500 Wilco Bldg.
Midland, Texas 79701

Bell Petroleum
1st Savings & Loan Bldg.
Midland, Texas 79701

New Mexico State Engineers Office
Santa Fe, New Mexico 87501
Attention: Mr. Frank Irby

Mr. Jerry Dean
Box 1285
Lovington, New Mexico 88260

Mr. Clarence Hinkle
Hinkle, Bondurant and Christy
P. O. Box 10
Roswell, New Mexico 88201

W. D. Elliott

NEW MEXICO OIL CONSERVATION COMMISSION

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

Case 4389

OPERATOR Coastal States Gas Producing Company		ADDRESS P. O. Box 235, Midland, Texas 79701	
LEASE NAME State "27"	WELL NO. 2	FIELD Tulk (Penn)	COUNTY Lea
LOCATION UNIT LETTER P ; WELL IS LOCATED 660 FEET FROM THE South LINE AND 660 FEET FROM THE East LINE, SECTION 27 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	382'	400 sxs Class A	Circulated	
INTERMEDIATE	8-5/8	4,050'	300 sxs Class C	2300'	Calculation
LONG STRING	5-1/2	10,009'	200 sxs Class C	7400'	Calculation
TUBING	2-3/8	9,770'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model R 9,770		
NAME OF PROPOSED INJECTION FORMATION Upper Pennsylvanian			TOP OF FORMATION 9728 Bough "B"		BOTTOM OF FORMATION 9970 Bough "C"
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLE? perforations		PROPOSED INTERVAL(S) OF INJECTION 9789-9924'	
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 380		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 (BBL/S.) 500 BPD	MINIMUM 3000 BPD	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Gravity	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Yes	APPROX. PRESSURE (PSI) Yes
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		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. Jerry Dean, Box 1285, Lovington, New Mexico 88260					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Bell Petroleum, 1st Savings & Loan Bldg., Midland, Texas 79701 Midwest Oil Corp., 1500 Wilco Bldg., Midland, Texas 79701					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes					
SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		THE NEW MEXICO STATE ENGINEER Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		PLAT OF AREA Yes		ELECTRICAL LOG 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)Division Production Manager
(Title)July 2, 1970
(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

OPERATOR Coastal States Gas Producing Company		ADDRESS P. O. Box 235, Midland, Texas 79701	
LEASE NAME State "27"	WELL NO. 2	FIELD Tulk (Penn)	COUNTY Lea
LOCATION UNIT LETTER P ; WELL IS LOCATED 660 FEET FROM THE South LINE AND 660 FEET FROM THE East LINE, SECTION 27 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	382'	400 sxs Class A	Circulated	
INTERMEDIATE	8-5/8	4,050'	300 sxs Class C	2300'	Calculation
LONG STRING	5-1/2	10,009'	200 sxs Class C	7400'	Calculation
TUBING	2-3/8	9,770'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model R 9,770		
NAME OF PROPOSED INJECTION FORMATION Upper Pennsylvanian			TOP OF FORMATION 9728 Bough "B"		BOTTOM OF FORMATION 9970 Bough "C"
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing			PERFORATIONS OR OPEN HOLE? perforations		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No			IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? For oil production		
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None			HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No		
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 380		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.) 500 BPD	MINIMUM 3000 BPD	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity	APPROX. PRESSURE (PSI) Yes
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			NATURAL WATER IN DISPOSAL ZONE Yes		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Mr. Jerry Dean, Box 1285, Lovington, New Mexico 88260					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Bell Petroleum, 1st Savings & Loan Bldg., Midland, Texas 79701					
Midwest Oil Corp., 1500 Wilco Bldg., Midland, Texas 79701					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAY 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]
(Signature)

Division Production Manager
(Title)

July 2, 1970
(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.

Case 4289

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

OPERATOR Coastal States Gas Producing Company		ADDRESS P. O. Box 235, Midland, Texas 79701	
LEASE NAME State "27"	WELL NO. 2	FIELD Tulk (Penn)	COUNTY Lea
LOCATION UNIT LETTER P ; WELL IS LOCATED 660 FEET FROM THE South LINE AND 660 FEET FROM THE East LINE, SECTION 27 TOWNSHIP 14S RANGE 32E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	13-3/8	382'	400 sxs Class A
INTERMEDIATE	8-5/8	4,050'	300 sxs Class C
LONG STRING	5-1/2	10,009'	200 sxs Class C
TUBING	2-3/8	9,770'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model R 9,770
NAME OF PROPOSED INJECTION FORMATION Upper Pennsylvanian		TOP OF FORMATION 9728 Bough "B"	BOTTOM OF FORMATION 9970 Bough "C"
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? tubing		PERFORATIONS OR OPEN HOLE? perforations	PROPOSED INTERVAL(S) OF INJECTION 9789-9924'
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 380		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.) 500 BPD	MINIMUM 3000 BPD	MAXIMUM Closed	OPEN OR CLOSED TYPE SYSTEM Gravity
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	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. Jerry Dean, Box 1285, Lovington, New Mexico 88260			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Bell Petroleum, 1st Savings & Loan Bldg., Midland, Texas 79701 Midwest Oil Corp., 1500 Wilco Bldg., Midland, Texas 79701			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes			
SURFACE OWNER Yes			
EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes			
THE NEW MEXICO STATE ENGINEER Yes			
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes			
PLAY OF AREA Yes			
ELECTRICAL LOG 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.

J. P. Howard
(Signature)

Division Production Manager
(Title)

July 2, 1970
(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.

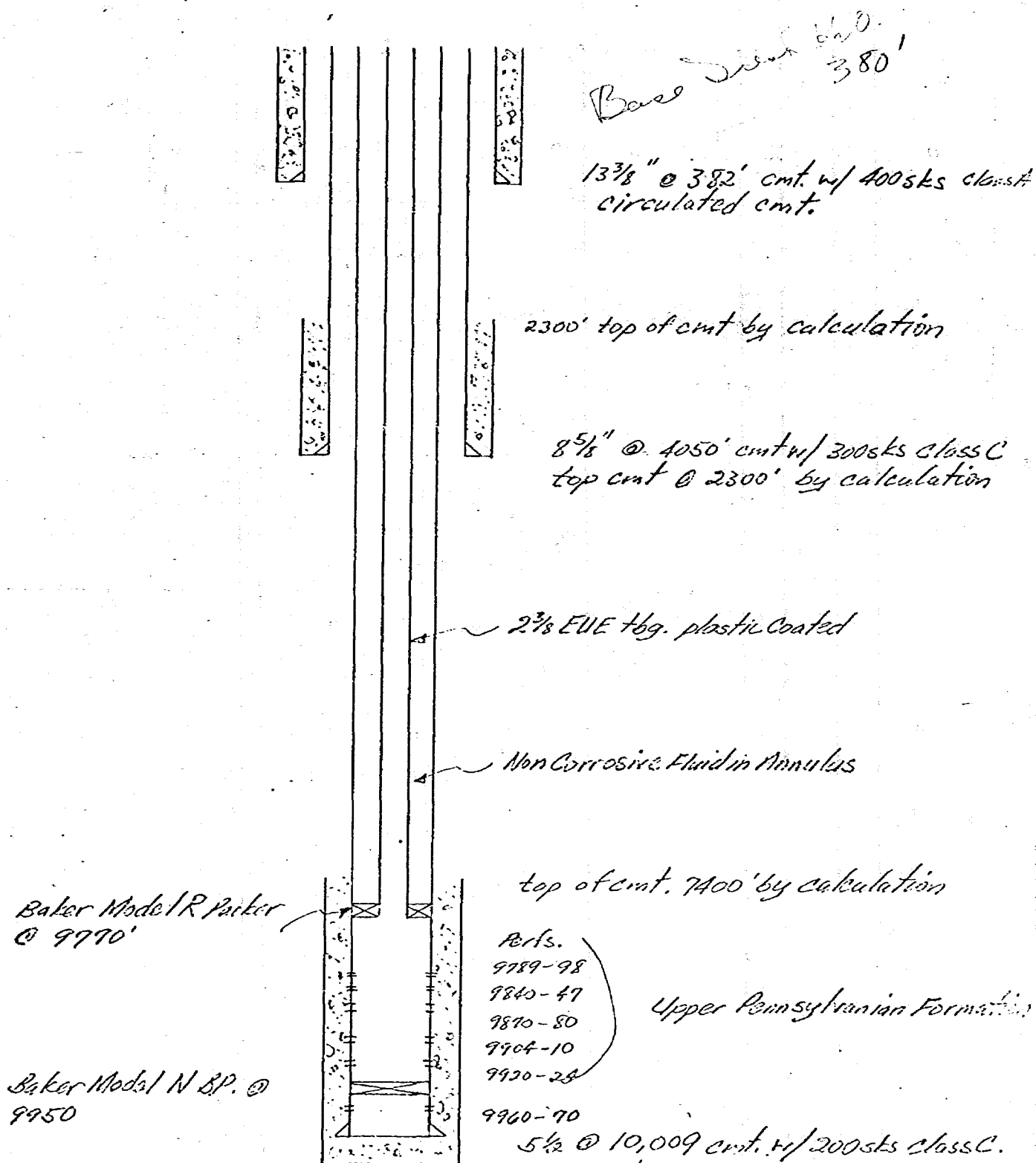
Case 4389

Pertinent Information

1. Injection will be made into the Upper Pennsylvanian formation from 9789-9924'.
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 0 psi.
5. The disposal zone contains water similar to that being injected. Both waters are highly mineralized and are unfit for domestic use.

7	8	9	10	11	12
State	State	State	State	State	State
18	17	16	15	14	13
State	State	State	State	State	State
19	20	21	22	23	24
State	State	State	State	State	State
30	29	28	27	26	25
State	State	State	State	State	State
31	32	33	34	35	36
State	State	State	State	State	State
6	5	4	3	2	1
State	State	State	State	State	State
17	16	15	14	13	12
State	State	State	State	State	State
18	17	16	15	14	13
State	State	State	State	State	State
19	20	21	22	23	24
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25	26	27	28	29	30
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92	93	94	95	96	97
State	State	State	State	State	State
93	94	95	96	97	98
State	State	State	State	State	State
94	95	96	97	98	99
State	State	State	State	State	State
95	96	97	98	99	100
State	State	State	State	State	State

Coastal States Gas Producing Co.
State 27 #2



Case 4389

C.M. 5-5-70

SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

WATER ANALYSIS

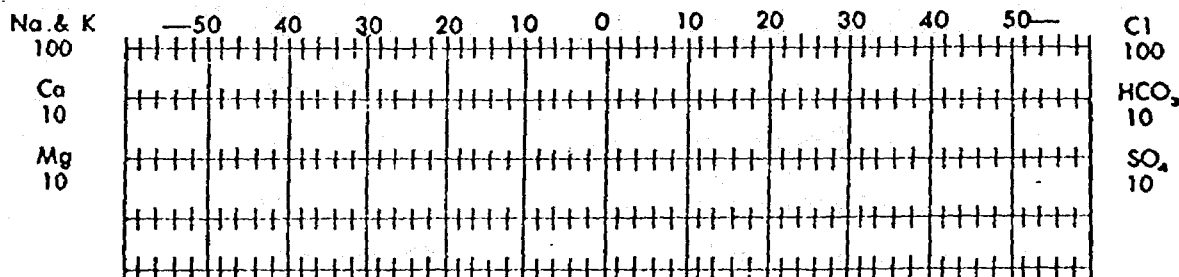
Operator	Coastal States	Date Sampled	
Well	State 27 #2	Date Received	2-5-69
Field	Baum	Submitted by	Hobbs District
Formation	Penn	Worked by	Koehl
Depth		Other Description	DST #2 (oil skim)
County	Lea, New Mexico		

CHEMICAL DETERMINATIONS

Density	1.020 @ 74°F	pH	8.4
Iron	Very Faint Trace	Hydrogen Sulfide	Very Strong Trace
Sodium and Potassium	10,900 ppm	Bicarbonate	1,672 ppm
Calcium	960 ppm	Sulfate	8,700 ppm
Magnesium	292 ppm	Phosphate	ppm
Chloride	12,000 ppm	as Sodium Chloride	ppm

Remarks:

for Stiff type plot (in meq./l.)



Case 4389

Per _____

DRAFT

GMH/esr

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. 4389

Order No. R- 4007

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 August 5, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this day of August, 1970, 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 "27" Well No. 2,
located in Unit P of Section 27, 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 9789 feet to 9924 feet.

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

approximately 9770 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 "27" Well No. 2, located in Unit P of Section 27, 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 9770 feet, with injection into the perforated interval from approximately 9789 feet to 9924 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 hereinabove designated.