CASE 4327: Application of UNION OIL CO. OF CALIF. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

(2017 to 1888)

CASE No.

Application,

Transcripts,

Small Ekhibts

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1 2 3 4 5	BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION OIL CONSERVATION COMMISSION CONFERENCE ROOM STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO Wednesday, April 11, 1973 EXAMINER HEARING
7	
	IN THE MATTER OF:
8	Application of Union Oil Company)
9	of California for salt water) Case No. 4927 disposal, Lea County, New)
10	Mexico.
11)
12	BEFORE: Elvis A. Utz
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18	TRANSCRIPT OF HEARING
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MR. UTZ: Case 4927. 1 MR. CARR: Case 4927, application of Union Oil 2 Company of California for salt water disposal, Lea County, 3 New Mexico. MR. JENNINGS: I'm James T. Jennings of Jennings, Christy & Copple appearing for Union Gil Company of 6 California; and we will have two witnesses in this case, 7 Mr. J. B. Jordon and Mr. H. R. Willis. Mr. Jordon will 8 also testify in the ensuing case. 9 MR. UTZ: You have two witnesses? 10 MR. JENNINGS: Yes, sir. 11 MR.UTZ: Will they both stand and be sworn, please. 12 (Whereupon, the witnesses were sworn.) 13 MR. UTZ: Are there other appearances in this case? 14 You may continue. 15 J.B. JORDAN 16 called as a witness, and having been duly sworn according to 17 law, testified as follows: 18 DIRECT EXAMINATION 19 Would you state your name and occupation, please, sir? Q 20 Α J.B. Jordan. I work for Union Oil Company of California 21 as development geologist in the Roswell district office. 22 Are you familiar with the application which has been 23 filed in case number 4927? 24 Α Yes, I am. 25

Q	This as an application for a salt water disposal well?
A	That's right.
Q	Mr. Jordan, please refer to what has been marked as
	Exhibit 1 and identify this and tell generally the pool
	that we are dealing with and identify the wells located
	therein.
λ	Exhibit one is a land plat showing the proposed wells
į	to be injected into and all producing wells within a
	two-mile radius thereof.
	On the plat you will find the wells color-coated as
	to the producing formation, red being San Andres; blue,
	Bow C; orange, Atoka; and green, Devonian.
Q	May I digress for a minute? I get carried away here.
	Mr. Jordan, you have appeared before this Commission and
	the Examiner on many occasions in the past and testified?
A	Yes, I have.
	MR. JENNINGS: Are Mr. Jordan's qualifications
	acceptable?
	MR. UTZ: Yes, sir. He has been previously qualified
	to testify before the Commission.
Ω	Are you currently injecting water into any of the wells
	located there?
A	I believe I'll leave this to Hank, but they are currently
	injecting into some, but I'll leave it to Hank as to
Q	Does this plat which has been marked as Exhibit 1 reflect
	A Q A A

all of the producing wells within the two-mile radius of the proposed well? That is correct. Mr. Jordan, referring to what has been marked as Exhibit 2, would you identify that and explain what it is? Exhibit 2 is a structural contour map of the West Chacra field. It's contoured on top of the devonian. The contour interval is 50 feet. The scale of the map is one inch equals 1,000 feet. The devonian data is underlined in red on this map. Now, referring to what has been marked Exhibit Number 3, Q would you identify that and explain what it is? Exhibit Number 3 is a structure cross section in a northwest-southeast direction across the West Crossroads field. On the southeast end, I have projected in the Pearly H down to approximate structural position on the end of this structure there. This cross section shows the approximate original oil-water contact and the approximate water today, shows the perforations of all the wells. The two perforations are now from 12,000 to 12,010 and that is where we propose to inject.

And as you can see, that is about the approximate oil-water contact today. The perforations which are producing in the D-1 the highest well in the field are

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1		above that point. So they will be above the oil-water
2		contact and consequently we will be injecting below the
3		contact in this well.
4	Ö	Do you feel that the injection of water into this proposed
5		well will affect in any way any of the other wells in here
6	Α	No, I don't believe it will.
7	Q	This is the devonian production?
8	A	Right. The production in this well is from the devonian.
9	Ō	Mr. Jordan, were Exhibits Number 1 through 3 prepared
10		by you or under your supervision?
11	A	Yes, they were.
12		MR. JENNINGS: We have nothing further of this
13		witness.
14		MR. UTZ: Without objection Exhibits 1 through 3
15		will be entered into the record of this case.
16		CROSS-EXAMINATION
17	BY	MR. UTZ:
18	Ď	Mr. Jordan, what is it that shows the perforations or
19		injections on your Exhibit Number 3?
20	A	The perforations on the D-2 would be on the right-hand
21		side of your log there. Says the remedial perforations.
22		That is the perforations that are open today which will,
23		water will be put in those. And our D-1 on the left-hand
24		side of the log shows remedial perforations 1983 to 1989,
25		and that is the producing perforations in that well.
	11	

1	Q Now, how about the Federal G Number 1? Is it already			
2	an injection well?			
3	A G Number 1 is an injection well. It is converted disposal			
4	well in 1967.			
5	Q Now, where will this injection water come from?			
6	A It will come, all of it will come out of the Federal D			
7	Number 1.			
8	Q How much water does that well make?			
9	A Well			
10	Q Do you have a			
11	MR. JENNINGS: We have an engineer here.			
12	MR. UT7: Are there any questions of Mr. Jordan?			
13	He may be excused.			
14	MR. JENNINGS: Mr. Willis.			
15	H.R. WILLIS			
16	called as a witness, and having been duly sworn according to			
17	law, testified as follows:			
18	DIRECT EXAMINATION			
19	BY MR. JENNINGS:			
20	Q Would you please state your name and occupation?			
21	A. H.R. Willis, District Engineer, Union Oil Company of			
22	California, Midland, Texas.			
23	O Mr. Willis, on many occasions in the past, have you			
24	appeared and testified before the Oil Conservation			
25	Commission or one of its examiners?			
	II			

Yes, sir. I have. 1 MR. JENNINGS: Are Mr. Willis' qualifications 2 acceptable? 3 MR. UTZ: Yes, sir. They are. 4 Mr. Willis, are you familiar with the application filed 5 herein on behalf of Union? 6 Yes, sir. I am. 7 Just generally tell us about the nature of the application 8 and the purpose therefore. 9 We request permission to convert our Federal D Well Number 10 2 to salt water disposal. Currently in the field the 11 only well now producing is our Federal D Number 1, and 12 it produces approximately 100 barrels of oil per day 13 and 5,000 barrels of water per day. 14 We are disposing of water into the Federal G Number 1 15 and have, up until just recently been disposing of water 16 into the Federal H Number 1. 17 All water is being obtained from the Federal D 18 Number 1. The Federal G Number 1 Well is accepting 19 approximately 3,000 barrels of water a day on a gravity 20 system and the Federal H was accepting approximately 21 2,000 barrels of water a day on the gravity system until 22 we just recently noticed a leak outside the production 23 casing. 24 At that time, we shut the well in and we now propose 25

1		to abandon that well since we believe it is a pollution
2		hazard rather than attempt remedial repairs, which could
3		be guite costly. And we will divert that water then into
4		the Federal D Number 2 at a rate of approximately 2,000
5		harrels of water a day on a gravity system.
6	Ö	Mr. Willis, have you previously obtained permission of
7		this Commission to inject water into the Federal G Well?
8	Α	Yes, sir. We have. I don't have the order right in front
9		of me, but we did have Commission approval to do so.
10		MR. NUTTER: What's the location of that H-1 that
11		you are going to abandon?
12		THE WITNESS: It's in Section 32, would be the
13		Northwest of the Southwest of Section 32.
14		MR. UTZ: There is two wells shown there. Which
15		one is it?
16		THE WITNESS: It would be the deep, actually the
17		big circle. I believe the deep one there is a shallow,
18		dry test there, too, as I understand.
19	}	MR. UTZ: This is the one you are going to abandon?
20		THE WITNESS: Yes, sir.
21	Ŏ	(By Mr. Jennings) And on the Federal H, you obtained
22		administrative approval in 1965 to convert that well to
23		a water injection well?
24	A	Yes, sir.
25	Ŏ	Now, what wells in the Referring to what has been

1		marked as Exhibit 1, would you identify the presently					
2		producing wells in that?					
3	λ	The presently producing well is the Federal D Number 1,					
4		which would be located in the Southeast, Southeast of					
5		Section 31.					
6	O	And what is the nature of the present production from					
7		that well?					
8	A	Approximately 100 barrels of oil a day and 5,000 barrels					
9		of water a day.					
10	Q	When will that well no longer be economic, at what stage					
11		of oil production?					
12	A	Currently our economic limit calculates to be about					
13		30 barrels of oil per day.					
14	δ	Mr. Willis, please refer to Exhibit 4 and identify that					
15		and explain what it shows.					
16	A	Exhibit 4 is a well schematic of the mechanical completion					
17		of the well as it now exists and as we would propose to					
18		recomplete it for salt water disposal.					
19		As you can see, we have 11 and 3/4 inch casing					
20		cemented at 326 feet. The cement did circulate to the					
21		surface.					
22		Eight and five-eights inch casing was cemented at					
23	!	4,099 feet with 1328 sacks of cement; and again it					
24		circulated to surface.					
25		We have five and a half inch casing cemented at					
	<u> </u>						

1		12,048, and we cemented it with 250 sacks, our					
2		calculated top being 10,100 feet. Perforations exist					
3		12,000 to 12,010. We do have tubing and packer in the					
4		hole at this time.					
5		We would propose to pull that tubing and packer,					
6		inspect the tubing plastic coated internal diameter and					
7		then re-run it and set the packer again at about 11,900					
8		feet. It's two and seven-eights inch tubing.					
9	Q	Will you fill the casing tubing annulus with an inert					
10		fluid?					
11	A	Yes, sir. We would do that, of course, to protect					
12		corrosion.					
13	δ	Have you completed other disposal wells in the area in					
14		the same plans?					
15	A	In the general area, yes, we have.					
16	Ö	Has it been successful?					
17	A	Yes.					
18	Ō	Mr. Willis, is this, I believe it's on Federal land?					
19	A	Yes, sir.					
20	δ	Have you notified the USGS of your intention to convert					
21		this well to salt water disposal?					
22	A	Yes, we did, as shown on Exhibit Number 5, I believe.					
23	Q	And did the USGS approve your notice?					
24	A	Yes, they did. We notified them of the proposed conversion					
25		and also our method of doing it, and they did approve this					
	<u> </u>						

1 procedure. 2 Referring to what has been marked as Exhibit 6, is this 3 a letter from the USGS, a copy of the letter from the 4 USGS, approving the conversion? 5 Yes. This transmitted their approval and so notes that 6 they do approve of it and that they also state that if 7 water is to be brought on lease from off lease that 8 we will need a special land-use permit. 9 However, this is not the case. We intend to 10 dispose of water solely from our Federal D Number 1 Well. 11 Have you contacted the surface owner? 12 Yes. We contacted Mrs. Dessie Sawyer requesting her 13 waiver of objection to the conversion of this well to 14 disposal, and she did reply favorably, which is, I believe, 15 in the packet. 16 Have you notified all of the offset operators of your 17 intention to convert this well? 18 Yes, sir. We notified all operators within a two-mile 19 radius of the proposed conversion and did receive 20 waivers from all immediate offset operators and did not 21 have any objection from one M. P. Grace. 22 I believe that you filed a log of the Federal D Well 23 along with your application; did you not? 24 A Yes, sir. We did. 25 Q I hand you what has been marked as Exhibit 7 and ask you

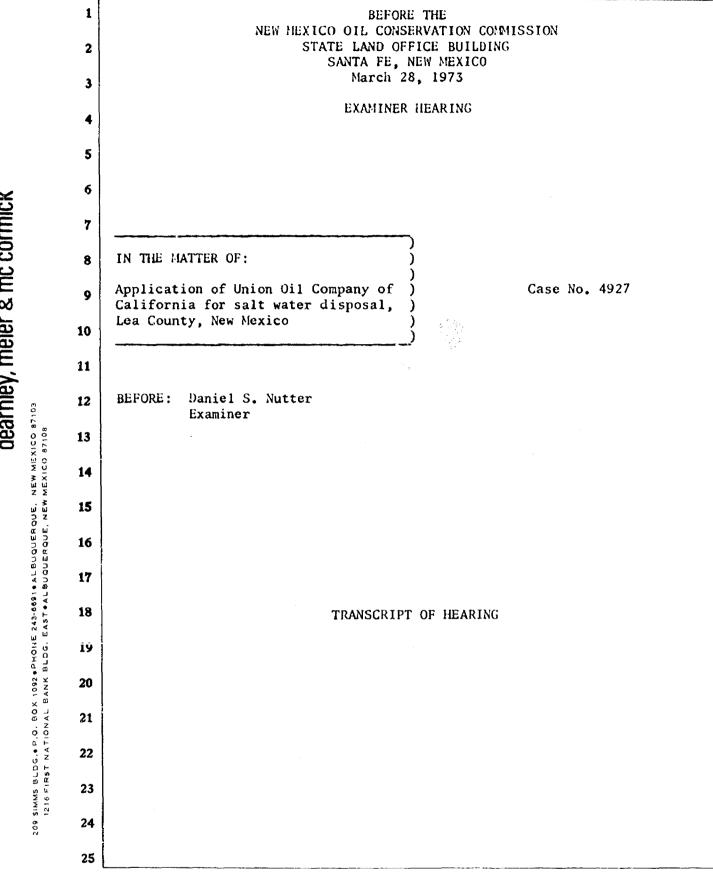
1		if that is a copy of the log.
2	A	This is a copy of the radioactivity log on the Federal D
3		Number 2 Well.
4		MR. JENNINGS: If it please the Examiner, this is
5		the only extra copy we have. We only have two copies.
6	Ω	(By Mr. Jennings) Mr. Willis, do you feel that the
7		conversion of that well to a salt water disposal well
8	 	will be in the interest of conservation and prevent
9		waste?
10	A	Yes, sir. I do.
11	Ö	Will it prevent the premature abandonment of the well?
12	A	The premature abandonment of the Federal D-1? Yes, it
13		will.
14	Ω	Was Exhibit 4 prepared by you?
15	A	Yes, it was.
16	Õ	And Exhibits 5, 6, and 7 were instruments received by
17		you in the ordinary course of business?
18	A	Yes, sir. They were.
19		MR. JENNINGS: We would offer these Fxhibits. We
20		have nothing else.
21		MR. UTZ: Without objection Exhibits 4 through 7
22		will be entered into the record of this case.
23		CROSS-EXAMINATION
24	BY I	MR. UTZ:
25	Ω	Mr. Willis, do you plan to put a gauge on the annulus?
	11	

1	A	Well, sir, yes. It's common practice and we will certainly				
2		monitor the pressure.				
3	Ω.	Pid you state you would use inert fluid in the annulus,				
4		also?				
5	Α	Yes, sir.				
6	0	Okay. And the tubing will be internally plastic coated				
7		as shown on Exhibit 4?				
8	A	Yes, sir. It will.				
9	Ő	Now, from the top of the cement on the five and a half				
10		inch, I believe it is, 10,100 feet to the bottom of the				
11		eight and five-eights, there is some 6,001 feet which is				
12		open. Is there any producing zones in that area?				
13	A	None that I know of.				
14	Ω	How long did you inject in the well that you are				
15		abandoning which was the H-l; is that correct?				
16	A	The H-1.				
17	Ω	Before you discovered a leak?				
18	A	We commenced injection in the H Number 1 Well July, 1965				
19		and have injected from that time to date, and just				
20		discovered the leak here.				
21	Ö	That would be approximately 3-73 then. So about eight				
22		years?				
23	A	Yes, sir.				
24	Ō	In your opinion, was it the injection that corroded the				
25		casing and caused your leak?				

1	Ā	It's rather hard to say. I would suspect more that it
2		was probably some external corrosive source that may have
3	 	caused the hole to be created in the casing string; and
4		when this happened we did notice it.
5	Ö	That water did go out into this 6,001 foot area somewhere
6		before you quit injecting?
7	A	For some small limited time, yes. How long, of course,
8		I really don't know; but as soon as we discovered the
9		leak, we stopped.
10	Q	Were you treating that water for anti-corrosion?
11	A	No. I don't believe we were.
12	Ő	Do you plan to treat this water?
13	A	I am really not too sure of the quality of the water;
14		but if we do find it's a very corrosive water, naturally,
15		we would, right.
16		Our big thing that we would be doing, of course, is
17		plastic coating that tubing to prevent any leaks in the
18		tubing string of the proposed conversion.
19	Q	You did not have plastic coated tubing in the H-1 Well?
20	A	No. That was actually done in four and a half inch
21		casing by the Commission Order.
22	Ŏ	I see.
23		MR. UTZ: Are there other questions of the witness?
24		The witness may be excused. Are there statements in
25		this case? The case will be taken under advisement.
	<u> </u>	

1 2 3	the foregoing and attached Transcript of Hearing before New Mexico Oil Conservation Commission was reported by and that the same is a true and correct record of the proceedings to the best of my knowledge, skill and
4 5 6 7 8 9	County of Bernalillo, State of New Mexico do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill and
10	ability.
12 13 14	NOTARY PUBLIC
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22 23 24	a complete person of the proceedings in the Examine. It is no of the book in the proceedings in the Examine.
25	Examiner .

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dearnley, meier & mc cormick

MR. NUTTER: Case 4927: Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. At the request of the Applicant, this case will be continued to the Examiner Hearing to be held at this same place at 9:00 o'clock A.M. on April 11th, 1973.

STATE OF NEW MEXICO) ss COUNTY OF BERNALILLO)

I, RICHARD E. McCORMICK, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Kulara E M. Comich Certified Shorthand Reporter

I do hereby certify that the foregoing 1st a complate read of the proceedings in the Examiner hearing of Case Ho. 1977, heard by he on the Examiner New Mexico Oil Conservation Commission

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OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87501

NEMBER
STATE GEOLOGIST
Á. L. PORTER, JR.
SECRETARY – DIRECTOR

GOVERNOR BRUCE KING

CHAIRMAN

LAND COMMISSIONER

ALEX J. ARMIJO

May 21, 1973

Mr. James T. Jennings Jennings, Christy & Copple Attorneys at Law Post Office Box 1180 Roswell, New Mexico 88201	Re:	Case No Order No Applicant: Union Oil	R-4517	!ornia
				·
Dear Sir:				
Enclosed herewith are two co				
C A	A	PORTER, Jr.		
ALP/ir				
Copy of order also sent to:				
Hobbs OCCArtesia OCC				

Bureau of Land Management, Santa Fe, N. M.

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE NO. 4927 Order No. R-4517

APPLICATION OF UNION OIL COMPANY OF CALIFORNIA FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 11, 1973, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 17th day of May, 1973, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Union Oil Company of California, is the owner and operator of the Federal "D" Well No. 2, located in Unit J of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 12,000 feet to 12,010 feet.
- (4) That the injection should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 11,900 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.
- (5) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

-2-Case No. 4927 Order No. R-4517

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Oil Company of California, is hereby authorized to utilize its Federal "D" Well No. 2, located in Unit J of Section 31, Township 9 South, Range 36 East, NMPM, West Crossroads-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 11,900 feet, with injection into the perforated interval from approximately 12,000 feet to 12,010 feet;

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

- (2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.
- (3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

> STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

SEAL

Union Oil and Gas Division: Central Region

Union Oil Correctly of California 500 North Marienfeld, Midland, Texas 79701 Telephone (915) 682-9704

川川沙川

Wichard District

March 20, 1973

File

Mr. D. S. Nutter Chief Engineer New Mexico Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

Dear Mr. Nutter:

This is to advise that Union Oil Company of California has been selling gas from its Pipeline Federal lease, well No. 1, La Rica Morrow Pool, Unit M, Section 4, 10-S, 34-E, Lea County, New Mexico, with first sales being delivered October 12, 1971. The La Rica Morrow Gas Pool is currently operating under temporary special rules and regulations, and, since sales have continued in excess of one year, it is our understanding that this cause will now be reopened for an examiner hearing to show cause why the La Rica Morrow Gas Pool should not be developed on 320 acre spacing units in accordance with Rule 3 of Order No. R-4058 setting forth rules and regulations pertaining to the La Rica Morrow Gas Pool. As discussed in phone conversation this date, it is our further understanding that this cause will be reopened on April 11, 1973, at which time we will endeavor to demonstrate that 640 acre spacing is advantageous for continued exploitation and development in this pool.

As you are aware, we are currently scheduled for an examiner hearing on March-28, 1973 (Case 4927) seeking approval to utilize our No. 2 Federal "D" well, Unit J, Section 31, T-9-S, R-36-E, West Crossroads-Devonian Pool, Lea County, for disposal of produced water into the Devonian formation. In order that these cases might be heard the same day, we would appreciate this latter hearing being rescheduled for April 11, 1973 if such meets with your approval.

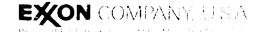
Your favorable consideration in this matter would be most appreciated.

Very truly yours,

John R. Gray

Acting District Operations Manager

HRW:rb



And the second of the second o



April 9, 1973

Case No. 4927 Union Oil Company of California Federal "D" Well No. 2 Section 31, 9-S, 36-E West Crossroads Devonian Pool Lea County, New Mexico

22-2

New Mexico Oil Conservation Commission P. O. Box 2088 Santa Fe , New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Union Oil Company of California has an application for saltwater disposal into their Federal "D" Well No. 2 in the West Crossroads Devonian Pool. This will be heard at a hearing on April 11, 1973. Exxon, as a working interest owner in this well, supports their application.

Yours very truly,

R. E. Hammond

HNR/aw

A DIVISION OF EXACT CORPORATION

- CASE 4923: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 360-acre non-standard gas proration unit comprising Lots 16, 17, and 18 and the SE/4 and E/2 SW/4 of Section 4, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Meyer B-4 Well No. 4 located in Unit S of said Section 4.
- CASE 4924: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 7025 feet to 7366 feet in its New Mexico "BZ" State Well No. 1, a triple tubingless completion, located in Unit K of Section 2, Township 25 South, Range 37 East, North Justis-Devonian Pool, Lea County, New Mexico.
- CASE 4925: Application of Shenandoah Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Robinson-Jackson Unit Area comprising 1160 acres, more or less, of Federal lands in Township 17 South, Range 29 East, Eddy County, New Mexico.
- CASE 4926: Application of Shenandoah Oil Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Robinson-Jackson Unit Area by the injection of water into the Grayburg-San Andres formation through 16 wells in Sections 27, 34, and 35, Township 17 South, Range 29 East, Grayburg-Jackson Pool, Eddy County, New Mexico.

Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 12,000 feet to 12,010 feet in its Federal "D" Well No. 2 located in Unit J of Section 31, Township 9 South, Range 36 East, West Crossroads-Devonian Pool, Lea County, New Mexico.

CASE 4928: Application of Union Oil Company of California for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying all of Section 11, Township 21 South, Range 25 East, Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to be dedicated to the Atlantic Richfield Oil Company Pure-Federal Well No. 11 located in Unit K of said Section 11. Applicant further seeks a provision for the payment of proper costs to be borne by applicant for such well and the related well equipment, a provision for allocation of actual operating costs, and the establishment of charges for supervision of such well and the designation of an operator thereof; and for such other relief as proper. Also to be considered will be the risk involved in drilling the subject well.

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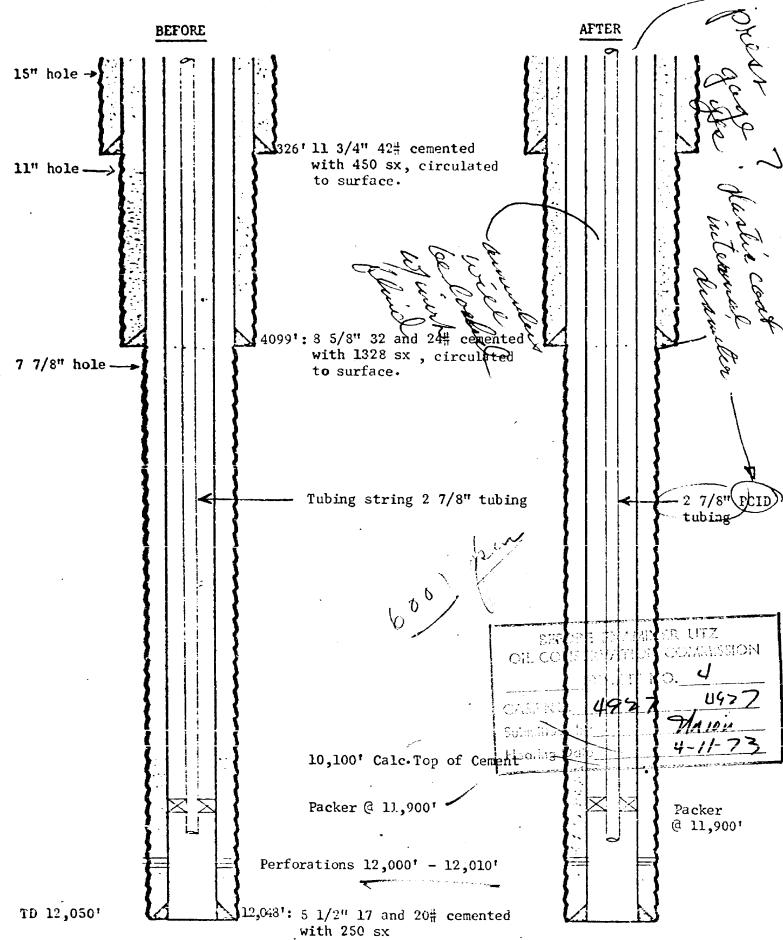
West Cross Roads Field Lea County. New Mexico

Producing Formation

- O Son Andres
- O Bough'c"
- O AtoKa
- Devenian

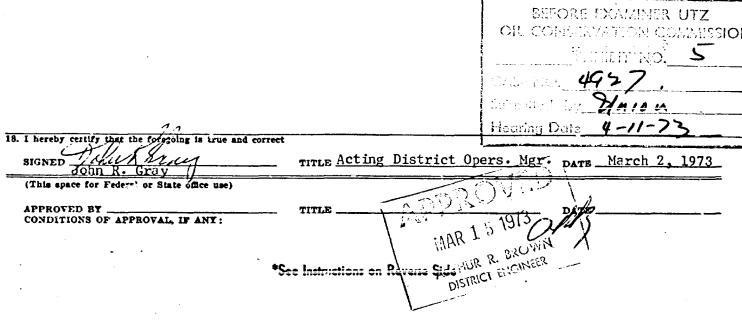
4927. Union 4-11-23

WEST CROSSROADS FIELD
LEA COUNTY, NEW MEXICO



verm 9-331 (Slay 1963)	UNITED DEPARTMENT OF	Form approved. Budget Bureau No. 42-K1424. 6. LEASE DESIGNATION AND SERIAL NO. LC 065249			
	ORY NOTICES AN			6. IF INDIAN, ALLOTTE	E OR TRIBS NAME
OIL X GAS WELL	OTREA		•	7, UNIT AGREEMENT N.	AMB
2. NAME OF OPERATOR				8. PARM OR LEGER HA	×E
Union Oil Com	pany of Californ:	Federal D			
3. ADDRESS OF OPERATOR				9. WELL NO.	
	, Midland, Texas			2	
See also space 17 belo	port location clearly and in w.)	secordance with any 8	tate requirements.*	10. FIELD AND POOL, O	
At surface					oads Devonian
Unit J 1980'	FSL and 1980' FEI	L, Sec. 31, T-	9-S, R-36-E	11. SEC., T., R., M., GR SURVEY OR ARE	BLK. AND A
				31-98	2-36 F
14. PERMIT NO.	16. ELEVAT	IONS (Show whether Dr.)	IT, GR, etc.)	12. COUNTY OR PARISE	H 13. STATE
	405	9' SCF		Lea	New Mexico
16.	Check Appropriate	Box To Indicate No	ture of Notice, Report, or	Other Data	
Ħ	OTICE OF INTENTION TO:	1	SUBSE	QUENT REPORT OF:	
TEST WATER SHUT-OF FRACTURE TREAT SHOOT OR ACIDIES REPAIR WELL (Other) CODVEY	PULL OR ALTS MULTIPLE CO: ABANDON* CHANGE PLAN t to Salt Water I	MPI.ETE	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACIDIZING (Other) (Note: Report result	ALTERING C ABANDONNE ts of multiple completion pletion Report and Log for	CABING
			details, and give pertinent date as and measured and true verti		
2) Pull tubi 3) Run 2 7/8 4) Load 2 7/	ulling unit. ng and packer. " PCID tubing wim 8" tubing-5 1/2" and put well on o	casing annulu	pproximately 11,900 s with packer fluid ce.) [†] . ! and set packe:	r.
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			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	DEFORE EXAM	

APPROVED BY CONDITIONS OF APPROVAL, IF ANY:



WAIVER

As surface owner of Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, 1 waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well.

Deisie Sames

Date 17 - 73

RETURN TO:

Union Oil Company of California Attn: Mr. J. R. Gray P. O. Box 671 Midland, Texas 79701 MAR 7 1973

$\underline{\underline{W}} \underline{\underline{A}} \underline{\underline{I}} \underline{\underline{V}} \underline{\underline{E}} \underline{\underline{R}}$

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

Company

Chy Lead

By

3-6-73

Date

RETURN TO:

Union Oil Company of California Attn: Mr. John R. Gray P. O. Box 671 Midland, Texas 79701

WAIVER

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

AZTEC OIL & GAS COMPANY

Company

By

March 5, 1973

Date

RETURN TO:

Union Oil Company of California Attn: Mr. John R. Gray P. O. Box 671 Midland, Texas 79701

H.R.W. MAR 8 1973

2000 FIRST NATIONAL BANK BUILDING DALLAS, TEXAS 75202

PRODUCTION DEPARTMENT

March 5, 1973

Union Oil Company of California Post Office Box 671 Midland, Texas 79701

Attention: Mr. John R. Gray

Re: Union-Federal D #2
West Crossroads Devonian Field

Lea County, New Mexico

Gentlemen:

Attached please find an executed copy of your waiver signifying that we have no objection to Union's application for salt water disposal into the Devonian formation of subject well.

Yours very truly,

Attachment

LDE:bjr

WAIVER

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

W. K. Byrom	
Company	
(0,0,0,0,0)	
R.R. anderson	
By R. R. Anderson	
305-73	
Date	

RETURN TO:

Union Oil Company of California Attn: Mr. John R. Gray P. O. Box 671 Midland, Texas 79701

WAIVER

As offset operator to Union Oil Company of California's Federal "D"

No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,

R-36-E, Lea County, New Mexico, in the West Crossroads Devonian

Field, we waive objection to Union's application to dispose of salt

water by injection into the Devonian formation of this well.

Coustal States Gas Prod. Co.

3-8-73

Date

RETURN TO:

<u>W 1 I V E R</u>

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Company

E. M. Hudgen, Pres.

By

RETURN TO:

H. R. W. MAR 9 1973

WAIVER

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
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Company

Freey M Longlish

3-4.73

RETURN TO:

$\underline{W} \underline{A} \underline{I} \underline{V} \underline{E} \underline{R}$

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Company

1/

mach 5, 1973

RETURN TO:

Union Oil Company of California Attn: Mr. John R. Gray P. O. Box 671 Midland, Texas 79701

H.R.W.

MAR 7 1910

H.R.W. MAR 16 1973

WAIVER

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
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Company

Date

RETURN TO:

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Company Collago

By John Selli

3-9-73 Date

RETURN TO:

HR.W. MAR 16 1973

As offset operator to Union Oil Company of California's Federal "D" No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S, R-36-E, Lea County, New Mexico, in the West Crossroads Devonian Field, we waive objection to Union's application to dispose of salt water by injection into the Devonian formation of this well.

MWJ Producing Compony
Company

Edward H. Judson
By

RETURN TO:

WAIVER

As offset operator to Union Oil Company of California's Federal "D"
No. 2 well, located 1980' FSL and 1980' FEL of Section 31, T-9-S,
R-36-E, Lea County, New Mexico, in the West Crossroads Devonian
Field, we waive objection to Union's application to dispose of salt
water by injection into the Devonian formation of this well:

Company Dem

Ву

3-14-73

RETURN TO:

United States Department of the Interior

GEOLOGICAL SURVEY

P. 0. Box 1157 Hobbs, New Mexico 88240

March 15, 1973

Union Oil Company of California 500 North Marienfeld Midland, Texas 79701

Attention: Mr. John R. Gray

Gentlemen:

Your letter of March 2 transmitted your proposal to convert well No. 2 Federal "D", lease Las Cruces 055249, to salt water disposal.

An approved copy of your Notice of Intention to Convert to Salt Water Disposal is enclosed.

If water other than that produced on the leasehold is to be disposed of into the well, a Special Land-Use Permit from the Bureau of Land Management is required.

Sincerely yours,

Arthur R. Brown District Engineer

CHAMBER UTZ
CHAMBER UTZ
CHAMBERON
HOLLON
VAILABLE
VAILABL

Union Oil and Gas Division: Central Region

Union Oil Company of California 500 North Marienfeld, Midland, Texas 79701 Telephone (915) 682-9731

UNI®N

OIL CONSERVATION COMM
3 Santa Fe

Midland District

March 2, 1973

Con 4927

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

Gentlemen:

Union Oil Company of California Federal "D" No. 2 West Crossroads Devonian Field Lea County, New Mexico

Enclosed are copies of Form C-108, "Application to Dispose of Salt Water by Injection into a Porous Formation", and other necessary data to support Union's request for permission to dispose of salt water in the Devonian formation of the above captioned well.

Requests for waivers and a copy of this application have been submitted to the State Engineer, the surface owner, and the offset operators.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

John R. Gray

Acting District Operations Manager

HRW:rb Attachments

DOCKET MAILED

Date 3/28/13 4/11

DOCKET MAILED

Date 3/15/13

		~		49				C-108
		EW MEXICO OIL				1111	· Ak	- 5 (8/0
	TION TO DISP	OSE OF SALT			TION II			ATION 199
OPERATOR CO. 2 O C. 2	0.116		1	ADDRESS			S	uda fe
Union Oil Company of	California	WELL NO		P. C. B	ox 67	1, Midland,	Texas	79701
Federal "D"		2		West Cr	ossro	ads Devonia	า	Lea
LOCATION								
UNIT LETTER	; w	ELL IS LOCATED	1980	FEET FR	OM THE _	South	NE AND	1980 FEET FROM THE
East LINE, SECTION	31.	WNSHIP 9-Sout	li RAN	se 36-Ε	ast ,	NMPM.		
				UBING DAT				
NAME OF STRING	SIZE	SETTING DEPTH	4 SA	CKS CEME	NT -	TOP OF CEMEN	17	TOP DETERMINED BY
42#	11 3/4"	3261		450		Surface		Circulated
24 and 32#	8 5/8"	40991		1328		Surface		Circulated
15.5 and 17#	5 1/2"	12,048'		250		10,100'		Calculated
PCID	2 7/8"	11,900	Bak	er Lok-	Set	11,9001		
Devonian				•	966 †		TD 1	2,050†
TS INJECTION THROUGH TUBING, CASH Tubing		12,000	-12,01	.01	12,0	00 - 12,010		
IS THIS A NEW WELL DRILLED FOR DISPOSAL?	Develo	opment oil w	ell			LED?	HAS WELL ZONE OTH TION ZON	EVER BEEN PERFORATED IN ANY ER THAN THE PROPOSED INJEC- ? NO
NA	LS AND SACKS OF C	EMENT USED TO SEA	L OFF OR S	QUEEZE EAC	н			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 225		DEPTH OF BOTTOM OIL OR GAS ZONE 1 11,324	N THIS AR	HIGHER EA		DEPTH OF TOP OIL OR GAS 20 Unknown		OWER S AREA
ANTICIPATED DAILY MINIMUM	T MAXIMUM	OPEN OR CL	OSED TYPE	SYSTEM	IS INJEC	TION TO BE BY GRAV	TITY OR	APPROX. PRESSURE (PSI)
ANSWER YES OR NO WHETHER THE FO	3000	Close		DISPOSED OF	Grav		405 WATE	R ANALYSES ATTACHED?
ERALIZED TO SUCH A DEGREE AS TO I STOCK, IRRIGATION, OR OTHER GENER	BE UNFIT FOR DOME	STIC,	Υe		SAL ZON	ŧE		
NAME AND ADDRESS OF SURFACE OWN						<u>Yes</u>	N	ν
Mrs. Dessie Sawyer,	Crossroads	New Mexico	·					
See attached list of			OF THIS :	SJECTION WEL	- L			

THIS APPLICATION (SEE ROCE 701-87	Yes Yes	Yes
I hereby certify that the i	nformation above is true and complete to th	e best of my knowledge and belief.
John D. Roe.	Potpoloum Engin	VOUR 3/2/73
(Signature)	(Title)	(Date)

EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL

DIAGRAMMATIC SKETCH OF WELL

Yes

HAVE COPIES OF THIS APPLICATION BEEN SURFACE OWNER SENT TO EACH OF THE FOLLOWING?

PLAT OF AREA

NOTE: Should waiters from 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 receiving 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

PERATOR			ADDRESS		CONTROL OF THE	Carlotte Carlotte
Jnion Oil Company of	California		P. O. B	ox 671,	Midland, Tex	
esember Federal "D"		אנננ אס.	FIELD CH		D	COUNTY
GCAALOM GGG Let I D		2	west Cr	ossroaas	Devonian	Lea
UNIT LETTER	<u>J</u> : *	ELL 19 LOCATED	1980 FEET PR	уч 1 не	South LINE AND	1986 FEET FROM THE
East LINE, SECTION	31 10	wwsmip 9-South	PANGE 36-E	st NMPL	4.	
NAME OF STRING		CASING	AND TUBING DAT			T
URFACE CASING	SIZE	SETTING DEPTR	SACKS CEMEN	'	OP OF CEMENT	TOP DETERMINED BY
42#	11 3/4"	326 '	450		Surface	Circulated
24 and 32#	8 5/8"	40991	1328		Surface	Circulated
15.5 and 17#	5 1/2"	12,048'	250	1 -	10,100'	Calculated
PCID	2 7/8"	11,900	Baker Lok-			
AME OF PROPOSED INJECTION FORMAT	•		TOP OF FORM	•		OM OF FORMATION
Devonian			11,			12,050
s injection through tuaing, casing Tubing	OR ANNULUS?	1	12,010		- 12,0101	
S THIS A NEW WELL DRILLED FOR NO	4	s NO. FOR WHAT PURPO pment oil wel		LLY CRILLED	ZONE	NELL EVER BEEN PERFORATED IN ANY OTHER THAN THE PROPOSED INJEC- ZONE? NO
IST ALL SUCH PERFCRATED INTERVAL NA		-				
PEPTH OF BOTTOM OF DEEPEST RESH WATER ZONE IN THIS AREA 225	4	DEPTH OF BOTTOM OF OIL OR GAS ZONE IN 11,324	F NEXT HIGHER THIS AREA		DEPTH OF TOP OF NE	EXT LOWER THIS AREA
NIECTION VOLUME NINIMUM 1000	1 3000	Closed	ED TYPE SYSTEM	IS INJECTION PRESSURE?	TO BE BY GRAVITY O	R APPROX. PRESSURE (PS:)
NSWER YES OR NO WHETHER THE FOLK PALIZED TO SUCH A DEGREE AS TO BE STOCK, TRRIGATION, OR OTHER GENERA	UNFIT FOR COMES		TO BE DISPOSED OF	NATURAL WA	TER IN DISPO- ARE	WATER ANALYSES ATTACHED?
AME AND ADDRESS OF SURFACE OWNE	R (OR LESSEE, IF	STATE OR FEDERAL LAN	Yes	Ye.		No.
Mrs. Dessie Sawyer, C					1.5	14
See attached list of		-	THIS INJECTION WEL			İ
see dedelied 113t of	otraet ope	Tu tors	6 0		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
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			60			
						•
HAVE COPIES OF THIS APPLICATION BE	EN SURFACE OW	NER	EACH OPERAT	OR WITHIN ON	E-HALF MILE	
		'es	Yes			
PE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 701-B)	Ł	Yes	LECTRICAL	.06	DIAG	Yes
I hereby ce		formation above is		to the best	of my knowiedge	····
						-/-/
John D Rose			Colewn Er	131,100	<u> </u>	3/2/73

Cohn D Rose	Petrolown Engineer	3/2/73
(Signature)	(Title)	(Date)

NOTE: Should naivers from 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

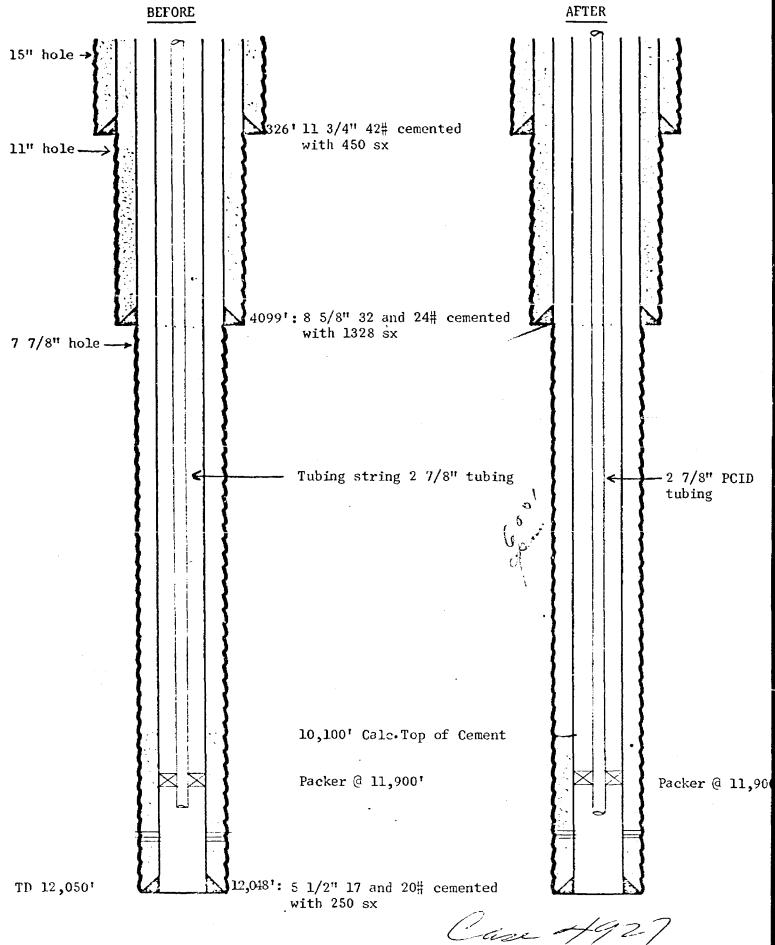
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION:

PERATOR			ADDRESS		<u> </u>		
Union Oil Company o	f California		P. O.	Box 6'	71, Midland,	Texas	
Federal "D"		WELL NO. 2	West (rossr	oads Devonia	ın	Lea
LCCATION	•		1000		041		1000
UNIT LETTER _	: w	ELL IS LOCATED	1980	FROM THE	South	INE AND	1980 FEET FROM TH
East LINE, SECTION	31 ,	SWHSHIP 9-South			NMPM.		
NAME OF STRING	SIZE	CASING SETTING DEPTH	SACKS CEM		TOP OF CEME	NT T	TOP DETERMINED BY
SURFACE CASING 42#	11 3/4"	326'	450		Surface		Circulated
14 and 32#	8 5/8"	40991	1328		Surface		Circulated
15.5 and 17#	5 1/2"	12,048	250		10,100'		Calculated
TUBING PCID NAME OF PROPOSED INJECTION FOR	2 7/8"	11,900	Baker Lok	:-Set		Tagregi	OF FORMATION
Devonian	MAT (OR		t	.,9661		1	.2,050'
is injection through tubing, car Tubing	-	i i	12,010		100 - 12,010		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? NO	Develo	opment oil we		INALLY DR	ILVED∤	HAS WEL ZONE OT TION ZON	L EVER BEEN PERFORATED IN APPRICE THAN THE PROPOSED INJEC- E? NO
NA	VALS AND SACKS OF C	CEMENT USED TO SEAL	OFF OR SQUEEZE EA	СН			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 225!		DEPTH OF BOTTOM OF OIL OR GAS ZONE IN 11,324:	THIS AREA		DEPTH OF TO	OME IN THE ZZ	LOWER 5 AREA
ANTICIPATED DAILY MINIMUM INJECTION VOLUME MINIMUM 108653.] 2000 1000	3000	Closed	~	Grav			APPROX. PRESSURE (PSI)
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Mrs. Dessie Sawyer,	Crossroads	, New Mexico					
See attached list o			F THIS INJECTION W	ELL			
					·	· · · · · · · · · · · · · · · · · · ·	•
HAVE COPIES OF THIS APPLICATION	N SEEN SURFACE OF	MAN E B	- In-a 0	1.TOD	ITN ONE-HALF MILE		
SENT TO EACH OF THE FOLLOWING	?	Yes	OF THIS W	ELL	IIN ONE-HALF MILE		
ARE THE FOLLOWING ITEMS ATTAC THIS APPLICATION (SEE RULE 701-	HED TO PLAT OF AR	Yes	ELECTRICA	LLOG	<u> </u>	DIAGRAM	MATIC SKETCH OF WELL
		nformation above is	true and comple	ete to the	best of my know	•	
Colon D B	~#	Poli	colown 2	- W - 21 - 2	OUR	7	12/22

Cohn D. Roe.	Potecloum Engineer	3/2/73
(Signature)	(Title)	(Date)

NOTE: Should naivers from 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.

FEDERAL "D" WELL NO. 2 WEST CROSSROADS FIELD LEA COUNTY, NEW MEXICO



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West Cross Roads Field Lea County, New Merico

Producing Formation

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BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

THE PURPOSE OF CONSIDERING:	
	CASE No. 4927
APPLICATION OF UNION OIL COMPANY OF CALIFORNIA FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.	Order No. R-4517
ORDER OF THE COMMISSION	1
BY THE COMMISSION:	April 11
This cause came on for hearing at 9 a.m at Santa Fe, New Mexico, before Examiner	n. on March 28 , 19 niel S. Nutter Elvis Q. Ut
NOW, on this day of	$19\frac{73}{}$, the Commission, a testimony, the record,
FINDS:	
(1) That due public notice having been law, the Commission has jurisdiction of this matter thereof.	
(2) That the applicant, Union Oil Com	pany of California
is the owner and operator of the Federal "D	" Well No. 2
located in Unit of Section, Townsh	p South Range
36 East , NMPM, West Crossroads-Devoni	an Pool , Lea
County, New Mexico.	
(3) That the applicant proposes to ut	ilize said well to
dispose of produced salt water into the D	evonian
formation, with injection into the perfora	
from approximately 12,000 feet to 12,01	feet.
(4) That the injection should be accom	mplished through
28 -inch plastic-lined tubing installed	d in a packer set at

per feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus enthrope at the surface in order to determine leakage in the casing, tubing, or packer.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Union Oil Company of California,
is hereby authorized to utilize its Federal "D" Well No. 2
located in Unit $\frac{J}{}$ of Section $\frac{31}{}$, Township $\frac{9}{}$ South, Range
36 East, NMPM, West Crossroads-Devonian Pool Lea
County, New Mexico, to dispose of produced salt water into the
Devonian formation, injection to be accomplished through
2 -inch tubing installed in a packer set at approximately
1,000 feet, with injection into the perforated interval
from approximately 12,000 feet to 12,010 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus left open at the surface in order to determine leakage in the casing, tubing, or packer.

- (2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.
- (3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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