CASE 7009: AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO

CASE NO.

7009

APPlication, Transcripts, Small Exhibits,

ETC.



STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

September 12, 1980

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 (505) 827-2434

Mr. Clyde Mote, Attorney Amoco Production Company	Re:	ORDER NO. 7989 R-6461
P. 0. Box 3092 Houston, Texas 77001	1	Applicant:
•		- Amoco Production Company
Dear Sir:		
Enclosed herewith are two or Division order recently ent		
Pours very truly, JOE D. RAMEY Director		
•		
JDR/fd		
Copy of order also sent to:		
Hobbs OCD x Artesia OCD x Aztec OCD		-
Oth an		

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 7009 Order No. R-6461

APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 20, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 10th day of September, 1988, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Amoco Production Company, is the owner and operator of the State "E" Tract 18 Well No. 22, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lavington-Abo Pool, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open hole interval from approximately 8330 feet to 9000 feet.
- (4) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8300 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

-2-Case No. 7009 Order No. R-6461

- (5) That prior to injection the applicant should recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.
- (6) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.
- (7) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Abo formation.
- (8) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (9) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.
- (10) 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, Amoco Production Company, is hereby sutherized to utilize its State "E" Tract 18 Woll No. 22, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 83GO feet, with injection into the open hole interval from approximately 833O feet to 9000 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 shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

-3-Case No. 7009 Order No. R-6461

PROVIDED FURTHER, that prior to injection the applicant shall recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.

- (2) That the injection well or system shall be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.
- (3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Abo formation.
- (4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- (7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above Menignated.

STATE OF NEW MEXICO DIVISION

JOE D. HAMEY

Director

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
20 August 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Amoco Production Company)
for salt water disposal, Lea County,)
New Mexico.

CASE 7009

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 37501

For the Applicant:

Clyde A. Mote, Esq.
Amoco Production Company
500 Jefferson Bldg.
Houston, Texas 77001

ALLY W. BOYD, C.

SALLY W. BOYD, C.S.R Rt. 1 Box 193-B Santa Fe, Ivew Mexico 87501 Phone (505) 455-7409

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H. MIKE BROWN

Direct Examination by Mr. Mote Cross Examination by Mr. Stamets

FXHIBITS

Applicant Exhibit Two, List

Applicant Exhibit Three, C-108

Applicant Exhibit Four, Schematic

Applicant Exhibit Five, Schematic

Applicant Exhibit Five, Schematic

Applicant Exhibit Six, Log

Applicant Exhibit Seven, Tabulation

MR. STAMETS: At this time we will call,

MR. PADILLA: Application of Amoco Production Company for salt water disposal, Lea County, New Mexico.

MR. MOTE: Mr. Examiner, I'm Clyde Mote, attorney, representing Amoco Production Company, in association with Atwood and Malone.

I have one witness.

(Witness sworn.)

W. MIKE BROWN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. MOTE:

then, Case 7009.

Would you please state your name, by whom employed, in what capacity, and what location?

Yes. My name is H. Michael Brown. I'm employed by Amoco Production Company in the Houston Regional Office as a Staff Petroleum Engineer, Senior Grade.

Have you previously testified before the Oil Conservation Division and your qualifications as an ex-

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pert petroleum engineer been accepted?

A. Yes.

You'll be asked to testify concerning several exhibits. Were all of these exhibits either prepared by you or under your supervision and direction?

A. Yes, they were.

Q Please turn to your first exhibit and, if you would, please explain to the Examiner the reason for the two circles drawn on this map.

The -- first of all, I'd like to note that the well in question, our State "E" Tract 18 Well No. 22 is designated by the red arrow and is the center of both the circles. The inner circle has a half mile radius; the outer circle is a 2-mile radius.

We've tried to show by this map all producing horizons within the 2-mile radius.

Mow many producing horizons are within this 2-mile radius?

A. There are a total of six. The three main horizons are the San Andres, the Paddock, and the Abo. There is one Queen well, one Yates well, and three Devonian producers.

Mow many existing salt water disposal wells in the Abo?

At present there are four. There are

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three in Section 2 and one in the southeast quarter of Section 1, being the Araho salt water disposal well No. 1.

And are you either at or near capacity in these wells?

Yes. At present the three wells in Section 2 are at capacity. The Araho well in Section 1 has an additional 2000 barrels a day capacity.

Why do you need more salt water disposal capacity?

At present we're installing submersible pumps on our wells on the State "E" Tract 18 lease. If you'll refer to Exhibit Two, to show we have at present installed submersible pumps in our Wells Nos. 15, 17, and 19.

We propose, once we have additional salt water disposal capacity, to install additional submersible pumps on Wells Nos. 18, 20, and 23, and also return Well No. 16 to production, which is currently shut-in.

Your Exhibit Number Two, I believe it shows both oil and water produced from each one of the wells?

Yes, it does.

And does it show the need for the additional 4370 barrels of water per day?

Yes, with all wells on submersible pump and with the results that we anticipate, yes.

> All right. Turn to your Exhibit Humber Q

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Three, if you would. I believe this is a form which is your application to dispose of salt water by injection which is already on file with the Commission, is this correct?

- Yes, Form C-108.
- All right. What in particular do you wish to point out on this exhibit to the Examiner?

I'd like to point out on this exhibit that we plan to inject water into the Abo formation through an open hole completion at a depth of 8330 to 9000 feet. We would have a maximum surface pressure of 1650 pounds and propose to inject between six and 10,000 barrels a day.

- Will this be a closed system?
- Yes, it will.
- I believe you have attached to that exhibit a water analysis, do you not?
 - Yes. A.
 - And what does it show the water to be? Q.
- Well, this analysis was taken from our well No. 15, which is an Abo producer, and shows the water that we plan to inject to be mineralized to an extent to be not suitable for generalized use.
- All right, get your Exhibits Four and Five out together so we can discuss both of them at the same time.

I believe your Exhibit Number Four is a

wellbore schematic showing the current wellbore as it exists

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Exhibit Number Five, is that correct? That's correct.

now and the wellbore schematic showing proposed wellbore is

All right. Please explain the procedure you intend to use to make your conversion.

We plan to enter Well No. 22 and squeeze the present Abo perforations at 8292 to 8316. We would then go up-hole and perforate pipe at 5000 feet and displace 450 sacks of cement to raise our cement top from the current 5400 feet to 4150 feet to completely put cement past the San Andres formation.

We will run a temperature survey to confirm where the top of cement is after this operation.

We'll then drill out the cast iron retainer and the cement at the base of the hole and drill to a total depth of 9000 feet. At that time we'll install a packer and tubing and inject water through a 3-1/2 inch plastic-coated tubing into the open hole between 8330 and 9000 feet.

All right. Turn to your Exhibit Number Six, if you will. I believe this is a log of the proposed well to be converted to injection.

Yes, Exhibit Humber Six is a garma ray neutron log on our State "E" Tract 13 Mell No. 22. Shown on the log are the various formation tops and the casing seat .

All right, turn to your Exhibit Number

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Seven, if you would. I believe this is the completion and casing data of all wells within half a mile of the injection well, is that correct, the proposed injection well?

Yes, it gives the completion data on all wells within a half mile radius of the subject well, and shows that nine wells have penetrated the Abo, formation within this area. Of that nine, two are currently Paddock water injection wells; three are Abo salt water disposal wells; and four are Abo producers.

Does it list the completion and casing data for all the wells?

> A. Yes, it does.

And what is the current status of all Q. these wells?

Well, our State "E" Tract 18 Wells Nos. 18, 19, 20, and 23 are currently Abo producers.

State "E" Tract 18 Well No. 21 is a Abo salt water disposal well.

The Araho, Incorporated, State "WD" No. 2 is an Abo salt water disposal well.

Getty Lovington-Paddock Unit Water Injection Well No. 2 is a Paddock water injection well, as is the Phillips Lovington No. 2.

The Rice Engineering State "WD" No. 1 is an Abo salt water disposal well.

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This shows, then, that all four Abo producing wells within a half mile radius are operated by Amoco Production Company?

That is correct.

MR. MOTE: Mr. Examiner, we offer all these exhibits into evidence.

MR. STAMETS: These exhibits will be ad-

MR. MOTE: That concludes our case.

CROSS EXAMINATION

BY MR. STAMETS:

mitted.

Mr. Brown, I believe you indicated that 1650 pounds was your maximum --

Yes, sir.

-- expected pressure.

Yes, sir, correct.

Do you have any water analysis or analyses vailable on this Lower Abo section?

We think that the water taken from the 15 is the same as what will be encountered at the injection interval.

Q. What you will be re-injecting, then, is all Abo water.

That's correct.

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this	point the	ere i	s no d	liffer	cence	bet	ween	the	upper	zone)
Abo w	ater and	the	lower	zone	Abo t	vate	er?				
	A.		No,	sir.	No,	we	have	not	taken	any	ans

A. No, sir. No, we have not taken any analysis that I've seen in our well at the interval in which we plan to inject, but I do think that it is the same water.

Q Could this be done fairly easily when you drill the well deeper?

A Oh, yes, sir, quite easily.

Looking at Exhibit Number Seven, it would appear that essentially every well which is -- has penetrated this zone, injection interval, is cemented well above the zone

A Yes, sir.

And you have no plugged and abandoned wells in this area.

A That's correct.

MR. STAMETS: Any other questions of the witness? Oh, let me look at Exhibit Five again.

Q I presume you will have the annular space between the injection tubing and the casing loaded with an inhibited fluid?

A. Yes, sir, we will.

And some sort of a testing device at the surface to insure that you don't have a leak in the tubing or packer --

Yes, sir.

MR. STAMETS: Any other questions of the

witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

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CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Oil Conservation Division

SALLY 1M. BOYD, C.S.
Rt. 1 Box 193-6
Sunta F.; New Mexico 57501
Phone (505) 455-7409

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
20 August 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Amoco Production Company) for salt water disposal, Lea County,) New Mexico.

CASE 7009

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

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For the Applicant:

Clyde A. Mote, Esq. Amoco Production Company 500 Jefferson Bldg. Houston, Texas 77001

Marina Carles Town

I N D E X

H. MIKE BROWN

Direct Examination by Mr. Mote

Cross Examination by Mr. Stamets

EXHIBITS

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then, Case 7009.

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I have one witness.

(Witness sworn.)

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Q Would you please state your name, by whom employed, in what capacity, and what location?

A. Yes, My name is H. Michael Brown. I'm employed by Amoco Production Company in the Houston Regional Office as a Staff Petroleum Engineer, Senior Grade.

Q. Have you previously testified before the Oil Conservation Division and your qualifications as an ex-

LLY W. BOYD, C.S.I R. I Box 193-B

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A Yes.

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Q Please turn to your first exhibit and, if you would, please explain to the Examiner the reason for the two circles drawn on this map.

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We've tried to show by this map all producing horizons within the 2-mile radius.

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A. There are a total of six. The three main horizons are the San Andres, the Paddock, and the Abo. There is one Queen well, one Yates well, and three Devonian producers.

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A. Yes, Form C-108.

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A. I'd like to point out on this exhibit that we plan to inject water into the Abo formation through an open hole completion at a depth of 8330 to 9000 feet. We would have a maximum surface pressure of 1650 pounds and propose to inject between six and 10,000 barrels a day.

Q Will this be a closed system?

A. Yes, it will.

Q I believe you have attached to that exhibit a water analysis, do you not?

A. Yes.

And what does it show the water to be?

A. Well, this analysis was taken from our well No. 15, which is an Abo producer, and shows the water that we plan to inject to be mineralized to an extent to be not suitable for generalized use.

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now and the wellbore schematic showing proposed wellbore is Exhibit Number Five, is that correct?

That's correct.

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We plan to enter Well No. 22 and squeeze the present Abo perforations at 8292 to 8316. We would then go up-hole and perforate pipe at 5000 feet and displace 450 sacks of cement to raise our cement top from the current 5400 feet to 4150 feet to completely put cement past the San Andres formation.

We will run a temperature survey to confirm where the top of cement is after this operation.

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All right. Turn to your Exhibit Number Six, if you will. I believe this is a log of the proposed well to be converted to injection.

Yes, Exhibit Number Six is a gamma ray neutron log on our State "E" Tract 18 Well No. 22, Shown on the log are the various formation tops and the casing seats.

All right, turn to your Exhibit Number

Seven, if you would. I believe this is the completion and casing data of all wells within half a mile of the injection well, is that correct, the proposed injection well?

Wells within a half mile radius of the subject well, and shows that nine wells have penetrated the Abo formation within this area. Of that nine, two are currently Paddock water injection wells; three are Abo salt water disposal wells; and four are Abo producers.

Does it list the completion and casing data for all the wells?

A. Yes, it does.

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The Rice Engineering State " \mbox{WD} " No. 1 is an Abo salt water disposal well.

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A That is correct.

MR. MOTE: Mr. Examiner, we offer all these exhibits into evidence.

MR. STAMETS: These exhibits will be admitted.

MR. MOTE: That concludes our case.

CROSS EXAMINATION

BY MR. STAMETS:

Mr. Brown, I believe you indicated that 1650 pounds was your maximum --

A Yes, sir.

Q -- expected pressure.

A. Yes, sir, correct,

O Do you have any water analysis or analyses vailable on this Lower Abo section?

We think that the water taken from the 15 is the same as what will be encountered at the injection interval.

Q. What you will be re-injecting, then, is all Abo water.

A. That's correct.

You don't have any proof, then, that at this point there is no difference between the upper zone

Abo water and the lower zone Abo water?

A. No, sir. No, we have not taken any analysis that I've seen in our well at the interval in which we plan to inject, but I do think that it is the same water.

Q Could this be done fairly easily when you drill the well deeper?

A oh, yes, sir, quite easily.

Q Looking at Exhibit Number Seven, it would appear that essentially every well which is -- has penetrated this zone, injection interval, is cemented well above the zone.

A. Yes, sir.

Q And you have no plugged and abandoned wells in this area.

A. That's correct.

MR. STAMETS: Any other questions of the witness? Oh, let me look at Exhibit Five again.

Q. I presume you will have the annular space between the injection tubing and the casing loaded with an inhibited fluid?

A. Yes, sir, we will.

Q. And some sort of a testing device at the surface to insure that you don't have a leak in the tubing or packer --

Yes, sir.

MR. STAMETS: Any other questions of the

He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Hearing concluded.)

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CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Soely W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7009,

, Examiner Oil Conservation Division

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AMOCO PRODUCTION CO. STATE "E" TRACT 18 LEASE

LOVINGTON ABO POOL

WELL NO.	CURRENT DAILY PROD. (8-7-80)	EXPECTED DAILY PROD.*
15	140 BO x 6,623 BW	140 BU x 6,623 BW
16	SI	10 B0 x 70 BW
17	210 BO x 875 BW	210 BO x 875 BW
18	SI	80 B0 x 1,500 BW
19	207 BO x 3,373 BW	207 BO x 3,373 BW
20	SI	60 BO x 1,400 BW
21	SWD	SWD
22	SI	SWD
23	SI	150 BO x 1,400 BW
TOTAL INCREMENTAL PROD:	557 B0 x 10,871 BW 300 B0 x 4,370 BW	857 BO x 15,241 BW

* After converting #22 to SWD and installing ESP's on Nos. 16, 18, and 23.

BEFORE EXAMINER STAMETS
OIL CONST. WATER DIVISION
AMOCO EXHIBIT NO. 2
CASE NO. 1009
Submitted by Amoco Pew. Co.
Hearing Date 8/20/80

Form C-108 Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION

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

							11111 14 6 50 1 3
Amoco Production Co	mpany	e-). Box	68 - Hobbs	s, NM	
State "E" Tract 18	WELL NO. 22	11222				Lea	
LOCATION UNIT LETTER	G	CUL IS LOCATED	1650	OIA THE	North	NF AND	1650
East LINE, SECTION		VNSHIP 17-S					CKT PROMITING
LAST LINE, SECTION			RANGE 36-1 AND TUBING DAT		1241.		
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMEN	т	TOP OF CEMEN	ıT i	TOP DETERMINED B.
INTERMEDIATE	13-3/8"	270 '	275		Surface	i i	Circulated
LONG STRING	9-5/8"	3287 '	300		Unknown		Cemented with DV tool at 2106'
TUBING	5-1/2"	8330'	835 sx orig	e 450 s	sx Approx.	4150	' Temp Survey
	3-1/2"	Approx. 833	!			I - 3	3-1/2" - 83001
NAME OF PROPOSED INJECTION FORMA	TION	<u> </u>	TOP OF FORM	ATION			OF FORMATION
Abo - IS INJECTION THROUGH TUBING, CASIN	G. OR ANNULUS?	PERFORATION	S OR OPEN HOLE! PA		SRVAL (S) OF INIE	TION	9250'
Internally Coated	Tubing	83301	- 9000'	8330	' - 9000'		
IS THIS A NEW WELL CRILLED FOR	1	NO, FOR WHAT PURPO	SE WAS WELL ORIGINA	LLY DRILL	€0 '	HAS WE ZONE O	THE THAN THE PROPERTY IN THE THAN THE PROPERTY IN THE PROPERTY
NO	S AND SACKS OF C	ucing Well	OFF OR SQUEEZE EACH				162
8338' - 8340' 75	sx sloset;	8292 ' - 8316	' 150 sx C1	ass H			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM O	F NEXT HIGHER THIS AREA 800 F		DEPTH OF TOP	9500	T LOWER HIS AREA
ANTICIPATED DAILY MINIMUM (BBLS.) 6,000	osed Type System		Pressure		[1650#		
ANSWER YES OR NO WHETHER THE FOL EMALIZED TO SUCH A DEGREE AS TO B STOCK, IRRIGATION, OR OTHER GENERAL	Yes	NATURAL SAL ZONE	Yes	ARE WA	Yes		
NAME AND ADDRESS OF SURFACE OWN	R (OR LESSEE, IF	STATE OF FEDERAL LA	_	L	163		162
City of Lovington,	New Mexico				BEFORE I	EXAN	MINER STAGETS
Marathon Oil Compa					A		ATION DIVINAL I
		namentale e en en me ar en un appende e acceptance en en e					BIT NO.
Cities Service Com	pany - P. O	. Box 1919 -	Midland, IX	/9/0	CASE NO		7009
Getty Oil Company	- P. O. Box	730 - Hobbs	, NM 88240		Submitted	by	moo koo Go.
Amerada Hess Corpo	ration - P.	0. Box 2040	- Tulsa, OK	7410	2 Hearing D	oie_	8/20/80
Phillips Petroleum	Company -	4001 Penbroo	k - Odessa,	TX 79	701		
MAYE COPIES OF THIS APPLICATION OF SENT TO EACH OF THE FOLLOWING?	CERT THURFACE OWN L L		EACH UPLRATE OF THIS WELL	ob within	ONE-HASE MISS	Trice sar I	W MERICO STATE ENGINEER
ARE THE FOLLOWING STEMS ATTACHED THIS APPLICATION (SEE RULL 201-13)	TO PLAT OF ARE	Yes	ELECTRICAL L	No	·	DIAGRA	Yes
A hereby ce	rtify that the inf	ormation above is	true and complete	to the be	est of my knowle	edge a:	ad belief.
Dollars		Admini	strative Ana	lyst		<u>J</u> p	ne 20, 1980
NOTE: Should waivers from the	o esperante de la compansión de la compa	e. gruss e e esta una an akan enekare es	(I)Uc) 		ithin on hell	iemuini mila ni	(Date)

SOTE: 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 ROLE 703.

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RESEARCH CENTER WATER ANALYSIS

T.S. or File	No		
		T-24790	_
Field	No		
API Wall			

OCATION SAMPLED: Division Houston	DistrictAreaLevelland
Operator (Plant) Amoco	District Area Levelland Well No. 15 Lease Lovington Abo
rate (Province) New Mexico	County (Parish)
wp. 17 S Rng. 36 E Sec. 1	Quarter (Lsd.) Other (Meridian)
	Wildcat () Field Well (X) Field name
•	Date 9-1-78 Sample collected by
nerval sampledto	HICCITAL HARIC
.eccovery	
orm)7 transmitted by V. E. Staley	Date 9-8-78 Authorized by
ORGANIC CONSTITUENTS in mg/1	CONVENTIONAL MAJOR ION ANALYSIS
BOTTOM MIDDLE TOP MUD	Major % of Total Reaction % of Total
nzene	tons Major Value Reaction
sluene	mg/1 lons meq/1 Value
C Gises	Sodium Na* 14,395 31.70 626.17 40.71
	Calcium C1++ 2,040 4.49 101.80 6.62
	Magnesium Mg++ 500 1.10 41. 2.67
	Potassium K+
DESCRIPTION OF SAMPLE	Chloride Cl 24,600 54.18 693.72 45.10
imple used for detailed analyses.	Bicarbonate HCO3 1,170 2.58 19.19 1.25
ate received	Sulfare SO4 2,700 5.95 56.16 3.65
ondition as received	
olor	
do:	1 1
spended solids	NaCl resistivity equivalent (Dunlap) 53,599 mg/
ottom sediment	MCSISCIVITY ————————————————————————————————————
il or fluorescence	pri
QUALITY OF SAMPLE	Ryznar stability index (2pHs-pH)at°
	OTHER IONS AND DISSOLVED SOLIDS
noride BOTTOM MIDDLE TOP	CATIONS mg/1 ANIONS mg/1 OTHERS mg/1
1 mg/l:	
DMMENTS:	
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	RECEIVED
	HORRS
	REMARKS AND CONCLUSIONS:
	REMARKS AND CONCEDSIONS: OCT 5 1978
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The Manager of the Control of the Co	
W. V. Grisham	
A. Reed	Apply (MARC BAMA) Due 10-2-78
A. H. Green	
C. W. Schmidt	•
David_Boatwrijht	Water charts on back ()

Autom	

Amoco Production Company

FILE

ENGINEERING CHART

SUBJECT STATE E TRACT 18 WELL No. 22

CURRENT WELLBORE ARRANGEMENT

PPN

Lac: 1650' FNL & 1650' FEL, SEC. 2, T-17-5, R-36-E, LEA Co., NM

13% CSA 270' W/275 SXS CMT CMT CIRL. To Surf.

DV TOOL @ 2106

95/8" CSA 3287'
CMT W3005X5 IN
TWO EQUAL STAGES

BEFORE EMANINER STANLETS
OIL CONSERVATION DIVISION
Amoro DANISH NO. 4
CASE NO. 7009
Submitted by Amoro Prod. Co.
Hearing Date 8/20/80

51/2" CSA 8330' 4/835 Sx5 CMT × 835 ft Pervite T. CMT 1598 (CALC.)

T. CMT 279' (CALC.)

T. CMT 5400' (CALC.)

ABO PFS: 8292'-8316'
CAST IRON RETAINER @ 8326'

A STATE OF THE STA

Amoco Production Company

ENGINEERING CHART

PROPOSED WELLBORE ARRANGEMENT

SHEET NO.	OF
FILE	
APPN	
PATE	
B V	

LOC: 1650'FNL & 1650'FEL, SEC. 2, T-17-5, R-36-E, LEA CO., NM

13%" CSA 270'	
4275 5xs Cn	T
CONT CIRC. TO	Surf.

DV TOOL @ 2106'

95/8" CSA 3287' CMT W/300 SXS IN TWO EQUAL STAGES

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BEFORE EDIA INFLOATED TO BE OIL CONSERVATION DIVISION EXHIBIT NO. 5

CASE NO. 2009

Submilled by Amore PROD 6.

Hearing Dale

51/2" CSA 8330' 6/835 Sxs CMT * 835 H' PERLITE T. CMT 1598' (CALC.)

T. CMT 2779' (CALE.)

T. CMT 4150'
(RAISED FROM 5400'
BY DISPLACING 450
SXS CMT INTO PFS
© 5000')

SQZ. ABO PS 8292-8316 W/300 SXS CMT

GuiBERSON UNI-PKR VII @ B300'

ABO OH 8330'-9000'

TD-9000

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO.

Submitted by Amore Pers. Co.

COMPLETION & CASING DATA STATE "E" TRACT 18 WELL NO. 22 SWD APPLICATION

Submined by Kimus 1250.						
Hearing Date //ocho	LOCATION	TOTAL DEPTH	CURRENT PBD	PRODUCING INTERVAL (SUBSEA DEPTH)	CASING	SACKS CEMENT
AMOCO PRODUCTION CO. State "E" Tr. 18 #18	330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8530'	8415'	Abo: PF 8336' - 8392' (-4488' to -4544')	13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530'	275 300 550
State "E" Tr. 18 #19	1650' FNL & 990' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	8530'	8481'	Abo: PF 8254'-64', 8340'-50' (-4410' to -4420', -4496' to -4506')	13 3/8" @ 266' 9 5/8" @ 3298' 7" @ 8530'	332 300 225
State "E" Tr. 18 #20	1650' FNL & 330' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8525'	8365'	Abo: PF 8230'-99', 8338'-48' (-4392' to -4461', -4500' to -4510')	13 3/8" @ 280' 9 5/8" @ 3299' 7" @ 8520'	300 300 550
State "E" Tr. 18 #21	660' FNL & 1650' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8987'	8381'	Abo SWD: OH 8391' - 8987' (-4538 to -5134')	13 3/8" @ 269' 9 5/8" @ 3300' 7" @ 8391'	275 300 1105
State "E" Tr. 18 #23	860' FNL & 790' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	84421	83501	Abo: PF 8234' - 8268' (-4392' to -4426')	11 3/4" @ 336' 8 5/8" @ 5116' 5 1/2" @ 8356'	635 2800 1000
ARAHO, INC. State WD-2	1650' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8889'	88891	Abo SWD: OH 8528' - 8889' (-4670' to -5301')	13 3/8" @ 349' 9 5/8" @ 3318' 5 1/2" @ 8528'	450 1750 1400
GETTY Lovington Paddock Unit WI-62	1980' FSL & 560' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	9746'	6303'	Paddock WI: PF 6128' - 6294' (-2228 to -2454')	10 3/4" @ 461' 7 5/8" @ 3455' 5 1/2" @ 8916'	600 1136 800
RICE ENGINEERING State WD #1	990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	88581	88531	Abo: OH 8534' - 8858' (-4675' to -4999')	13 3/8" @ 396' 9 5/8" @ 3348' 5 1/2" @ 8530'	450 1750 1380
PHILLIPS Lovington #2	660' FSL & 1880' FEL Sec. 35, T-16-S, R-36-E Lea County, New Mexico	9069'	6343'	Paddock WI: PF 6194' - 6224', 6292' - 6328' (-2333' to -2363', -2431' to -2467')	13 3/8" @ 286° 8 5/8" @ 4694° 5 1/2" @ 8875°	325 2150 720

# COMPLETION & CASING DATA STATE "E" TRACT 18 WELL NO. 22 SWD APPLICATION

LOCATION	TOTAL DEPTH	CURRENT PBD	PRODUCING INTERVAL (SUBSEA DEPTH)	CASING	SACKS CEMENT	CEMENT TOP
330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8530'	8415'	Abo: PF 8336' - 8392' (-4488' to -4544')	13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530'	275 300 550	Circ. 1600' 4979'
1650' FNL & 990' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	8530'	8481'	Abo: PF 8254'-64', 8340'-50' (-4410' to -4420', -4496' to -4506')	13 3/8" @ 266' 9 5/8" @ 3298' 7" @ 8530'	332 300 225	Circ. 1537' 6775'
1650' FNL & 330' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8525'	8365'	Abo: PF 8239'-99', 8338'-48' (-4392' to -4461', -4500' to -4510')	13 3/8" @ 280' 9 5/8" @ 3299' 7" @ 8520'	300 300 550	Circ. 1660 (Calc.) 4128' (Calc.)
560' FNL & 1650' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8987'	8381'	Abo SWD: OH 8391' - 8987' (-4538 to -5134')	13 3/8" @ 269' 9 5/8" @ 3300' 7" 3 8391'	275 300 1105	Circ. 1500' (Calc.) 3375'
PSO' FNL & 790' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	84421	8350'	Abo: PF 8234' - 8268' (-4392' to -4426')	11 3/4" @ 336' 8 5/8" @ 5116' 5 1/2" @ 8356'	635 2800 1000	Circ. Circ. (Calc.) 2436'
1650' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8889'	8889'	Abo SWD: OH 8528' - 8889' (-4670' to -5301')	13 3/8" @ 349' 9 5/8" @ 3318' 5 1/2" @ 8528'	450 1750 1400	Circ. (Calc.) Circ. (Calc.) 2653' (Calc.)
1980' FSL & 560' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	97461	6303'	Paddock WI: PF 6128' - 6294' (-2228 to -2454')	10 3/4" @ 461' 7 5/8" @ 3455' 5 1/2" @ 8916'	600 1136 800	Circ. (Calc.) Circ. (Calc.) 1358' (Calc.)
990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	88581	88531	Abo: OH 8534' - 8858' (-4675' to -4999')	13 3/8" @ 396' 9 5/8" @ 3348' 5 1/2" @ 8530'	450 1750 1380	Circ. (Calc.) Circ. (Calc.) 2739' (Calc.)
660' FSL & 1880' FEL Sec. 35, T-16-S, R-36-E Lea County, New Mexico	9069'	6343'	Paddock WI: PF 6194' - 6224', 6292' - 6328' (-2333' to -2363', -2431' to -2467')	13 3/8" @ 286' 8 5/8" @ 4694' 5 1/2" @ 8875'	325 2150 720	Circ. (Calc.) Circ. (Calc.) Circ. (Calc.)

# AMOCO PRODUCTION CO. STATE "E" TRACT 18 LEASE

# LOVINGTON ABO POOL

WELL NO.	CURRENT DAILY PROD. (8-7-80)	EXPECTED DAILY PROD.*
15	140 BO x 6,623 BW	140 BO x 6,623 BW
16	12	10 BO x 70 BW
17	210 BO x 875 BW	210 BO x 875 BW
18	SI	80 B0 x 1,500 BW
19	207 BO x 3,373 BW	207 BO x 3,373 BW
20	SI	60 BO x 1,400 BW
21	SWD	SWD
22	SI	SWD
23	21	150 BO x 1,400 BW
		<u> </u>
	557 BO x 10,871 BW	857 BO x 15,241 BW
INCREMENTAL PROD:	300 BO x 4,370 BW	

* After converting #22 to SWD and installing ESP's on Nos. 16, 18, and 23.

BEFORE EXAMINER STAMETS
OUL CONSERVATION DIVISION

MOCO. EXHIBIT NO. 2

CASE NO. 1009

Submilled by Amoco Rod. 6,

Hearing Daie 8/20/80

# NEW MEXICO OIL CONSERVATION COMMISSION

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

Amoco Production C	omnany	······································	ADDRESS		68 - Hobbs			<u> </u>
State "E" Tract 18		WELL NO. 22	FIELD	vington		, 1111	Lea	<b></b>
LOCATION								
. UNIT LETTER	<u>G</u> ; we	LL IS LOCATED	1650 FEET	FROM THE	North LIN	E AND	1650 TEST FA	ON THE
East LINE, SECTION	2 , τον	VNSHIP 17-S	RANGE 36		MPM.			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEM		TOP OF CEHEN	τ '	TOP DETERMITED	 b v
SURFACE CASING	13-3/8"	270'	275		Surface		Circulated	
INTERMEDIATE	9-5/8"	3287 '	300		Unknown		Cemented with tool at 2106'	ÐΫ
LONG STRING	5-1/2"	8330'	835 sx ori will squee	ginally ze 450	sx Approx.	!	Temp Surve	 :y
TUBING	3-1/2"	Approx. 833	NAME, MODEL AND	DEPTH OF TU	SING PACKER		1/2" - 8300'	
NAME OF PROPOSED INJECTION FORMA		Lyhinx. 033	TOP OF YOU	MATTON OR			FERMATION	
Abo	C OR ANNUE WEZ	Lorgeoneria		350'	FERVAL(S) OF INJECT		9250'	
Internally Coated		1	- 9000'		' - 9000'			
IS THE A NEW WELL ORILLED FOR DISPOSAL?	IF ANSWER 15	NO, FOR WHAT PURPO	SE WAS WELL ORIG	NALLY DRILL	1	HAS WELL ZONE OTH TION ZONE	EVER BEEN PERFORATED	THE ANY
NO		ucing Well	OFF OR SQUEEZE EA	ÇII			'' Yes	
8338' - 8340' 75				lass H	· · · · · · · · · · · · · · · · · · ·			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM O	F NEXT HIGHER THIS PREA		DESTH OF TOP	9500	S AREA	
ANTICIPATED DAILY MINIMUM INJECTION VOLUME   C DOO	MAXIMUM	OPEN OR CLOS	SED TYPE SYSTEM	15 INJECT	ON TO BE BY GRAVE		1 PPROX. PRESSURE (PS	1,
ANSWER YES OR NO WHETHER THE FO			OSed	F NATURAL	Pressure	ARE WATE	A ANALYSES ATTACHEOT	
STOCK, IRRIGATION, OR OTHER GENER	AC USE -	1	Yes		Yes		Yes	
City of Lovington,	New Mexico			ľ	<del>and the second </del>	ina - propiedica e m	and a month of the first of property of the first of the	Алегон аплуживания
Marathon Oil Compa							MINER STAME	
			سنج سه د د محمد د شهر د محمد د شهر	<del></del>	llmade		MATION DIMER IBIT NO. <b>3</b>	271
Cities Service Com	ipany - P. O	. Box 1919 -	Midland, T	X 7970	£ .		PAPA	
Getty Oil Company	- P. O. Box	730 - Hobbs	, NM 88240		CASEN	## × *c	1009	1
	a desprivation of the formation one of the spectrum of			V 7416	Submitte	বি-চিস্	unico mod	60.
Amerada Hess Corpo	ration - P.	U. BOX 2040	- luisa, c	K 7410	4Hearing	Date	8/20/80	
Phillips Petroleum		Control of the contro			701			
HAVE COPIES OF THIS APPLICATION & SENT TO EACH OF THE FOLLOWING?	TEEN TSURFACE OW! 1 t	Yes	EACH OPER. LOF THES WE	Yes	ONE-HALF MILE 1	THE NEW	MEXICO STATE ENGINEER Yes	
ARE THE FOLLOWING ITEMS ATTACHE THIS APPLICATION (SEE RULE 701-11)	O TO PLAT OF ARE		ELICINICA	CLOS		DIAGRESS	MIC SKETCH OF WILL	paparatus - reprince accessor i
		Yes		No			Yes	
hereby c	ertify that the inf	ermation above is	true and comple	te to the be	est of my knowle	dge and	belief.	
OU Lewis		Admini	trative Ar	alyst	10 100 marks to the second	Jun	e 20, 1980	
NOTE: Should waivers from to not accompany this a from the date of rece ceived by the Santa I if the applicant so requ	pplication, the capt by the Comi Te office, the at	Seen Mexico Oil nission's Sauta I oplication will be	Conservation Co Fr. office. If at	omnission the endo	will hold the o f the 15-day wai	policati ting per	he proposed injection for a period of 1 iod no protest has b	5 days een re-

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# RESEARCH CENTER WATER ANALYSIS

T.S. or File No.	S. C. C. 11
Lab. No.	T-24790
Field No.	
A DL WALL NO	

•			API V	Vell No.	
Mouston	15		Levella	nd	
OCATION SAMPLED: Division Houston	District 15	Area _			<del></del>
DC12(U* (4 -4/10)					
(7(¢ (1,0,1))/()——————————————————————————————————	County (Parish)				
wp. 17 S Rng. 36 E Sec. 1	Quarter (Lsd.)	Other	(Metidian)_		<del></del>
Last mallhand	Wildcat ( ) Field W	en ( X ) Field	name		<del></del>
imple collected from wellhead iterval sampled to	Abo	21wb	e collected by		
nervu sampiedto	interval name				· · · · · · · · · · · · · · · · · · ·
ccovery					<del> </del>
om 97 transmitted by V. E. Staley	Date9-8-78	Autho	orized by		
ORGANIC CONSTITUENTS in mg/1	CON	IVENTIONAL	MAJOR ION	I ANALYSIŠ	
BOTTOM MIDDLE TOP MUD		Major Ions mg/1	% of Total Major Ions	Reaction Value meq/1	% of Total Reaction Value
C Gues	Sodium Na+	14,395	31.70	626.17	40.71
	Calcium Ca++	2,040	4.49	101.80	6.62
	Magnesium Mg++ Potassium K+	500	1.10	41.10	2.67
DESCRIPTION OF CAMPIE	Chloride CI	24,600	54.18	693.72	45.10
DESCRIPTION OF SAMPLE	10 7: 1 11/20 =	1,170	2.58	19.19	1.25
mpl: used for detailed analyses	O Sulface SOLT	2,700	5.95	56.16	3.65
ne occeived	Z	0	0	0	0
	TOTAL	45,405	<del>`</del>		
·lor				45,740	0mg/
for					
spended solids		7 / Dumap)_	hm-merers ar		
	7 7 7	scific oravity	1.034	7.	5 .
l or fluorescence.	Ryznar stability index				
		•			
QUALITY OF SAMPLE	OI	THER IONS A	AD DISSOFA	D SOLIDS	
nones BOTTOM MIDDLE TOP	CATIONS mg/	i ANION	1\$ mg/	OTHERS	mg/1
1 mg/1:					
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-	REMARKS AND CON	ICLUSIONS:	- 1	OCT 5 1978	3
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C: W. V. Grisham		$\mathcal{D}$	_		*
7. R. Reed	Analyse Mille	· //) ///	MAN	10	-2-78
	Analyse JJ JUGGC	- 1/1/1	1/6/20	Dite10	-2-10
G. W. Schmidt	, ,				
David_Boatwright				Water charts	on back ( )
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(A1100-00)	

ENGINEERING CHART

SUBJECT STATE E TRACT 18 WELL No. 22

CURRENT WELLBORE ARRANGEMENT

SHEET NO.	OF
FILE	
APPN	
DATE	-
<b>B</b> Y	

LOC: 1650' FNL & 1650' FEL, SEC. 2, T-17-5, R-36-E, LEA CO., NM

13% CSA 270' W/275 SXS CMT CMT CIRC. To SURF.

DV TOOL @ 2106'

95/8" CSA 5287'
CMT W/3005X5 IN
TWO EQUAL STAGES

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
AMOLO EXHIBIT NO. 4

CASE NO. 1009
Submitted by Amolo TROD G.
Hearing Date 8/20/80

51/2 (CSA 8330) 10/835 SX5 (MT × 835 ft Pervite T. CMT 1598' (CALC.)

T. CMT 179' (CALC.)

T. CMT 5400' (CALC.)

ABO PFS: 8292'-8316'
CAST IRON RETAINER @ 8326'

7:2 1/E June

لس	
	(Sec.)

.

PROPOSED WELLBORE ARRANGEMENT

SHEET NO.	OF
FILE	
APPN	
DATE	
BY	

LOC: 1650'FNL & 1650'FEL, SEC. 2, T-17-5, R-36-E, LEA CO., NM

TD-9000

13% "CSA 270' 4275 SXS CMT CMT Circ. To SURF.

DV TOOL @ 2106'

95/8" CSA 3287'
CMT W/300 SXS IN
TWO EQUAL STAGES

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216	LIN	(CKN)	ILLI

BEFORE EXAMENT ANTED TO BE OF CONSERVATION DIVISION SOME TO SERVE TO SERVE

CASE NO. 2009

Submilled by Amoco Page. Co.

Hearing Date 8/20/80

5/2°CSA 8330' 6/835 Sxs Cmi x 835 ft Percite T. CMT 1598' (CALC.)

T. Crist 2779'(CALE)

T. CMT 4150'
(RAISED FROM 5400'
BY DISPLACING 450
SXS CMT INTO PFS
C 5000')

SQZ. ABO PS 8292-8316 w/300 SXS CMT

GuiBERSON UNI-PKR JII @ B300' 1 JT 31/2" TAILPIPE

ABO OH 8330'-9000'

1371 2.7

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 7

CASE NO. 2009

Submitted by Amolo Head. 6

Hear

COMPLETION & CASING DATA STATE "E" TRACT 18 WELL NO. 22 SWD APPLICATION TOTAL CURRENT PRODUCING INTERVAL

ring Date	8/24/80	LOCATION	DEPTH	PBD	(SUBSEA DEPTH)	CASING	CEMEN
	RODUCTION CO. "E" Tr. 18 #18	330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8530'	8415'	Abo: PF 8336' - 8392' (-4488' to -4544')	13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530'	275 300 550
State	"E" Tr. 18 #19	1650' FNL & 990' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	8530 <b>'</b>	8481'	Abo: PF 8254'-64', 8340'-50' (-4410' to -4420', -4496' to -4506')	13 3/8" @ 266' 9 5/8" @ 3298' 7" @ 8530'	332 300 225
State	"E" Tr. 18 #20	1650' FNL & 330' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	85251	8365'	Abo: PF 8230'-99', 8338'-48' (-4392' to -4461', -4500' to -4510')	13 3/8" @ 280' 9 5/8" @ 3299' 7" @ 8520'	300 300 550
State	"E" Tr. 18 #21	660' FNL & 1650' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	89871	8381'	Abo SWD: OH 8391' - 8987' (-4538 to -5134')	13 3/8" @ 269' 9 5/8" @ 3300' 7" @ 8391'	275 300 1105
State	"E" Tr. 18 #23	860' FNL & 790' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	84421	8350'	Abo: PF 8234' - 8268' (-4392' to -4426')	11 3/4" @ 336' 8 5/8" @ 5116' 5 1/2" @ 8356'	635 2800 1000
ARAHO, I State		1650' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8889'	8889'	Abo SWD: OH 8528' - 8889' (-4670' to -5301')	13 3/8" @ 349' 9 5/8" @ 3318' 5 1/2" @ 8528'	450 1750 1400
GETTY Loving Unit	ton Paddock WI-62	1980' FSL & 560' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	9746'	6303'	Paddock WI: PF 6128' - 6294' (-2228 to -2454')	10 3/4" @ 461' 7 5/8" @ 3455' 5 1/2" @ 8916'	600 1136 800
RICE ENG State	INEERING WD #1	990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8858'	88531	Abo: OH 8534' - 8858' (-4675' to -4999')	13 3/8" @ 396' 9 5/8" @ 3348' 5 1/2" @ 8530'	450 1750 1380
PHILLIPS Loving		660' FSL & 1880' FEL Sec. 35, T-16-S, R-36-E Lea County, New Mexico	9069'	6343'	Paddock WI: PF 6194' - 6224', 6292' - 6328' (-2333' to -2363', -2431' to -2467')	13 3/8" @ 286' 8 5/8" @ 4694' 5 1/2" @ 8875'	325 2150 720

# COMPLETION & CASING DATA STATE "E" TRACT 18 WELL NO. 22 SWD APPLICATION

LOCATION	TOTAL DEPTH	CURRENT PBD	PRODUCING INTERVAL (SUBSEA DEPTH)	CASING	SACKS CEMENT	CEMENT TOP
330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8530'	8415'	Abo: PF 8336' - 8392' (-4488' to -4544')	13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530'	275 300 550	Circ. 1600' 4979'
1650' FNL & 990' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	85301	8481'	Abo: PF 8254'-64', 8340'-50' (-4410' to -4420', -4496' to -4506')	13 3/8" @ 266' 9 5/8" @ 3298' 7" @ 8530'	332 300 225	Circ. 1537' 6775'
1650' FNL & 330' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	85251	8365'	Abo: PF 8239'-99', 8338'-48' (-4392' to -4461', -4500' to -4510')	13 3/8" @ 280' 9 5/8" @ 3299' 7" @ 8520'	300 300 550	Circ. 1660' (Calc.) 4128' (Calc.)
660' FNL & 1650' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8987 °	8381'	Abo SWD: OH 8391' - 8987' (-4538 to -5134')	13 3/8" @ 269' 9 5/8" @ 3300' 7" @ 8391'	275 300 1105	Circ. 1500' (Calc.) 3375'
860' FNL & 750' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico	8442'	8350'	Abo: PF 8234' - 8268' (-4392' to -4426')	11 3/4" @ 336' 8 5/8" @ 5116' 5 1/2" @ 8356'	635 2800 1000	Circ. Circ. (Calc.) 2436'
1650' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8889'	8889'	Abo SWD: OH 8528' - 8889' (-4670' to -5301')	13 3/8" @ 349' 9 5/8" @ 3318' 5 1/2" @ 8528'	450 1750 1400	Circ. (Calc.) Circ. (Calc.) 2653' (Calc.)
1980' FSL & 560' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	97461	63031	Paddock WI: PF 6128' - 6294' (-2228 to -2454')	10 3/4" @ 461' 7 5/8" @ 3455' 5 1/2" @ 8916'	600 1136 800	Circ. (Calc.) Circ. (Calc.) 1358' (Calc.)
990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8858'	88581	Abo: OH 8534' - 8858' (-4675' to -4999')	13 3/8" @ 396' 9 5/8" @ 3348' 5 1/2" @ 8530'	450 1750 1380	Circ. (Calc.) Circ. (Calc.) 2739' (Calc.)
660' FSL & 1880' FEL Sec. 35, T-16-S, R-36-E Lea County, New Mexico	9069'	6343'	Paddock WI: PF 6194' - 6224', 6292' - 6328' (-2333' to -2363', -2431' to -2467')	13 3/8" @ 286' 8 5/8" @ 4694' 5 1/2" @ 8875'	325 2150 720	Circ. (Calc.) Circ. (Calc.) Circ. (Calc.)

# AMOCO PRODUCTION CO. STATE "E" TRACT 18 LEASE

# LOVINGTON ABO PCOL

WELL NO	<u>•</u>	CURRE		AILY PF	ROD.	EXP	ECTE	ED_	DAILY F	ROD.*
15		140 B	80 x	6,623	BW	140	В0	x	6,623	BW
16			S	I		10	В0	X	70	BW
17		210 B	0 x	875	BW	210	во	x	875	BW
18			S	i		80	во	x	1,500	BW
19		207 B	80 x	3,373	BW	207	В0	x	3,373	BW
20			S	I		60	В0	x	1,400	BW
21			SW	ID .				S	WD	
22			S	SI				S	WD	
23			S	SI .		150	BO	X	1,400	BW
			<del></del>							
	TOTAL	557 B	80 x	10,871	BW	857	во	x	15,241	BW
INCREMENTAL	PROD:	300 B	80 x	4,370	BW					

* After converting #22 to SWD and installing ESP's on Nos. 16, 18, and 23.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
AMOCO EXCITCH NO. 2

CASE NO. 7009
Submitted by AMOCO ROD. Co.
Hearing Date 8/20/50

### NEW MEXICO OIL CONSERVATION COMMISSION

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

Amoco Production Co	mpany		ADDRESS P.	0. Bo	x 68 - Hobbs	, NH	
State "E" Tract 18		22	Liero	vingto	n Abo		Lea
UNIT CETTER	G ; we	LL IS LOCATED	1650 FEET	FROM THE	North	NE AND	1650 FEET FROM TO
East LINE, SECTION	2 , 100	NASHIP 17-S			NMPM.		
NAME OF STRING	SIZE	SETTING DEPTH	AND TUBING D	<del></del>	TOP OF CEMEN	NT TV	TOP DETERMINED BY
SURFACE CASING	13-3/8"	270'	275	;	Surface		Circulated
NTERMEDIATE	9-5/8"	3287'	300		Unknown	1	Cemented with DV tool at 2106'
LONG STRING	5-1/2"	8330'	835 sx or: will squee	ze 450	sx Approx.	4150'	Temp Survey
TUBING	3-1/2"	Approx. 833	HAME, MODEL AND			I - 3-	1/2" - 8300'
NAME OF PROPOSED INJECTION FORMAT		<del></del>	TOP OF FO	3350		BOTTOM	9250
IS INJECTION THROUGH TUBING, CASING	OR ANNULUS?	4			RTERVAL(S) OF INJEC	TION	
Internally Coated 1	IF ANSWER IS	NO. FOR WHAT PURPO	- 9000' SE WAS WELL ORIG		0' - 9000'	HAS WELL ZONE OTH TION ZON	EVER BEEN PERFORATED IN A
NO LIST ALL SUCH PERFORATED INTERVAL		ucing Well	OFF OR SQUEEZE E	ACH			Yes Yes
8338' - 8340' 75 9	x sloset;			Class H			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 80 ¹		DEPTH OF BOTTOM OF OIL OR GAS ZONE IN	F NEXT HIGHER THIS AREA		DEPTH OF TOP	9500	LOWER 5 area
ANTICIPATED DAILY   MINIMUM   MINESTION VOLUME   6,000	10,0	i	osed	PRESSU	Pressure	ITY OR	1650#
AND HET YES OR NO WHETHER THE FOL ERALIZED TO SUCH A DEGREE AS TO BE STOCK, IRRIGATION, OR OTHER GENERA	LUMPAT FOR DOMES	IE MIN- WATER	Yes	OF NATURA	Yes	ARE WAT	Yes
NAME AND ADDRESS OF SURFACE OWNE			40)				
City of Lovington,			. 7utc 101567100 0		BEFORE	-	- Birth Child
Marathon Oil Compa		•			OJL CON		
Cities Service Com	oany - P. O	. Box 1919 -	Midland,	TX 797	02 Emplo	)	7009
Getty Oil Company	- P. O. Box	730 - Hobbs	, NM 8824	0	<b>Submiller</b>	Ly A	moco Pros. Co.
Amerada Hess Corpo	ration - P.	0. Box 2040	- Tulsa,	OK 701	02 Hearing I	ote_e	8/20/80
Phillips Petroleum				water and and a second	9701		
HAVE COPIES OF THIS APPLICATION BE SENT TO EACH OF THE FOLLOWING?	IN THURFACE ON	Yes	EACH UPT    OF THIS W		IN OHE-HACF MILE	ttek bew 1 1	Yes
ARE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 701-B)	TO PLAT OF ARC	Yes	ELECTRIC	ķε cos No		DIAGRASS	Yes
A hereby ce	rtify that the in	formation above is	true and compl	ete to the	best of my knowl	edge and	l belief.
Borlavis	a ang galangaga san sa agam ang ang ang ang ang ang	Admini	strative A	nalyst		Jun	e 20, 1980
(Signature)							

OTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed layertion will not accompany this application, the Sew Mexico Oil Conservation Commission will hold the application for a period of 15 was from the date of receipt by the Commission's Santa Fe office. If at the end of the 18-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 heaving, if the applicant so requests, SEE ROLE 201.

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# RESEARCH CENTER WATER ANALYSIS

T.S. or File	No
Lib.	No. T-24790
Field	No
A DT 307 11	\ T

			API W	ell No.	
OCATION SAMPLED: Division Houston	District	Area	Levellan	<b>d</b> _ ~	
OCATION SAMPLED: Division Houston  Descriptor (Plant) Amoco	Well No15	Lease	Lovingto	n Abo	
(Province) New Mexico	County (Parish)				MATERIAL STATES
wp. 17 S Rng. 36 E Sec. 1	Quarter (Lsd.)	Other	(Meridian)		
	Wildcat ( ) Field W	ell (X) Field i	name		
emple collected from wellhead	Date9-1-78	Sampl	e collected by.		
nerval sampledto	Interval nameABO				
ecovery	· .				
orm 97 transmitted by <u>V. E. Staley</u>	Date 9-8-78	Autho	rized by		
ORGANIC CONSTITUENTS in mg/1		VENTIONAL			
BOTTOM MIDDLE TOP MUD		Major	W . ( T. L. )	D =V	4/ (7
nicae		lons	% of Total Major	Reaction Value	% of Total Reaction
pluene	}	mg/1	lons	meq/1	Value
C Gascs	Sodium Na+	14,395	31.70	626.17	40.71
	Calcium Ca++	2,040	4.49	101.80	6.62
	Magnesium Mg++	500	1.10	41.10	2.67
	Potassium K+				
DESCRIPTION OF SAMPLE	Chloride CI	24,600	54.18	693.72	45.10
imple used for detailed analyses	Bicarbonate HCO1 ⁻ Sulfate SO4  Carbonate CO3	1,170	2.58	19.19	1.25
are received	Z Sulfate SO4	2,700	5.95	56.16	3.65
andition as received	TOTAL	0	0	0	0
)lot		45,405	<del></del> .	45,740	7
dor	Total solids by evapora				5
espended solids	NaCl resistivity equival Resistivity .14	ient (Duniap)	ha marers as		
il or fluorescence	pH7.1Sp	reife gravier	1.034	75	· \
ti of morescence	Ryznar stability index	(2nHs=nH)	31		
QUALITY OF SAMPLE	i	THER IONS AN			
Horids BOTTOM MIDDLE TOP	CATIONS mg/	/1 ANION	S mg/1	OTHERS	mg/1
n mg/t:				-	
OMMENTS:					
OMMEINTS:					
·					
				RECEIVED	]
				<u> </u>	
	REMARKS AND CON	iclusions:		OCT 5 1978	1
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		E 27.5	· 133 F	ii.	- ·
			\$4Ja*'	1	<u> </u>
C: W. V. Grishan	/'/	P			
i. R. Reed	Analist ////////	· 1/5/10	MAR	10	-2-78
i, H. Green	Amisseff/fUVECC			Duc	-2-10
G. W. Schmidt	/ '				
David_Boatwright				Water charts of	m back ( )

AUDE	3

ENGINEERING CHART

SUBJECT STATE E' TRACT 18 WELL No. 22

CURRENT WELLBORE ARRANGEMENT

SHEET NO.	OF
FILE	<del></del>
APPN	
DATE	
PV	

Lac: 1650' FNL & 1650' FEL, SEC. 2, T-17-5, R-36-E, LEA Co., NM

13% CSA 270' W/275 SXS CMT CMT CIRC. To SURE

DV TOOL @ 2106

95%" CSA 3287'
CMT W3005X5 IN
TWO EQUAL STAGES

CASE NO. 7009
Submitted by Amolo Roo. 6.
Hearing Date 8/20/80

51/2" CSA 8330" 1/835 SX5 CMT X 835 ft Pervite T. CMT 1598' (CALC.)

T. CMT 279' (CALC.)

T. CMT 5400' (CALC.)

ABO PFS: 8292'-8316'
CAST IRON RETAINER @ 8326'

4	<b>5</b> 25)

SHEET NO. OF

ENGINEERING CHART

PROPOSED WELLBORE ARRANGEMENT

DATE

LOC: 1650'FNL & 1650'FEL, SEC. 2, T-17-5, R-36-E, LEA CO., NM

1378" CSA 270' 4/275 SXS CMT CMT CIRC. TO SURF.  DV TOOL @ 2106'		
95/8" CSA 3287'  CMT W/300 SXS IN TWO EQUAL STAGES		
BEFORE ED AS HEATED TRG OIL CONSELVATION STATES CASE NO. 2009 Submitted by Ameco Ros. 6.		
Hearing Date 8/20/80  5/2*CSA 8330  6/835 Sxs Cm7 *  835 H Percite	X X Ø	

T. CMT !598' (CALC.)

T. CMT 2779' (CALE.)

T. CMT 450'
(RAISED FROM 5400'
BY DISPLACING 450
SXS CMT INTO PFS
@ 5000')

Low SA 18me

SQZ. ABO Prs 8292-8316 w/300 SXS CMT

GuiBERSON UNI-PKR VII @ 8300'

ABO DH 8330'-9000'

**BEFORE EXAMINER STAMETS** OIL CONSERVATION DIVISION FXHIBIT NO.

AMOLO EXHIBIT NO.

CASE NO.

Submitted by HMOCO

Hearing Date

- AMOCO PE	HUCOS	<del>CT I O</del> I	4 C(	<del>).</del>
State	"E"	Tr.	18	#18

State "E" Tr. 18 #19

State "E" Tr. 18 #20

State "E" Tr. 18 #21

State "E" Tr. 18.#23

ARAHO, INC. State WD-2

**GETTY** Lovington Paddock Unit WI-62

RICE ENGINEERING State WD #1

**PHILLIPS** Lovington #2

# COMPLETION & CASING DATA STATE "E" TRACT 18 WELL NO. 22 SWD APPLICATION

-	LOCATION	TOTAL DEPTH	CURRENT PBD	PRODUCING INTERVAL (SUBSEA DEPTH)	CASING	SACI
	330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	8530'	8415'	Abo: PF 8336' - 8392' (-4488' to -4544')	13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530'	2; 3( 5)
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990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico	88581	8853 <b>'</b>	Abo: OH 8534' - 8858' (-4675' to -4999')	13 3/8" @ 396' 9 5/8" @ 3348' 5 1/2" @ 8530'	450 1750 1380	Circ. (Calc.) Circ. (Calc.) 2739' (Calc.)
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# ATWOOD, MALONE, MANN & COOTER A PROFESSIONAL ASSOCIATION

LAWYERS

JEFF D. ATWOOD [1883-1960] ROSS L. MALONE [1910-1974]

SECURITY NATIONAL BANK BUILDING ROSWELL, NEW MEXICO 88201

RANDAL W. ROBERTS STEVEN L. BELL WILLIAM R LYNCH

August 12, 1980

Mr. Joe Ramey Secretary-Director Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

OIL CONSTRVATION DIVISION SANTA FE

Examiner Hearing - Wednesday, August 20, 1980 Cause Nos. 7009 and 7010

Dear Mr. Ramey:

We would appreciate your filing the enclosed Entries of Appearance for Amoco Production Company in Cause Nos. 7009 and 7010.

Your assistance in this matter is appreciated.

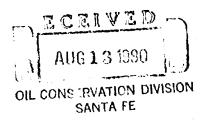
Very truly yours,

Paul Cooter

PC/le

Enc.

cc: C. A. Mote, Esq.



#### BEFORE THE OIL CONSERVATION COMMISSION

#### STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION )
OF AMOCO PRODUCTION COMPANY FOR )
NO. 7009
SALT WATER DISPOSAL, LEA COUNTY, )
NEW MEXICO. )

### ENTRY OF APPEARANCE

The undersigned hereby enter their appearance on behalf of Amoco Production Company with C. A. Mote of Houston, Texas.

ATWOOD, MALONE, MANN & COOTER, P.A.

P. O. Drawer 70

Roswell, New Mexico 88201

Docket No. 26-80

Dockets Nos. 27-80 and 28-80 are tentatively set for September 3 and 17, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 20, 1980

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- <u>ALLOWABLE:</u> (1) Consideration of the allowable production of gas for September, 1980, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
  - (2) Consideration of the allowable production of gas for September, 1980, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.
- CASE 6998: Application of Honsanto Company for a unit agreement, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the Back Basin Unit Area, comprising 1,920 acres, more or less, of State and Federal lands in Township 23 South, Range 34 East.
- CASE 6999: Application of Gulf Oil Corporation for an unorthodox location and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the simultaneous dedication of a previously approved 320-acre non-standard proration unit comprising the N/2 of Section 36, Township 21 South, Range 36 East, Eumont Gas Pool, to its Harry Leonard NCT-C Well No. 9 located in Unit B, and its No. 8, at an unorthodox location 1980 feet from the North line and 660 feet from the East line of Section 36.
- CASE 7000: Application of Cavalcade Oil Corporation for an unorthodox oil well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its McClay Well No. 11 2385 feet from the South line and 1834 feet from the West line of Section 33, Township 18 South, Range 30 East, the NE/4 SM/4 of said Section 33 to be dedicated to the well.
- CASE 7001: Application of McClellan Oil Corporation for three unorthodox oil well locations, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for three following unorthodox locations for wells to be dilled in Section 24, Township 14 South, Range 29 East, Double L Queen Associated Pool: 1155 feet from the North line and 2145 feet from the East line; 1155 feet from the North and East lines; and 1650 feet from the North line and 1155 feet from the East line; the respective 40-acre tract would be dedicated to each well.
- CASE 7002: Application of Orville Slaughter for the amendment of Order No. R-5947, San Juan County, New Mexico.

  Applicant, in the above-styled cause, seeks the amendment of Order No. R-5947 to provide for the commingling of Oswell-Farmington production from his Sangre de Cristo Well No. 1 with undesignated Fruitland production from Wells Nos. 2 and 2S, all in Section 34, Township 30 North, Range 11 West.
- CASE 7003: Application of El Paso Natural Gas Company for directional drilling, San Juan County, New Mexico.

  Applicant, in the above-styled cause, seeks authority to directionally drill a well, the surface location of which is 590 feet from the South line and 2400 feet from the East line of Section 1,

  Township 29 North, Range 13 West, in such a manner as to bottom it within 175 feet of a point 990 feet from the South line and 1650 feet from the West line of said Section 1.
- CASE 7004: Application of Anadarko Production Company for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the WolfcampHorrow formations underlying the N/2 of Section 12, Township 19 South, Range 25 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the
  cost of drilling and completing said well and the allocation of the cost thereof as well as actual
  operating costs and charges for supervision, designation of applicant as operator of the well, and
  a charge for risk involved in drilling said well.
- CASE 6938: (Continued from June 25, 1980, Examiner Hearing)

Application of Anadarko Production Company for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Dalport Federal Well No. 1 660 feet from the South and West lines of Section 20, Township 13 South, Range 31 East, Southeast Chaves Queen Gas Area, the W/2 of said Section 20 to be dedicated to the well.

CASE 6939: (Continued from June 25, 1980, Examiner Hearing)

Application of Anadarko Production Company for compulsory pooling, Eddy County, New Mexico Applicant, in the above-styled cause, seeks an order pooling all cineral interests at a depth from 2000 feet to 5000 feet below the surface, Turkey Track Field, underlying the N874 SE74 of Section 10, Township 19 South, Range 29 Fast, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

Examiner Hearing - Wednesday - August 20, 1980

CASE 6940: (Continued from July 23, 1980, Examiner Hearing)

Application of Adobe Oil Company for compulsory pooling, Lea County, New Mexico. Application of Adobe Oil Company for compulsory pooling, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through the Wolfcamp formation underlying the NW/4 SE/4 for oil and the SE/4 for gas, Section 23, Township 20 South, Range 38 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of anniato be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

(Continued from July 23, 1980, Examiner Hearing) (This case will be continued to September 17.)

Application of Conoco Inc. for a dual completion and unorthodox well location, Lea County, New Mexico. Application of Conoco Inc. for a dual completion and unorthodox well location, Lea county, new next Applicant, in the above-styled cause, seeks approval for the dual completion of its Meyer A-29 Well Applicant, in the above-styled cause, seeks approval for the dual completion of its Meyer A-29 Well Applicant, in the above-styled cause, seeks approval for the North line and 660 feet from the No. 11 to be drilled at an unorthodox location 990 feet from the North line and 660 feet from the No. 11 to be drilled at an unorthodox location 990 feet from the North line and 660 feet from the Nort CASE 6961: No. 11 to be drilled at an unorthodox location 990 lect from the North line and obdited from the East line of Section 29, Township 22 South, Range 36 East, to produce gas from the Langley-Devonian and -Ellenburger Pools thru parallel strings of tubing, the E/2 of said Section 29 to be dedicated

Application of Sol West III for an NGPA determination, Eddy County, New Mexico. Application of Sol West III for an Norn determination, Edgy County, New Rexico.

Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Horrow formation for his Turkey Track-Morrow Sand Well No. 1 in Unit I of Section 26, Township 18 South, CASE 7005:

Application of Harvey E. Yates Company for a unit agreement, Lea County, New Mexico.

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Application of Harvey E. Yates Company for a unit agreement, Lea County, New Mexico.

Application of Harvey E. Yates County, New Mexico.

Application of H 1,280 acres, more or less, of State and fee lands in Townships 11 and 12 South, Range 37 East. CASE 7006:

Application of Harvey E. Yates Company for downhole commingling, Eddy County, New Mexico.

Applicant, in the above-styled cause, seeks approval for the downhole commingling of Morrow and Atoka production in the wellbore of its North Travis 12 Deep Well No. 1 located in Unit 0 of Section 22 Translation 18 South Pages 28 Fact CASE 7007:

Application of Coronado Exploration Corp. for eight compulsory poolings, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying eight 40-acre proration units, being the NE/4 NE/4 of Section 4 and the NW/4 NE/4 of Section 5, both in Township 12 South, Range 28 East, and the NW/4 SE/4 of Section 6, the NE/4 NW/4 of Section 23, the NE/4 SE/4 of Section 28, the SE/4 SE/4 of Section 29, the NE/4 NW/4 of NE/4 NW/4 of Section 32, and the SE/4 NW/4 of Section 33, all in Township 11 South, Range 28 East, each to be Section 32, and the SE/4 NW/4 of Section 33, all in Township 11 South, Range 28 East, each to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be dedicated to a well to be drilled at a standard location of the cost thereof as well as the cost of drilling and completing said wells and the allocation of applicant as operator of the actual operating costs and charges for supervision, designation of applicant as operator of the wells, and a charge for risk involved in drilling said wells. CASE 7008:

(Continued from August 6, 1980, Examiner Hearing) CASE 6994:

Application of Enserch Exploration, Inc. for compulsory pooling, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formations underlying the N/2 of Section 14, Township 25 South, Range 34 East, thru Siluro-Devonian formation formation formation format to be dedicated to a well to be grilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual appraising costs and charges for expensivious designation of such as the cost and charges for expensivious designation of such as the cost and charges for expensivious designation of such as the cost and charges for expensivious designation of such as the cost of the cost thereof as well as we the cost of affiling and completing sale well and the affocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 6996: (Continued from August 6, 1980, Examiner Hearing)

Application of John E. Schalk for compulsory pooling, Rio Arriba County, New Mexico. Application of John E. Schaik for computsory pooling, kilo Arriva county, new mexico.

Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Blanco

Mesaverde Pool underlying the NEMA of Section 8, Township 25 North, Range 3 West, to be dedicated to

Mesaverde Pool underlying the NEMA of Section 8, Township 25 North, Range 3 West, to be dedicated to

a well to be drilled at a standard location thereon. Also to be considered will be the cost of drila well to be arrilled at a standard location thereon. Also to be considered will be the cost of di-ling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

Application of Amoco Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, socks authority to dispose of produced salt water into the Applicant, in the above-styled cause, socks authority to dispose of produced salt water into the Abo formation in the interval from 8330 feet to 9000 feet in its State "E" Tract 18 Well No. 22 in Unit 6 of Section 2, Township 17 South, Range 36 East, Lovington-Abo Pool. CASE 7909:

CASE 7010: Application of Amoco Production Company for a dual completion, unorthodox well location, and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Myers "B" Federal Well No. 28 at an unorthodox location 330 feet from the South line and 420 feet from the West line of Section 9, Township 24 South, Range 37 East, to produce gas from the Jalmat Gas Pool and oil from the Langlic Mattix Pool, to be simultaneously dedicated in the gas zone with its No. 13 located in Unit L of Section 9.

CASE 7011: (This case will be continued to the September 17, 1980, hearing.)

Application of Amoco Production Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole comminging of fruitland and Blanco-Pictured Cliffs production in the wellbores of the following six wells: Elliott "C" No. 1, SE/4 of Section 9, Township 30 North, Range 9 West; Elliott "B" No. 8, NE/4 of Section 10; "A" Nos. 3 and 2, NE/4 and NW/4, Section 11; "D" No. 7; SW/4 of Section 11; and "E" No. 1, NW/4 of Section 14, all in Township 29 North, Range 9 West.

CASE 6981: (Continued from July 23, 1980, Examiner Hearing)

Application of Bass Enterprises Production Company for a special gas-oil ratio limitation, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a special gas-oil ratio limitation of 8000 to one for the Palmillo-Bone Springs Pool,

- Application of Amoco Production Company for an NGPA determination, Eddy County, New Mexico. CASE 7012: Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka formation for its Pardue Farms Cas Com Well No. 1 in Unit C of Section 26, Township 23 South, Range 28 East.
- In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, abolishing, contracting vertical limits, and extending certain pools in Chaves, Lea, and Rousevelt Counties, New Mexico:
  - (a) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Yates production and designated as the Byers-Yates Gas Pool. The discovery well is Exxon Corporation Bowers A Federal Well Ro. 37 located in Unit P of Section 30, Township 18 South, Range 38 East, NMPM. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, HNIPM Section 30: SE/4

(b) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Atoka production and designated as the West Jal-Atoka Gas Pool. The discovery well is Getty Oil Company West Jal B Deep Well No. 1 located in Unit H of Section 17, Township 25 South, Range 36 East, NMPM. Said pool would comprise:

> TOWNSHIP 25 SOUTH, RANCE 36 FAST, MMPM Section 17: E/2

(c) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Saunders-Morrow Gas Pool with special vertical limits defined as being from the top of the Morrow formation at 12,150 feet to the top of the Mississippian at 12,445 feet, as found on the log of the discovery well, the Adobe Oil and Gas Corporation Gray 35 Well No. I located in Unit N of Section 35, Township 14 South, Range 33 East, RMPM. Said pool would comprise:

> TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM Section 35: All

(d) ABOLISH the North Baum-Upper Pennsylvanian Pool in Lea County, New Mexico, described as:

TOWNSHIP 13 SOUTH, RANGE 32 CAST, MMPM Section 13: SE/4 Section 23: SE/4

Section 24: S/2 and NE/4 Section 25: N/2 and SE/4

Section 26: N/2

TOWNSHIP 13 SOUTH, RANGE 33 EAST, RMPM Section 18: S/2
Section 19: N/2 and SE/4

Section 20: All

(e) EXTERD the Baux-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM

Section 12: SE/4

Section 23: SE/4

Section 24: S/2 and NE/4 Section 25: All

Section 26: N/2

TOWNSHIP 13 SOUTH, RANGE 33 EAST, NMPM

Section 18: S/2 Section 19: N/2 and SE/4

Section 20: All

(f) ABOLISR the Callina-San Andres Pool in Chaves County, New Mexico, described as:

TOWNSHIP 8 SOUTH, RANGE 32 EAST, NMPM

Section 6: NW/4

(g) EXTEND the Tomahawk-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 32 EAST, NMPM Section 6: NM/4

(h) ABOLISH the West Tonto-Pennsylvanian Gas Pool in Lea County, New Mexico, described as:

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPH

Section 12: S/2

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM Section 7: All

Section 8:

Section 18: N/2

(i) EXTEND the Buffalo-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM

Section 1: S/2 Section 12: S/2

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM

Section 5: SN/4

Section 7: All

Section 8: W/2Section 18: N/2

- (j) CONTRACT the vertical limits of the Saunders-Permo Pennsylvanian Pool with special vertical limits defined as being from the top of the Wolfcamp formation at 9,195 feet to 10,705 feet into Pennsylvanian formation, as found on log of Adobe Oil and Gas Corporation Gray 35 Well No. 1 located in Unit N of Section 35, Township 14 South, Range 33 East, NMFW, and redesignate said Saunders-Permo Pennsylvanian Pool to Saunders Permo-Upper Pennsylvanian Pool.
- (k) EXTEND the Airstrip-Upper Bone Springs Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM Section 25: NE/4

(1) EXTEND the South Bell Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANCE 34 EAST, MIPM

Section 18: S/2

(m) EXTEND the Chaveroo-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 32 EAST, RMPM Section 13: SW/4

(n) EXTERD the Custer-Devomian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, BANGE 36 EAST, HMPM Section 36: S/2

TOMESHIP 25 SOUTH, RANGE 36 EAST, NEPH

Section 1: 1./2 Page 5 of 5 Examiner Hearing - Wednesday - August 20, 1980

Docket No. 26-80

(o) EXTEND the Custer-Ellenburger Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 36 EAST, NMPM Section 36: S/2

TOWNSHIP 25 SOUTH, RANGE 36 EAST, NNPM Section 1: 1:/2

(p) EXTEND the Flying "M"-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 33 EAST, NMPM Section 19: NE/4

(q) EXTEND the Hardy-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM Section 12: NW/4

(r) EXTEND the Hardy-Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM Section 12: NW/4

(s) EXTEND the Hobbs-Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM Section 3: SW/4

(t) EXTEND the South Kemnitz-Cisco Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM Section 22: SE/4 Section 27: NE/4

(u) EXTEND the North Lusk-Morrow Cas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM Section 32: N/2
Section 33: W/2

TOWNSHIP 19 SOUTH, RANGE 32 EAST, KMPM Section 4: W/2

(v) EXTEND the Querecho Plains-Yates Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 32 EAST, HMPM Section 35: NW/4

(w) EXTEND the South Salt Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NNPM Section 6: Lote 9, 10, 15, 16, and SE/4

(x) EXTEND the Northwest Todd-San Andres Gas Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 35 EAST, MMPM Section 7: NE/4

(y) EXTEMB the Tom-Tom San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 31 EAST, NORM Section 32: SE/4 SJ/4

(z) EXTEND the Warren-Tubb Cas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, PANGE 38 EAST, IMPH Section 35: 807/4



JUL 0 2 1980 Fost Office Box 68 obbs. New Mexico 88240

OIL CONSERVATION DIVISION
SANTA FE

August 20

S. J. Okerson
District Superintendent

June 20, 1980

File: SJ0-986.51 X WF-771

Po.

Waiver Consent

Conversion to Salt Water Disposal State "E" Tract 18 Well No. 22

Lea County, New Mexico

Case 7009

Cities Service Company P. O. Box 1919 Midland, TX 79702

#### Gentlemen:

Amoco Production Company requests your approval as an offset operator to convert our State "E" Tract 18 Well No. 22 to a salt water disposal well. The subject well is located 1650' FNL & 1650' FEL, Section 2, T-17-S, R-36-E, Lea County, New Mexico.

The subject well will be deepened to a TD of 9,000'. Water will be disposed of in the open hole Abo interval 8,330'-9,000'. Attached is a Form C-108, a plat, a well bore sketch and a water analysis test of the produced water to be injected.

We have filed with the NMOCD in Santa Fe an application to dispose of salt water into a porous formation. We request that you approve and return a signed copy of this letter to this office and one to the NMOCD in Santa Fe. Self-addressed envelopes are enclosed.

Yours very truly,

CITIES SERVICE COMPANY

Approved:

Original Signed by: S. J. OKERSON

: MANAGER PRODUCTION SOUTHWEST REGION

Date: 4/30/80

Attachments

cc: NMOCD Hobbs, NM

> Mr. E. D. Newman Houston, TX



S. J. Okerson

**Amoco Production Company** 

Post Office Box 68 Hobbs, New Mexico 88240

393-(786

June 20, 1980

File: SJ0-986.51 X WF-774

Application for Salt Water Disposal

State "E" Tract 18 Well No. 22 Lovington Abo Field

Lea County, New Mexico Case 7009

The State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87501

### Gentlemen:

Amoco Production Company requests administrative approval to dispose of produced water from the Lovington Abo field into the Abo formation in our State "E" Tract 18 Well No. 22, located 1650' FNL & 1650' FEL, Section 2, T-17-S, R-36-E, Lea County, New Mexico. In accordance with Rule 701-C, we are attaching hereto our "Application to Dispose of Salt Water by Injection Into a Porous Formation". Also attached is a plat, a diagrammatic sketch of the proposed injection well, a water analysis of the produced water to be injected, and a copy of Certified Mail receipts from letters to the offset operators.

State "E" Tract 18 Well No. 22, the proposed injection well, was originally drilled as a producing well in the Lovington Abo Field. Prior to conversion to a disposal well, perforations from 8292' to 8316' will be squeezed with 150 sx Class H cement. We will perforate a one foot interval at approximately 5000' and squeeze 450 sx Class C cement outside the 52 casing run a temperature survey to find cement top and then

JUN 2 5 1900 G.L CONC EVATION DIVISION SANTA FE

June 20, 1980 File: SJ0-986.51 X WF-774 Page 2

deepen well to approximately 9000'. Produced water from our State "E" Tract 18 lease will be disposed of in the open hole Abo interval 8330' to 9000' through plastic coated tubing and packer set at approximately 8300'. Water will be injected at a maximum rate of 7500 bbl per day. Our State "E" Tract 18 Well No. 20 is a salt water disposal well approved by Order No. R-5855.

Yours very truly,

cc: NMOCD

P. O. Box 1980 Hobbs, NM 88240

City of Lovington P. O. Box 1268 Lovington, NM 88260

Mr. E. D. Newman Houston, TX

JUN 2 5 1980 J SANTA FE DIVISION

### NEW MEXICO OIL CONSERVATION COMMISSION

# NEW MEXICO OIL CONSERVATION COMMISSION CASE 7009 APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

Amoco Production C	ompany			0. Box	k 68 – Hobb	s, NM	
State "E" Tract 18		WELL NO. 22	Lo	Lovington Abo Lea			Lea
LOCATION	^		1650		Nakk		1050
UNIT LETTER	<u>G</u> , w	ELL IS LOCATED	165U FEET	FROM THE _	North	NE AND	1650 FEET FROM TI
East LINE, SECTION	2 * ro	NNSHIP 17-S	RANGE 30		мрм.		
NAME OF STRING	SIZE	SETTING DEPTH	<del>-</del> ,		TOP OF CEME	NT	TOP DETERMINED BY
SURFACE CASING	<del> </del>					<del></del>	
	13-3/8"	270'	27!	5	Surface		Circulated
INTERMEDIATE							Cemented with DV
LANG CYPTIA	9-5/8"	3287'	300		Unknown		tool at 2106'
LONG STRING	5-1/2"	8330'	835 sx or will sque	ze 450	sx Approx.	4150	Temp Survey
TUBING			NAME, MODEL AND				
NAME OF PROPOSED INJECTION FORMS	3-1/2"	Approx. 833	31' Guibe		nı Packer V		1/2" - 8300'
	KIIOR		i i	3350'		BOITOM	9250 ⁴
ADO 15 INJECTION THROUGH TUBING, CASIN	NG. OR ANNULUS?	PERFORATION			TERVAL(5) OF INJE	CTION	9230
Internally Coated		i	- 9000'		0' - 9000'		
IS THIS A NEW WELL DRI'LED FOR	IF ANSWER IS	NO, FOR WHAT PURP				HAS WELL ZONE OTH TION ZONE	EVER BEEN PERFORATED IN A ER THAN THE PROPOSED INJECT
LIST ALL SUCH PERFORATED INTERVA			OFF OR SQUEEZE E	ACH		l	
8338 - 8340 75	sx sloset;	8292' - 8316	5' 150 sx	Class H			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA	<del></del>	DEPTH OF BOTTOM	OF NEXT HIGHER		DEPTH OF TOP	9500	OWER Sarea
ANTICIPATED DAILY MINIMUM (BBLS.) 6,000	10,0	1	SED TYPE SYSTEM	IS INJEC	TION TO BE BY GRA	VITY OR	APPROX. PRESSURE (PSI) 1650#
ANSWER YES OR NO WHETHER THE FO ERALIZED TO SUCH A DEGREE AS TO S STOCK, IRRIGATION, OR OTHER GENER	LLOWING WATERS AR	E MIN- WATE	Yes	OF NATURAL SAL ZON	Yes	ARE WATE	R ANALYSES ATTACHED?
NAME AND ADDRESS OF SURFACE OWN  City of Lovington,			AND)			13	
LIST NAMES AND ADDRESSES OF ALL	OPERATORS WITHIN	CNE-HALF ( ) MILE C				101	The state of the s
Marathon Oil Compa	ny - P. O.	Box 2409 - 1	Hobbs, NM	38240		<u> </u>	110, 3D
Cities Service Com	npany - P. O	. Box 1919 ·	- Midland,	X 797	02	4 cc.	14 1/2 //
Getty Oil Company	- P. O. Box	730 <b>–</b> Hobbs	s, NM 8824	0			ANTA 1 510 W
Amerada Hess Corpo	ration - P.	0. Box 2040	) - Tulsa,	OK 741	02		ANTA PSION
Phillips Petroleum	n Company -	4001 Penbro			9701		
HAVE COPIES OF THIS APPLICATION B SENT TO EACH OF THE FOL'OWING?	SEEN SURFACE OW!	Yes	EACH OPER	Yes	N ONE-HALF MILE	THE NEW :	Yes
ARE THE FOLLOWING ITEMS ATTACHE THIS APPLICATION (SEE RULE 701-B	D TO PLAT OF ARE	Yes	ELECTRIC.	No		DIAGRAMA	Yes
Thereby c	ertify that the in	formation above is	s true and compl	ete to the l	oest of my knowl	edge and	belief.

Do Laure Administrative Analyst

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			ADDRESS					
Amoco Production Co	ompany	I WELL NO.		O. Box	68 - Hobbs	, NM		
State "E" Tract 18		22	1	ington	Abo		Lea	3
LOCATION UNIT LETTER	; we	ELL IS LOCATED	1650 FEET PR	OM THE	North	HE AND_	1650	EET FROM THE
East LINE, SECTION	2 · 100	NNSHIP 17-S	RANGE 36-		IPM.			
	S) Z E	CASING	AND TUBING DAT	<del></del>	TOP OF CEMEN		TOP DETERM	
NAME OF STRING	3125	SETTING DEPTH	SACKS CEME	<del>''</del>	TOP OF CEMER	<del>''</del> +	TOP DETERM	NED BY
INTERMEDIATE	13-3/8"	270'	275		Surface		Circula Cemented W	
	9-5/8"	3287 '	300		Unknown		tool at 21	
LONG STRING	5-1/2"	83301	835 sx orig	e 450 s	sx Approx.	4150	' Temp Si	urvey
TUBING			NAME, MODEL AND D				1 /011 000	^ ·
	3-1/2"	Approx. 833	L' Guiber		1 Packer V	- 3	-1/2" - 830	η,
NAME OF PROPOSED INJECTION FORMA	TION		1			BUTTOM		
ADO IS INJECTION THROUGH TUBING, CASIN		Theneson viol	S OR OPEN HOLE! PE	50'	E0041 (6) OF 1916	T100	9250'	
1		j,	- 9000'		' ~ 9000'	TION		
Internally Coated		NO, FOR WHAT PURPO				HAS WE	LL EVER BEEN PERF	PRATED IN ANY
l No	Prod	ucing Well				TION ZO	LL EVER BEEN PERFORME? Yes	OSED INJEC-
LIST ALL SUCH PERFORATED INTERVAL								
8338' - 8340' 75 sx sloset; 8292' - 8316' 150 sx Class H								
DEPTH OF BOTTOM OF DEEPEST FRESH WAYER ZONE IN THIS AREA		DEPTH OF BOTTOM O OIL OR GAS ZONE IN	F NEXT HIGHER THIS AREA		DEPTH OF TOP	```\$500	T LOWER	
ANTICIPATED DAILY MINIMUM	MUMIXAM		SEO TYPE SYSTEM	IS INJECT PRESSURE	ION TO SE SY ARAV	ITY OR	APPROX. PRESSU	
(6945.)			osed	<u> </u>	Pressure		1650#	
ANSWER YES OR NO WHETHER THE FOI ERALIZED TO SUCH A DEGREE AS TO B STOCK, IRRIGATION, OR GTHER GENER.	E UNFIT FOR DOMES	TIC, I	Yes	SAL ZONE	Yes	AHE WA	TER ANALYSES ATTA	CHEOT
City of Lovington,			NDJ		MEC	ZI V	730	
LIST NAMES AND ADDRESSES OF ALL	OPERATORS WITHIN	ONE-HALF ( ) MILE OF				<u> </u>		
Marathon Oil Compa	ny - P. O.	Box 2409 - K	lobbs, NM 88	240	JUN	25	980	
Cities Service Com	pany - P, O	. Box 1919 -	Midland, TX	7970	20.L CC.	" ATIC	HUNSION	
Getty Oil Company	- P. O. Box	730 - Hobbs	, NM 88240		S.A	TTA F	E	
Amerada Hess Corpo	ration - P.	0. Box 2040	ı - Tulsa, Ok	7410	2			
Phillips Petroleum					701			
HAVE COPIES OF THIS APPLICATION &		(ER		OR WITHIN	ONE-HALF MILE	THE HE	W MEXICO STATE EN	GINEER
	i	Yes		Yes		l 	Yes	
ARE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 701-B)	TO PLAT OF ARE	Yes	ELECTRICAL	No		DIAGRA	Yes	WELL
I hereby or	ertify that the inf	formation above is	true and complete	to the be	est of my knowl	edge ar	nd belief.	
Box laves			strative Ana		,		ne 20, 1980	
(Signature)		73011111	(Title)				(Date)	
Property and an artist of the second	A CONTRACTOR OF THE PROPERTY OF THE PARTY OF							

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 HULE 751.

# NEW MEXICO OIL CONSERVATION COMMISSION

Euse 7009

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

OFERATOR .			ADDRESS				i
Amoco Production Co	Amoco Production Company				8 - Hobbs	, NM 8	
State "E" Tract 18		22	Lov	ington A	Nbo		Lea
LOCATION							
UNIT LETTER	; we	LL 15 LOCATED	1650		North	NE AND	650 FEET FROM THE
East Line, section	2	NSHIP 17-5	RANGE 36-		м.		
	r		AND TUBING DA				
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEME	NT 1	OP OF CEMEN	1	OP DETERMINED BY
	13-3/8"	270'	275		Surface		Circulated
INTERMEDIATE	9-5/8"	3287'	300		Unknown		mented with DV ol at 2106'
LONG STRING			835 sx orig				
TUBING	5-1/2"	8330'	Will squeez	e 450 SX	Approx.	4150.	Temp Survey
	3-1/2"	Approx. 833	' Guibei	rson Uni			2" - 8300'
Abo	TION	••	TOP OF FOR	350 '		SOTTOM OF	2501
15 INJECTION THROUGH TUBING, CASIN	G, OR ANNULUS?	PERFORATIONS	S OR OPEN HODE? P		RVAL(S) OF INJEC	_	
Internally Coated		8330' -			- 9000'		,
IS THIS A NEW WELL DRILLED FOR DISPOSAL?	i .	NO, FOR WHAT PURPO	SE WAS WELL ORIGIN	VALLY DRILLED	?	HAS WELL EVER BEEN PERFORATED IN ZONE OTHER THAN THE PROPOSED IN TION ZONE? YES	
LIST ALL SUCH PERFORATED INTERVAL			OFF OR SQUEEZE EAC	н		<del></del>	
8338' - 8340' 75	sx sloset; 8			lass H			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 80		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA OIL OR GAS ZONE IN THIS AREA 9500			VER REA		
ANTICIPATED DAILY MINIMUM INJECTION VOLUME 1 (BRLS.) 6 000	MAXIMUM 10 O		OCON		N TO BE BY GRAV	A SO YEL	PPROX. PRESSURE (PSI) 1650#
ANSWER YES OR NO WHETHER THE FOL			OSED		Pressure	ARE WATER	NALYSES ATTACHED?
ERALIZED TO SUCH A DEGREE AS TO B STOCK, IRRIGATION, OR OTHER GENERA	E UNFIT FOR DOMES	Tic.	Yes	SAL ZONE	Yes		Yes
HAME AND ADDRESS OF SURFACE OWN		TATE OF FEDERAL LAN		_1			,
City of Lovington,		DNE-HALF ( ) MILE OF	THIS INTECTION WE		<del>\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ </del>	732-4-	
Marathon Oil Compa		= = = = = = = = = = = = = = = = = = =			profession of	9 6 3	
			THE RESERVE THE PERSON NAMED IN COLUMN 2 I	:	JUNA	Sign in	
Cities Service Com	pany - P. O	. gox 1919 -	matana, L	19/02	06		<del> </del>
Getty Oil Company	- P. O. Box	730 - Hobbs	, NM 88240		CCALL AND	TICH DI	SICN
Amerada Hess Corpo	ration - P.	0. Box 2040	- Tulsa, O			0 F.C.	
Phillips Petroleum	Company -	4001 Penbroo	k - Odessa,	TX 7970	01		
HAVE COPIES OF THIS APPLICATION BE SENT TO EACH OF THE FOLLOWING?	EEN SURFACE OWN	Yes	EACH OPERA OF THIS WE	Yes	E-HALF MILE	THE HEN ME	XICO STATE ENGINEER YES
ARE THE FOLLOWING ITEMS ATTACHED	TO PLAT OF AREA		ELECTRICAL			DIAGRAMMAT	IC SKETCH OF WELL
THIS APPLICATION (SEE RULE 701-8)	1	Yes	1	No	 		Yes
i hereby ce	ertify that the inf	ormation above is	true and complet	e to the best	t of my knowle	edge and be	elief.
Box Duris	•		strative An		•		20, 1980
(Signature)		nuiiIIII	(Title)	<u> </u>			(Date)
							erikaidas erraser

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

# NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C+102 Supersodes C+128 Effective 1-1-65

All distances must be from the outer boundaries of the Section Well No. State E Tract 18 Operator Amoco Production Company Township Lea 36-E Unit Letter 17-S East ·G Dedicated Acreagus Actual Footoge Location of Well: 1650 North line oid feet from the 1650 Producing Formation 1. Outline the acrenge dedicated to the subject well by colored pencil or hachure marks on the plat below. Ground Level Elev. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working 3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc? If answer is "yes," type of consolidation. If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of Yes No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission. I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Admin. Analyst Amoco Production Company 6-20-80 I hereby certify that the well location shown on this plat was platted from field notes of actual surveys made by me or under my supervision, and that the same Is true and correct to the best of my ..L.cd alon lilisibn SANTA FE knowledge and belief. Date Surveyed Registered Professional Engineer and/or Land Surveyor Certificate No. 1320 1650

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(12 ) 96 Caporna 12 1		26	Semistres of the second	in √ 30	
(a) (b) (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	28 (483) 27		and the subsection of the subs		
• Web					



ENGINEERING CHART

SHEET NO.	OF
FILE	
APPN	
DATE	

STATE 'E' TRAKT 18 WELL #22 LOVINGTON ABO FIELD LEA COUNTY, NEW MEXICO PROPOSED WELL BORE ARRANGEMENT

13%" 36# CSA 270'

W/275 Sx. Cmf.

Circ. cmf

FOR DISPOSAL

9 1/8" 32# ¢ 36# CSA 3287"\ W/300 Sx. Cmf X DV fool @ 2106'

5/2" 155# \$17# CSA 8330' W/835 Sx. Cmf. x 835 cu.fl. (

New Top Cmf. - 4150'

old calc. Top Cont. - 5400' 50 Perfs 8292-8316

3/2" that & Guilerson UNI-PER IT @ 8200'

OH 8330 - 9000'

TD-9000'



# Amoco Production Company RESEARCH CENTER WATER ANALYSIS

T.S. or File	No	<u>535.77</u>
Lab.	No.	T-24790
Field :	No.	
4 174 3412 11		

		,	API V	Well No	<del></del>
LOCATION SAMPLED: Division Houston	Discrict	Ama	Levella	nd	
Onemena (Plane) AMOCO	Wall Sta 15	T	Louingt	on Abo	
State (Province) New Mexico	County (Parish)	cesse			
Twp. 17 S Rng. 36 E Sec. 1	Quarter (Lsd.)	Orba	· (Maridian)	The same of the sa	<del></del>
Cap.	Wildcat ( ) Field W				·
Sample collected from wellhead					
Interval sampledto		Samp	te cottected bi	<i>y</i>	
Recovery	THE THE TASE HATTIE	· · · · · · · · · · · · · · · · · · ·	<del></del>		~
Actovaly					
Form 97 transmitted by V. E. Staley	Date9-8-78	Auth	orized by		
ORGANIC CONSTITUENTS in mg/1	CO	NVENTIONAL	MAJOR ION	N ANALYSIS	
BOTTOM MIDDLE TOP MUD		Major	% of Total	Reaction	% of Total
Benzene		lons	Major	Value	Reaction
Toluene		mg/1	lons	meq/1	Value
HC Gases	→ Sodium Na+	14,395	31.70	626.17	40.71
	Calcium Ca++	2,040	4.49	101.80	6.62
	Magnesium Mg++	500	1.10	41.10	2.67
	Potassium K+		1.10		2.01
	Chloride CI	24 (00	E/ 30	(02.30	15 30
DESCRIPTION OF SAMPLE		24,600	54.18	693.72	45.10
Sample used for detailed analyses	Bicarbonate HCO3	1,170	2.58	19.19	1.25
Date received	Sulfate SO4	2,700	5.95	56.16	3.65
Condition as received		0	0	(I	0
Color	TOTAL	45,405			
Odor	Total solids by evapora	ation		45,740	)mg/
Suspended solids	NaCl resistivity equiva	lent (Dunlap)		53,599	mg/
Bottom sediment	Resistivity 14	7	hm-meters at	. 77	· · · · · · · · · · · · · · · · · · ·
	pH7.1S	pacific amuire	1.034	7.5	
Oil or fluorescence	Ryznar stability index				
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CC: W. V. Grisham		$\mathcal{L}$			
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Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson

June 20, 1980

GIL GONS RVATION DIVISION OIL CONSERVATION DIVISION

File: SJ0-986.51 X WF-770

Re:

Waiver Consent

Conversion to Salt Water Disposal State "E" Tract 18-Well No. 22

Lea County, New Mexico

Marathon Oil Company P. O. Box 2409 Hobbs, NM 88240

Gentlemen:

Amoco Production Company requests your approval as an offset operator to convert our State "E" Tract 18 Well No. 22 to a salt water disposal well. The subject well is located 1650' FNL & 1650' FEL, Section 2, T-17-S, R-36-E, Lea County, New Mexico.

The subject well will be deepened to a TD of 9,000'. Water will be disposed of in the open hole Abo interval 8,330'-9,000'. Attached is a Form C-108, a plat, a well bore sketch and a water analysis test of the produced water to be injected.

We have filed with the NMOCD in Santa Fe an application to dispose of salt water into a porous formation. We request that you approve and return a signed copy of this letter to this office and one to the NMOCD in Santa Fe. Self-addressed envelopes are enclosed.

Yours very truly,

Original Signed by: S. J. OKERSON

Approved: MARMITHON OIL

Attachments

NMOCD Hobbs, NM

Mr. E. D. Newman Houston, TX

# OIL CONSERVATION DIVISION DISTRICT I

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OIL CONSERVATION DIVISION	. D.A.	re luna	25	1000
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P. O. BOX 2088 SANTA FE, NEW MEXICO 87501	RE	: Proposed	MC	
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have examined the application for	the contract	•		
Gentlemen:  I have examined the application for Amoco Production Co. State "E" Tr. 1 Operator Lease and	~ ~~~			
Alloco Production to. State "E" Ir. I	8 NO. 22	-G 2-1/-3	36	
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#### STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 7009
Order No. R- 646/
APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.  ORDER OF THE DIVISION
BY THE DIVISION:
This cause came on for hearing at 9 a.m. on August 20
19 80 , at Santa Fe, New Mexico, before Examiner Richard L. Stame
NOW, on this day of August , 1980 , the Division
Director, having considered the testimony, the record, and the
recomendations of the Examiner, and being fully advised in the
premises,
FINDS:
(1) That due public notice having been given as required by
law, the Division has jurisdiction of this cause and the subject
matter thereof.
(2) That the applicant, Amoco Production Company
is the owner and operator of the State "E" Tract 18 Well No. 22,
located in Unit G of Section 2, Township 17 South
Range 36 East NMPM, Lovington-Abo Pool
Lea County, New Mexico.
(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Abo
formation, with injection into the open hole
interval from approximately 8330 feet to 9000 feet.
(4) That the injection should be accomplished through $3/2$
-inch plastic lined tubing installed in a packer set at approxi-

mately \$300 feet; that the casing-tubing annulus should be

filled with an inert fluid; and that a pressure gauge or approved

leak detection device should be attached to the annulus in order

to determine leakage in the casing, tubing, or packer.

(5)	Vh. X	prior	to injec	Son Ha	applic	cun & should
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- Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (\$\mathbb{g}\$) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.
- (M) 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, <u>Amoco Production Company</u> ,
is hereby authorized to utilize its State "E" Tract 18 Well No.22
located in Unit G of Section 2 , Township 17 South
Range 36 East , NMPM, Lovington-Abo Pool ,
Lea County, New Mexico, to dispose of produced salt
water into the Abo formation, injection to
be accomplished through $3/2$ -inch tubing installed in a
packer set at approximately 8300 feet, with injection into
the Open 170/2 interval from approximately 8330
feet to 9000 feet;

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

Provided Furthe,

What prior to injection the applicant shall recomment the 5½ casing is from a depth of appreximately tooks 5400 feet to 3000 feet,

where obtain a rest formation water analysis at the injection interval, and stall like such analysis with the Director of the Division.

- (5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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