CASE 3985: Application of MIDWEST FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO.

ase Number 3 5

Application Transcripts.

Small Exhibits

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BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico December 11, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Midwest Oil Corporation for salt water disposal, Roosevelt County, New Mexico.

Case No. 3985

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING



MR. UTZ: Case 3985.

MR. HATCH: Application of the Midwest Oil Corporation for salt water disposal, Roosevelt County, New Mexico.

MR. MORRIS: Mr. Examiner, I am Dick Morris of Santa Fe, appearing for the Applicant, Midwest Oil Corporation. We will have one witness, Mr. Fred Brown. I ask that he be sworn.

MR. UTZ: Any other appearances in this case?

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

FRED BROWN

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

DIRECT EXAMINATION

BY MR. MORRIS:

- Q Mr. Brown, please state your name, and where you reside.
 - A Fred Brown, Midland, Texas.
 - Q By whom are you employed, and in what capacity?
- A I am employed by Midwest Oil Corporation as a Petroleum Engineer.
 - Q Will you state briefly your education and experience

in the petroleum industry?

A I graduated from the University of Texas at

Austin with a Bachelor of Science in Petroleum Engineering,
and then went to work for Signal Oil Company for two years
as a Production Engineer, Midland Office, in the Eastern

New Mexico and West Texas area. I then spent seven months
in Louisiana as Drilling Engineer. I have been at my present
position as Petroleum Engineer for Midwest Oil Corporation
for approximately four months.

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

MR. UTZ: Yes.

Q Mr. Brown, please refer to what has been marked as Exhibit Number 1, which is the ownership plat, and point out what is shown on that exhibit.

A This is the ownership plat. It shows our proposed Morgan-Federal Tract 4, No. 5, which is the proposed well for salt water disposal. It also indicates offset operators within that area.

Q Refer to what has been marked as Exhibit Number 2, and state what that is and what it shows.

A This is a structure map of the San Andres. It is contoured on the PI marker. It indicates our No. 5 well

proposed salt water disposal well, and also indicates a cross-section which is going through the Featherstone No. 1, our No. 6 well, 5, 4, and Pan Am's No. 3 well.

Q What is the acreage shown by stipple or by crosshatch on this exhibit?

A This is Well No. 1, to the north is the Featherstone--

Q I am referring to the acreage that is shown.

A Excuse me. This was our Morgan-Federal Tract No.

4, Morgan-Federal Tract 3, Morgan-Federal 3-A, and MorganFederal No. 1.

Q These are all lands in which Midwest owns some interest in this area?

A Yes.

Q What does this exhibit show with respect to the location of the proposed injection well, in comparison with the other wells in this area?

A Well, this exhibit shows the offset wells in the area, showing this No. 5 well's position relative to our other wells on our lease, and this dry hole up to the north.

Q And your well is on the extreme northeast edge of the field in this area?

A Yes, it is.

Q Please refer to what has been marked as your Exhibit Number 3, and point out the features of that cross-section.

A This is a cross-section as shown on Exhibit Number 2 by the red line, starting with the Featherstone No. 1 well, showing the TI marker, which are the contours on Exhibit Number 2, showing the P-1 zone, P-2 zone, and P-3 zone. And also, where each well is perforated, showing our No. 6 well, which is due east of our No. 5, our No. 5 well proposed as our salt water disposal well, our No. 4 well, and then Pan American Petroleum Corporation's No. 3 Wolfe-Federal.

- Q A complete log on the proposed injection well already has been submitted to the Commission with the appliction in this case, has it not, Mr. Brown?
 - A Yes, it has.
- Q Please refer to your Exhibit Number 4, the diagramatic sketch, and point out the features of that exhibit.

A This illustrates -- we have eight and five-eighths inch casing set at 352 feet, cemented with 325 sacks of cement circulated to the surface. We had a four-and-a-half-inch casing cemented with 260 sacks, and the top of this cement has been calculated at 2800 feet. We've not run a temperature

survey on this well, but other wells in this field we have drilled with the same volume of cement, and this calculation is 2800.

Q What are the perforations in this well as it is presently completed?

A It is perforated in the P-1, P-2, and P-3 zones.

As illustrated on Exhibit Number 3, perforations are at 4048,
4124, 4230, 4140, 4147, 4152, 4158, 4199, 4208, 4211, 4216,
4218. This is twelve holes, half-inch holes.

Q So your overall perforated interval would be 4048 to 4218 feet?

A Yes.

Q Is this the interval that you seek permission to inject water into?

A Yes.

Q Will the tubing in this well be plastic coated?

A Yes.

Q Will your annular space be filled with an inhibited fluid?

A Yes.

Q Will a pressure gauge be installed at the surface on the annulus?

A Yes.

Q What is the source of water that would be -that you propose to inject into this well?

A It will be produced water from the San Andres formation in this field.

Mhat do you estimate would be your initial volume of injected water?

A Approximately 90 barrels per day.

Q Do you anticipate having to use pressure at this surface in order to achieve this injection?

A Not initially. We have conducted an injection test. The well would take water at 1.4 barrels per minute on a vacuum; with 100 PSI surface pressure, eight barrels per minute.

Q What is the present status of the subject well?

A It is now producing approximately half a barrel of oil per day, and seven barrels of water per day.

Q Would you say that that well was at its economic limit?

A Yes.

Q What is the condition of the offset wells operated by Midwest in this area?

A They are also at their economic limit. There are wells directly to the east of No. 6 well that is producing

approximately four barrels of oil per day and nine barrels of water per day. The No. 4 to the south is producing one barrel of oil and sixteen barrels of water per day.

- O In your opinion, Mr. Brown, what effect will the injection of water into this well have upon adjoining wells in this field?
 - A Well, if any, it should be beneficial.
- Q In your opinion, will the approval of this application either cause waste or impair correlative rights?
 - A No.
- Q Were Exhibits 1, 2, 3, and 4 prepared by you or under your direction?
 - A Yes.

MR. MORRIS: We offer into evidence Midwest Exhibits 1 through 4.

MR. UTZ: Without objection, Midwest Oil Corporation's Exhibits 1 through 4 will be entered into the record.

MR. MORRIS: That is all I have on direct examination Mr. Examiner.

CROSS EXAMINATION

BY MR. UTZ;

Q How much water do you anticipate will go in this well?

- A I don't have a ready answer for you, sir.
- Q Is this water from all your leases?
- A Yes, sir, this will be from our No. 4 Tract that we operate.
- Q Do you have any idea how many wells, what they might average?
 - A We have 26 wells.
- Q Do you have any idea what the average well water production is?
- A We are producing 90 barrels per day from all four tracts.
 - Q From all four tracts?
 - A Yes, sir.
- Q And you intend to dispose of all of this water in this well, 90 barrels a day, then?
 - A Yes, sir.
- Q Would you consider this amount of water would be enough to increase the oil production? What I am thinking of now is should we call this a water flood project or disposal?
- A No, we are calling it disposal. We are not trying to maintain any top pressure operations.
 - Q This is an edge well, isn't it?

- A Yes.
- Q And you sure there is no production to the northeast?
 - A We are sure of this.

MR. UTZ: Any other questions of the witness?

You may be excused. Are there any other statements in this case? The case will be taken under advisement.

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EXHIBITS	MARKED	OFFERED AND ADMITTED			
Applicant's Exhibit Numbers 1 through 4	2	8			

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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.

Samuel Montaletto
COURT REPORTER

i do hereby certify that the formoing is a complete record of the promedians in the limited hearing of the Mo. 3285, heard by no on the complete the 1965.

New Nextco Oil Conservation Considerion

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

December 18, 1968

Mr. Richard S. Morris Montgomery, Federici, Andrews, Hannahs & Morris Attorneys at Law Post Office Box 2307 Santa Fe, New Mexico Re: Case No. 3985
Order No. R-3633
Applicant:

Midwest Oil Corporation

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

ALP/ir	
Carbon copy of order al	lso sent to:
Hobbs OCC X	
Artesia OCC	
Aztec OCC	
Other State Eng.	ineer Office - Santa Fe

Bureau of Land Management - Santa Fe

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. 3985 Order No. R-3633

APPLICATION OF MIDWEST OIL CORPORATION FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 11, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 18th 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, Midwest Oil Corporation, is the cwner and operator of the Morgan-Federal Tract 4 Well No. 5, located in Unit I of Section 13, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4048 feet to 4218 feet.
- (4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 4000 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

-2-CASE No. 3985 Order No. R-3633

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, Midwest Oil Corporation, is hereby authorized to utilize its Morgan-Federal Tract 4 Well No. 5, located in Unit T of Section 13, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4000 feet, with injection into the perforated interval from approximately 4048 feet to 4218 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 . CARGO Chairm

GUYTON A. HAVED Member

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

egr

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 11, 1968

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

The following cases will be heard before ENGS A. UTZ, EXAMINER, or DANIEL S. NUTTER, ALTERNATE EXAMINER:

CASE 3984: Application of Gulf Oil Corporation for sown hand a large, ling, Lea County, New Mexico. Applicant, in the above-reyland rause, seeks authority to commingle production from the Penrose Skelly Pool and the Paddock Pool in the well-bore of its J. N. Carson (NCT-C) Well No. 9 located in Unit I of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, with the provision that no more than one allowable will be produced from said well.

CASE 3985: Application of Midwest Oil Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4048 feet to 4218 feet in its Morgan-Federal Tract 4 Well No. 5 located in Unit I of Section 12, Township 7 South, Range 33 East, Chaveroc-San Andres Pool, Roosevelt

County, New Mexico.

CASE 3986: Application of Bell Petroleum 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 San Andres formation in the perforated interval from approximately 4224 feet to 4447 feet in its State "5" Well No. 3 located in Unit J of Section 5, Township 9 South, Range 32 East, South Button Mesa-San Andres Pool, Lea County, New Mexico.

CASE 3987: Application of Union Texas Petroleum Corporation for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3421 feet to 3520 feet in its Wells lease Well No. 4 located in Unit D of Section 5, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 3988: Application of Anadarko Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Far West Loco Hills Sand Unit Area comprising 840 acres, more or less, of Federal, State and fee lands in Sections 4, 9, and 16, of Township 18 South, Range 29 East, Loco Hills Pool, Eddy County, New Mexico.

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MIDWEST OIL CORP. MORGAN-FEDERAL TRACT4, Well 5 PROPOSED INJECTION WELL 8^{LH}_{2} csg. set at 352' cemented with 325 sxs cement circulated. 4½" csg. cemented with 260 sxs Top of cement calculated at 2800 BEFORE EXAMINER UTZ OIL CONSERVATION COMMISSION EXHIBIT NO. 4 CASE NO.___ Baker Model A tension packer or equivalent run on 2 3/8" EUE tubing. Set at 4000' 4½" csg perforarated at
4048, 4124, 30, 40, 47,
52, 58, 99, 4208, 11, 16, 18
(12 - ½" holes) 4305 PBTD 4½" esg set at 4340'

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION OF MIDWEST OIL CORPORATION FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO

No. 3985

APPLICATION

comes now Midwest Oil Corporation by its attorneys and applies to the New Mexico Oil Conservation Commission for permission to dispose of produced salt water into the San Andres formation in the Chaveroo field, Roosevelt County, New Mexico, and in support of its application states:

- 1. Applicant is the operator of the Morgan Federal Tract 4
 Well No. 5 located in Unit I of Section 13, Township 7 South,
 Range 33 East, Roosevelt County, New Mexico.
- 2. Applicant proposes to dispose of produced salt water into the San Andres formation in the interval from 4,048 feet to 4,218 feet in the said well.
- 3. Attached to this application and incorporated herein by reference is Form C-108, a plat showing the location of the subject well, a diagramatic sketch of the proposed injection well, and a log of the subject well.
- 4. Approval of this application will prevent waste and protect correlative rights.

WHEREFORE, applicant requests that this application be set for hearing before the Commission or one of its Examiners and that the Commission enter its order approving this application.

MONTGOMERY, FEDERICI, ANDREWS, HANNAHS, & MORRIS

This was I I M

P. O. Box 2307/ Santa Fe, New Mexico

Attorneys for Midwest Oil Corporation.

DOCKEY MARLED

De 11-26-68

NEW MEXICO OIL CONSERVATION COMMISSION COLOR SPENDED APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION Midwest 0il Corporation 1500 Wilco Bldg., Midland, Texas Morgan-Federal Tract 4 Chaveroo (San Andres) Roosevelt WELL IS LOCATED 1980 FEET FROM THE South RANGE 33E CASING AND TUBING DATA

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NAME OF PROPOSED IN	DECTION FORMATIO			TOP OF FORMATION			BOTTOM OF FORMATION			
Sa	n Andres			3339'			4340' TD			
IS INJECTION THROUGH	TUEING, CASING, OF	R ANNULUS?	PERFORATIONS	OR OPEN HOLE?	PROPOSED INTER	VAL(S) OF INJE	CTION			
Tubi	ing '		Perfora			8'-4218'				
IS THIS A NEW WELL O	DRILLED FOR	IF ANSWER IS	NO, FOR WHAT PURPO	SE WAS WELL ORIG	INALLY DRILLED	?	HAS WEL	HAS WELL EVER BEEN PERFORATED IN A ZONE OTHER THAN THE PROPOSED INJECTION ZONE?		
No		Produ	cing Oil Well	<u> </u>			TION ZON	No No		
LIST ALL SUCH PERFO	RATED INTERVALS A	NO SACKS OF CE	MENT USED TO SEAL O	OFF OR SQUEEZE E.	ACH					
	None									
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA			DEPTH OF BOTTOM OF OIL OR GAS ZONE IN T		DEPTH OF TO	P OF NEXT ONE IN THI	LOWER S AREA			
	20			None			None			
ANTICIPATED DAILY INJECTION VOLUME (MINIMUM	I MAXIMUM	OPEN OR CLOS	ED TYPE SYSTEM	PRESSURE?	TO BE BY GRA	VITY OR	APPROX. PRESSURE (PSI)		
100	80	200	Clos	ed		re if Ne				
ANSWER YES OR NO WHERALIZED TO SUCH A DISTOCK, IRRIGATION, OF	ETHER THE FOLLOW LEGREE AS TO BE UN R OTHER GENERAL II	ING WATERS AR: IFIT FOR DOMES: SF _	E MIN- WATER	TO BE DISPOSED (SAL ZONE	TER IN DISPO-	ARE WAT	ER ANALYSES ATTACHED?		
			TATE OR FEOSRAL LAN	Yes	<u>Y</u>	es	No			
NAME AND ADDRESS OF	·									
LICT NAMES AND ADDR			- USGS - ROSW							
			•		E. L. C					
Pan Ameri	can Mid-A	merica B	ldg., Midlan	d, Texas						
m	x111	D11. 1	12.31 1 m	_						
Tenneco	WILCO	Blag., r	iidland, Texa	.s				·····		
Featherst	one 236 P	etroleum	Bldg., Roswe	11. New Me	xico					
· · · · · · · · · · · · · · · · · · ·		····								
Dalport -	930 F	idelity U	Inion Life B1	dg., Dalla	s, Texas		·			
HAVE COPIES OF THIS A	APPLICATION BEEN	SURFACE OWNE	ER	TEACH OPER	LTOR WITHIN ONE	HALF MILE	THE NEW	MEXICO STATE ENGINEER		
SENT TO EACH OF THE	FOLLOWING?	1	'es	JOF THIS WE	Yes	· I		Yes		
RE THE FOLLOWING IT	EMS ATTACHED TO		.63	ELECTRICAL		i	DIAGRAMM	ATIC SKETCH OF WELL		
THE APPLICATION (SEE	HULE 701-B)		es.	1	Yes	,		Yes		
		1 1	. 🗸 🔾		100			~~~		

I hereby certify that the information above is true and complete to the best of my knowledge and belief. District Engineer (Signature) (Title) (Date)

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

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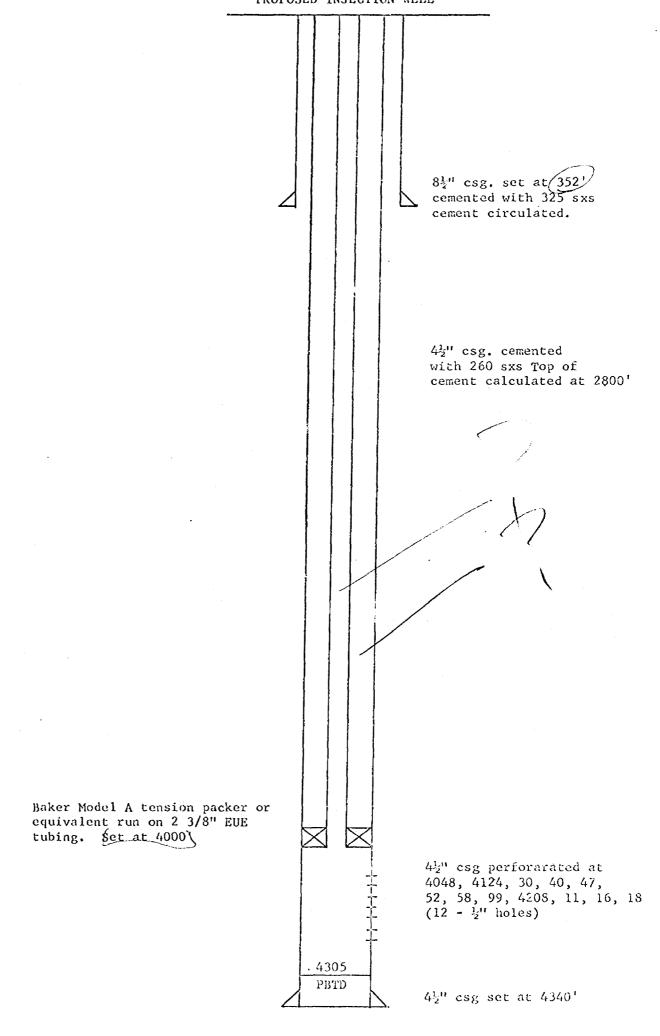
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MIDWEST OIL CORP.
MORGAN-FEDERAL TRACT4, Well 5
PROPOSED INJECTION WELL



DEFORE 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:

THE PURPOSE OF CONSIDERING: CASE No. Order No. R-APPLICATION OF MIDWEST OIL CORPORATION FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO. ORDER OF THE COMMISSION BY THE COMMISSION: This cause came on for hearing at 9 a.m. on December 11 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz NOW, on this <u>day of December</u>, 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, Midwest Oil Corporation is the owner and operator of the Morgan-Federal Tract 4 Well No. 5, located in Unit I of Section 13, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool County, New Mexico. (3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4048 feet to 4218 feet. (4) That the injection should be accomplished through

23% -inch plastic-lined tubing installed in a packer set at

approximately 4000 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 CRDERED:

(1) That the applicant, <u>Midwest Oil Corporation</u> ,
is hereby authorized to utilize its Morgan-Federal Tract 4 Well No. 5
located in Unit I of Section 13, Township 7 South, Range
33 East, NMPM, Chaveroo-San Andres Pool , Roosevelt
County, New Mexico, to dispose of produced salt water into the
San Andres formation, injection to be accomplished through
23/8 -inch tubing installed in a packer set at approximately
4000 feet, with injection into the perforated interval
from approximately 4048 feet to 4218 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.