ase umber Application Transcripts. Small Exhibits

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico February 24, 1971

EXAMINER HEARING

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IN THE MATTER OF:

Application of Atlantic Richfield Company for salt water disposal, Lea County, New Mexico. Case No. 4505

BEFORE: Elvis A. Utz, Examiner.



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

dearnley-meier 📧

NEW MEXICO

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE,

TRANSCRIPT OF HEARING

		page 2				
	1	MR. UTZ: Case 4505.				
	2	MR. HATCH: Application of Atlantic Richfield Compan				
	3	for salt water disposal, Lea County, New Mexico.				
	4	MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, Cox				
	5	and Eaton, appearing on behalf of Atlantic Richfield. We have				
	6	one witness and nine exhibits.				
3 1	7	(Witness sworn.)				
neie	8	(Whereupon, Applicant's Exhibits 1 through 9 were marked				
ey-I	9	for identification.)				
dearnley-meier	10	E. M. PRINGLE,				
qe	11	having been first duly sworn, testified as follows:				
NTIONS 103	12	DIRECT EXAMINATION				
TESTIMONY, DAILY COPY, CONVENTIONS Querque, New Mexico 87103 Ew Mexico 87103	13	BY MR. HINKLE:				
LY COP) Ew ME) 7108	14	Q State your name, your residence and position.				
ONY, DAI QUE, N	15	A E. M. Pringle; reside in Roswell, New Mexico; position is				
-	16	senior operation's engineer for Atlantic Richfield				
EXPERT 1 ● A L B U 200 E, N		Company.				
TEMENTS, EXPI 243-0601 • A 6000ERQUE	18	MR. UTZ: What are your initials again?				
1, 57A 10 r E 1 - AL	19	THE WITNESS: F. M.				
, HEARINGS 1092 € P1 DG. EAS	· .	Q (By Mr. Hinkle) Have you previously testified before the				
JOSITIONS, J.O. BOX JANK BLE	~	Oil Conservation Commission?				
4. DE 305 DC.● 3.0 VAL 3AI		A Yes, sir.				
NATIONAL NATIONAL	23	Q And qualified as a petroleum engineer?				
SPECIAL 203 SIW	24	A Yes, sir.				
	25	Q Your qualifications are a matter of record with the				

	1		Commission?
	2	A	Yes, they are.
	3	Q	Are you familiar with the application of Atlantic
	4		Richfield in this case?
	5	A	Yes, I am.
	6	Q	What is Atlantic Richfield seeking to accomplish?
	7	A	By this application Atlantic Richfield Company is seeking
neie	8		permission to dispose of produced water into Lea 6015
ey-r	9		Number 2 Well located in Unit N of Section 9, Township 20
dearnley-meier	10	ŧ	South, Range 33 East, into the Yates and Seven Rivers
9	11	1	Formations in the interval of approximately 2978 feet to
ENTIONS	12	I	3350 feet.
Y, CONVEN	13	Q	Have you prepared or has there been prepared under your
AILY COPY , NEW MEX 87108	14	1	direction certain exhibits for introduction in this case?
НҮ, D 2∪Е. 31CO	15	А	Yes, sir.
	16	Q	And they are the exhibits that have been marked from 1
EXPERT I●ALBC XQUE, N			through 9, inclusive?
Г ЕМЕNTS, (243-6691 ВUQUER:	18	A	Yes, they are.
55, 57 ATE 2 Hone 2 5 T + Ale	19	Q	Now, refer to Exhibit 1 and explain that to the Examiner.
HEARINGS 1092 • PH DG. EAS	20	A	Exhibit 1 is a plat of the West Teas Pool showing the
fiows, r by r	21	ł	leases and wells within two miles of the proposed dis-
CIALIZING IN: DEPOSI Simms BLDG. • J.O. 51 NATIONAL BAN	22	ł	posal well. Denoted by colors are the zones now producing
-IZING IN	23	l	or produced.
SPECIAL LOV SIM	24	l	Also shown is the present salt water disposal well,
	25		Lea 6015 Number 1 located in Unit 0 of Section 9. There

PAGE 3

		PAGE 4
1		are contours shown on this plat which are drawn on the
2		top of the Yates Formation and reflect the pool to be a
3		small anticline which is separated from the Teas Pool to
4		the east and the Salt Lake Pool to the west by dry holes.
5	Q	Does it also show the proposed new injection well?
6	A	Yes, it does. This is shown by yellow triangle in Unit C
7		of Section 9.
8	Q	All of the wells which are shown in the West Teas are
9		producing from the same formation?
10	A	Yes, sir. This is the Yates and Seven Rivers Formations.
11	Q	Has the Commission heretofore approved the Number 1 Well
12		as a water disposal well?
13	A	Yes, sir, Order R 3588 issued in Case 3948 on November
14		26th, 1968, authorized disposal of salt water in the Lea
15		6015 Federal Number 1 Well located in Unit O of Section 9
16		Township 20 South, Range 33 East, in the Yates and Seven
17		Rivers Formations through perforations approximately 3110
18		feet to 3300 feet.
19		Order R 3588-A issued in Case 4422 on October 27th,
20		1970, authorized disposal of salt water in the Lea 6015
21		Federal Number 1 in the Yates and Seven Rivers Formation
22		through perforations approximately 3054 feet to 3214 feet
23	Q	Does Atlantic Richfield have any other producing wells in
24		the area?
25	A	Atlantic Richfield is the owner of the following wells in

SPECIALIZING INI. DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

PAGE 5 the West Teas Pool, all being located in Section 16, 1 Township 20 South, Range 33 East. These wells being the 2 Lea-State 886 Number 1 in Unit F, the Number 2 in Unit B 3 and the Number 3 in Unit E and, of course, we are the owner 4 of the proposed salt water disposal well. 5 What is the status of the Federal Number 2 Well which you б Q propose to convert to a salt water disposal well? 7 This well is now making from one to four barrels of water Α 8 per day and no oil from the interval, 2980 feet to 3001 9 The well has produced approximately 120,000 barrels feet. 10 of oil and 81,000 barrels of water, from perforations 3180 11 to 85 and 3190 to 96 feet. 12 That stringer depleted and the well was recompleted 13 in the interval 3085 to 3113 in October, 1970, and tested 14 seventy-two barrels of water per day and no oil from this 15 interval. The zone was shut off with a bridge plug and 16 the present interval 2980 to 3001 feet was perforated. As 17 I stated, the well has produced one to four barrels of 18 water per day from that interval since completion. No 19 other zones are thought to be productive in the well. 20 Q Refer to Exhibit Number 2 and explain what this shows. 21 Exhibit Number 2 is a diagrammatic sketch of the proposed Α 22 disposal well. Shown are the casing sizes, the amounts 23 of casing, the cement volumes used, along with the exist-24 ing perforations, proposed tubing and proposed packer 25

dearnley-meier SPECIALIZING INI DEPOSITICNS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

249 SIMMS BLDG.• P.O. BOX 1092•PHONE 243-0091•ALBUQUERQUE. NEW MEXICO 87103 First national Jank Bldg. East•Albuquerque, new mexico 87108

			PAGE 6
	1		setting depth.
	2	Q	The perforated intervals there, those are existing at the
	3		present time?
	4	A	Yes, sir, they are. Those are the ones existing at the
	5		present time.
	6	Q	You don't intend to open any new perforations?
, 5	7	A	We are asking permission to inject water from the top of
neie	8		the Yates, which is essentially 2978 feet down to the T.
dearnley-meier	9		D. of this well. We don't really anticipate that it will
arn	10		be necessary, however, to add perforations for that entire
	11		interval.
	12	Q	How much water do you anticipate you will dispose of in
TESTIMONY, DAILY COPY, CONVENTIONS Oueroue. New Mexico 87103	13		this well?
AILY COPY	<u> </u>	A	We anticipate disposing of 750 barrels per day to perhaps
STIMONY, DAI ERQUE, N	0 15		1300 barrels per day and this will be under pressure.
TESTIM	א 10	Q	Now, refer to Exhibit Number 3.
EXPERT 1. ALBU	^{มี} ว ี 17	A	Exhibit Number 3 is a log of the proposed salt water
EMENTS, 243-669	800 18		disposal well showing the existing perforations.
SS, STATI	. 19	Q	This is the same log that was filed with the application?
2051TIOHS, HEARINGS, STATEMENTS, 3.0. BUX 10920PHONE 249-669	· 20		I say, is this the same log that was filed with the
ЗОSITIONS, НЕА Э.О. ВОХ 109	21 x		application?
1N: DE 20		A	Yes, it is.
LIZING	01 - 23	Q	Now, refer to Exhibit Number 4, explain this.
SPECIALIZING	1981 24	A	Exhibit Number 4 is a tabulation of production for the
	25		West Teas Pool for the month of December. It shows the

PAGE 7 pool to be making 4156 barrels of oil and 34,129 barrels 1 of water for the month or about 134 barrels of oil per 2 day and 1100 barrels of water per day. 3 These figures were obtained through telephone calls 4 from the other operators other than Atlantic and they may 5 vary slightly due to correction. However, those are the 6 latest that we have. 7 Of this amount of production about 917 barrels of water 8 per day were disposed of in the Lea 6015 Number 1, this 9 being the volume of water from Atlantic and Cities Service 10 Leases in the West Teas Pool. The tabulation shows that 11 SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS the offset wells to the present disposal well, Lea 6015 12 702 SIMMS BLDC.4 (2.0), BOX 10024PHONE 243460914ALEUQUERQUE, NEW MEXICO 87103 First national Bank BLDC. East-alloquerque, new mexico 87108 Number 1, are the Hansen-Atlantic State Number 1 to the 13 southwest in Unit C of Section 16 and the Atlantic 886 14 Number 2 to the south in Unit B of Section 16. 15 Now, in your opinion, can all of the water which is being Q 16 produced or which you anticipate will be produced can be 17 disposed of in these two injection wells? 18 A We believe they can be -- that it can be disposed of in 19 the two wells. The Number 1 Well is not capable of taking 20 the full capacity of the producers at this time. Order 21 R 3588-A, that we referred to, gave permission to add 22 perforations in the Number 1 disposal well. 23 This was done and it gave some temporary relief. 24 However, we have not been able to realize the full 25

dearnley-meier

			PAGE Q
	1		productive capacity from the producers.
	2	Q	Have you had an analysis made of the produced water?
	3	A	Yes, sir. Exhibits 5 and 6 are water analyses, Exhibit
	4		5 being water analysis from the disposal system which is
	5		essentially identical to the Exhibit 6 which is water
	6		from the 886 Number 1 Well operated by Atlantic Richfield.
=	7		These exhibits show that the water contains about 5500
	8		parts of chlorides.
	9	Q	Now, refer to Exhibit Number 7 and explain this.
	10	A	Exhibits Number 7 and 8 are cross sections, the locations
3	11		of which are shown on the plat being Exhibit Number 1.
CONVENTIONS CO 87103	12		These cross sections show the continuity of the disposal
	13		zone and the prominent zone in the disposal interval is
TESTIMONY, DAILY COPY, Querque, New Mexi Ew Mexico 87108	14		marked to show the structural configurations.
QHY, DA QUE, N	15	Q	That's true of the other cross section, too?
	16	A	Yes, sir. Both cross sections show essentially the same
, EXPERT 91 - Albu Rque, N	17		thing.
DEPOSITIONS, MEARINGS, STATEMENTS, Le Poort 1002 € PHONE : 143-009 L PANK BLOG, EAST € AL GUQUER	18	Q	All in the same reservoir?
65, STAT PHONE ST • ALI	19	A	Yes, sir.
MEARINGS, 1092 • PH DG. EAST	20	Q	Have you obtained a waiver from any of the offset operators
LIZING KAI DEPOSITIONS, MEARI Mas BLDG. • •.0. B.•)X 1092 National Hank HDG. E	21		for these injection wells?
	22	A	Yes, sir. Exhibit Number 9 is a copy of a letter that we
	23		sent to Mr. Hansen being the operator of a well offsetting
SPECIA POU SIN FIRST	24		present disposal well and would have been offsetting the
	25		proposed disposal well, if granted, and Mr. Hansen has

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PAGE 9 1 indicated that he has no objection to our proposal. 2 Q In your opinion, will the approval of this application be 3 in the interest of conservation, the prevention of waste 4 and tend to protect correlative rights? 5 Α Yes, sir. This application, if approved, would allow б continued operation of Atlantic Richfield's Wells in the 7 pools so that disposal will not be dependent on the one 8 existing well. It would, we believe, allow producing 9 the producing wells at full capacity. 10 I should state here that we are not absolutely certain 11 that we will have to use the well Number 2. We are making 12 all efforts not to use this well. Well Number 2 is the 13 last well on the 6015 lease. We made an application to 14 the Bureau of Land Management for special land use permit 15 and, of course, this cannot be granted without conser-16 vation Commission approval. 17 We are also negotiating with an operator in the 18 area who has desires to flood over to the east to take 19 all of the water from our producing wells. We don't 20 know that this will be accomplished. We have also had

area to take water to the west.

We much prefer to go one of these routes rather than converting another well. However, we do feel that until this is settled, we need to retain the rights to use Well

discussions with a salt water disposal company in the

SPECIALIZING IN: DE 2051TIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DALY COPY, CONVENTIONS 202 SIMMS BLDC.- P.O. BOX 1002-PHONE 243-6601-ALBUQUERQUE. NEW MEXICO 87103 FIRST NATIONAL BANK BLDG. EAST ALBUQUERQUE, NEW MEXICO 87103

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23

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1 Number 2 as a possible salt water disposal well in the 2 event that we are unable to accomplish any of the alter-3 natives. If we do accomplish the alternatives and do not 4 5 dispose of water to any great extent in Well Number 1 or 6 2, then we will hold these wells as standby wells in case 7 some emergency exists or in case we are unable to continue with these plans. If we cannot get rid of our water some 8 where else, then Well Number 2 will be needed in order to 9 handle the water from our producers. 10 If you cannot work out this alternative for the disposal 11 Q of the water and you do have to use both of these injection 12 wells, what, in your opinion, will be the affect of the 13 injection of water on the other offset producing wells? 14 15 Well, we are injecting into intervals which are within Α the productive intervals of the West Teas Pool and un-16 doubtedly there will be some affect. The well Number 2 17 and Well Number 1, we believe, will probably not have a 18 detrimental affect. All of the wells just to the south 19 and on the north edge of the West Teas Pool are very low 20 producers, rates being in the order of two to six barrels 21 of oil per day and we feel that, if anything, disposal of 22 water into this interval may help to recover oil at a rate 23 that would not otherwise be economical. 24 Q In other words, it may enable them to produce oil which 25

PAGE 10

dearnley-meier HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTION NEW MEXICO 37103 87108 1092 • PHONE 243-6691 • ALBUQUERQUE, DG. EAST • ALBUQUERQUE, NEW MEXICO ВЦРС. • Р.О. ВОХ 105 1100AL ЗАИК ВЦРС. DE "OSITICNS, NATIONAL SPECIALIZING INI 200 SIMMS F1887

	_	PAGE 11
	1	would otherwise not be recovered?
2	2	A Well, the West Teas Pool is a very difficult pool to
	3	interpret. There's a fairly active water drive throughout
	4	the field and on the south end but this is our best
	5	opinion, yes, sir, that, if anything, it may help the
•	6	producing wells.
<u> </u>	7	MR. HINKLE: We would like to offer in evidence
mei	8	Exhibits 1 through 9.
dearnley-meier	9	MR. UTZ: Without objection, Exhibits 1 through 9
e ar n	10	will be entered into the record of this case.
	11	MR. HINKLE: That's all we have.
TESTIMONY, DAILY COPY, CONVENTIONS Iquerque, New Mexico 87103 Ew Mexico 67103	12	CROSS EXAMINATION
AILY COPY, CONVENTI New Mexico 87103 64103	13	BY MR. UTZ:
4LY COP 4 E W ME	14	Q Mr. Pringle, your seven-inch casing had the cement
юну, D 1.00 E. 1 1.100 E. 1		circulated, is that correct?
RT TESTIMONY, D Buquerque, New Mexico	16	A Yes, sir. These wells are in a potash area and the seven-
EX9 I = A Diff	17	inch casing did have 600 sacks of cement used and it was
TEMENTS, E 243-6691- Buoured	18	circulated.
HEARINGS, STA' 1092 • PHONE 302 • FAST • AI	19	Q Now, how about the liner?
HEARIN 1092 - 1	20	A The liner was set with 90 sacks and the records do not
SITICNS, 0. POX	Źi	indicate the extent of additional or extra cement that
LIZING IN: DE?OSITICNS, HEA ams bldc.e >.o, box 109 National Jaank bldc.	22	was recovered, but it was tested in the normal manner.
SPECIALIZIMG IN: DEPOSITIONS, HEARINGS, STATEMENTS, 209 Simms BLDG. + 9.0, BOX 1092 + PHONE 243-6691	23	There are notes to indicateas tested and has held
SPECIAL 209 SIN FIRST	24	properly.
	25	Q You will have the packer set at approximately 2950 in the

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	r		
	1		liner?
	2	A	Yes, sir.
	3	Q	How about the annulus?
	4	A	We would load it with an inhibited fluid and place a
	5		pressure gauge on the annulus to determine if any event
• •	6		should occur that would indicate a leak.
	7	Q	Is the tubing plastic coated or regular?
dearnley-meier	8	A	We didn't propose to plastic coat the tubing. We think
ley-	9		that this field will have a fairly short life, we think
arn	10		something in the order of three to four years, and the
de	i 1		water is about as good a water as is in this area and we
IVENTIONS 87103	12		believe that we can, with the pressure gauge and whatever,
(, CONVE XICO 87	13		see if we are having any trouble and because of this short
MILY COPY, CON' NEW MEXICO (87108	14		life we would prefer not to treat this tubing.
NY, I AUE.	15	Q	Now, it's my understanding that you are not actually going
	16		to convert this well at this time.
EXPERT. 10 Albu Xque, Ni	17	A	Until we have exhausted all of the other alternatives, no,
	18		sir. Nowever, to be real honest, if we cannot find any
S, S∓ATE Hone 2 5 t • Ale	19		other way to get rid of the water, then we would want to
HEARING: 1042€P1 DG.EAS	20		convert it and it would take probably 750 barrels a day
, ions, v b v b v b v b v b v b v b v b v b v b	21		and our current pressure is about 1900 pounds.
	22	Q	You will use pressure, you think?
SPECIALIZING IN 204 SIMMS BLOO	23	A	Yes, sir; it will take pressure.
SPECIAL 204 SIM FIRST 1	24	Q	How much pressure?
	25	A	About 1900 pounds is what is running on the Number 1 Well

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PAGE 14



PAGE 15 1 STATE OF NEW MEXICO)) \$5 2 COUNTY OF BERNALILLO) 3 I, GLENDA BURKS, Court Reporter in and for the County of 4 Bernalillo, State of New Mexico, do hereby certify that the 5 foregoing and attached Transcript of Hearing before the New б Mexico Oil Conservation Commission was reported by me; and that 7 the same is a true and correct record of the said proceedings dearnley-meier 8 to the best of my knowledge, skill and ability. 9 2 Conta Burks Court Reporter 10 11 SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS 12 209 SIMMS BLDG., P.O. BOX 1002-PHONE 243-66914 ALBUQUERQUE. NEW MEXICO 87103 First national Bank BLDG, East+Albuquerque, new mexico 87108 13 14 15 16 17 18 19 20 21 i do horony cortify that the foregoing is 22 a store photon of the proceedings in more hearing of Care to H.50 5. 23 cn. Det Zoffers 30.7/.... lito 24 Aller Contin . Receinar tion local of Conservation Consistion 25



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87501 GOVERNOR BRUCE KING CHAIRMAN

LAND COMMISSIONER ALEX J. ARMIJO MEMBER STATE GEOLOGIST A. L. PORTER, JR.

SECRETARY - DIRECTOR

March 4, 1971

Re:CaseMr. Clarence HinkleOrdeHinkle, Bondurant, Cox & EatonOrdeAttorneys at LawApplPost Office Box 10ATLARoswell, New Mexico 88201ATLA

Re: Case No. 4505, 4506, 4507 Order No. R-4112, R-4113, R-4114 Applicant:

-

ATLANTIC RICHFIELD COMPANY

Dear Sir:

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

Very truly yours, orler, C a.L.

A. L. PORTER, Jr. Secretary-Director

ALP/ir

A COMPANY OF THE OWNER OF THE OWN

Copy of order also sent to:

Hobbs OCC X

Artesia OCC

Aztec OCC_____

Other State Engineer Office - Santa Fe

(R-4112 -Bureau of Land Management - Santa Fe)

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

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

> CASE No. 4505 Order No. R-4112

APPLICATION OF ATLANTIC RICHFIELD COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE CONMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 24, 1971, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 4th day of March, 1971, the Commission, a quorum being present, having considered the testimony, traceord, 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, Atlantic Richfield Company, is the owner and operator of the Federal Well No. 2, located in Unit N of Section 9, Township 20 South, Range 33 East, NMPM, West Teas Yates-Seven Rivers Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Yates-Seven Rivers formation, with injection into the perforated interval from approximately 2980 feet to 3350 feet.

(4) That the injection should be accomplished through
2 3/8-inch tubing installed in a packer set at approximately
2950 feet; that the casing-tubing annulus should be filled
with an inert fluid; and that a pressure gauge should be

-2-CASE No. 4505 Order No. R-4112

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

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to utilize its Federal Well No. 2, located in Unit N of Section 9, Township 20 South, Range 33 East, NMPN, West Teas Yates-Seven Rivers Pool, Lea County, New Mexico, to dispose of produced salt water into the Yates-Seven Rivers formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 2950 feet, with injection into the perforated interval from approximately 2980 feet to 3350 feet;

PROVIDED HOWEVER, 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

BRUCE KING, Chairman

ABMIJO, Mealper

A. L. PORTER, Jr. Member & Socretary

Cure4505 Herend 2-24-7/ Kee 2-26-7/ Grant allenter permiss & convert their Did Sea 6015 # 2, N-9-2-0-30-West Fear- yater S.R. to a Sup well. Sujeder shall be Thu unlined 278 "tubing, under a packer to be attat approx. 2950 + into joho Zalex S.P. often perfe. from 2880-3196. emulus to be filled u/ ment. flind. My egoingo at surface.

Examiner Hearing - February 24, 1971 -2-

- 3. A 480-acre mon-standard gas promation unit comprising the W/2 and the NE/4 of Section 13, Township 23 South, Range 36 East, to be dedicated to levas Pacific State "A" Account 1 Wells Nos. 20,21, and 12
- 4. A standard 640-acre gas proration unit comprising all of Section 11, Township 22 South, Range 36 East, to be dedicated to Texas Pacific State "A" Account 2 Wells Nos. 14, 36, and 42.
- 5. A 480-agree non-standard gas proration unit comprising the E/2 of Section 8, and the SW/4 of Section 9, Township 22 South, Range 36 East, to be dedicated to Texas Pacific State "A" Account 2 Wells Nos. 38, 43 and 56.

Application of Humble Oil & Refining Company for the reinstatement of cancelled underproduction, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the general rules and regulations for prorated gas pools of Southeastern New Mexico promulgated by Order No. R-1670, as amended, to permit the reinstatement of underproduction accumulated by its Greenwood Well No. 11 located in Unit I of Section 9 and its Penrose Well No. 1 located in Unit B of Section 13, Township 22 South, Range 37 East, Blinebry Gas Pool, Lea County, New Mexico, and cancelled January 1, 1971.

CASE 4505: Application of Atlantic Richfield Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates-Seven Rivers formation in the perforated interval from 2978 feet to 3350 feet in its Federal Well No. 2 located in Unit N of Section 9, Township 20 South, Range 33 East, West Teas Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 4506: Application of Atlantic Richfield Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pennsylvanian formation in the perforated interval from 10,278 feet to 10,442 feet in its Eidson "C" WN Well No. 3 located in Unit F of Section 26, Township 16 South, Range 35 East, Shoe Bar-Ponnsylvanian Pool, Lea County, New Mexico.

CASE 4507: Application of Atlantic Richfield Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated interval from 13,690 feet to 13,726 feet in ics Lea State 396 Well No. 3 located in Unit G of Section 35, Township 15 South, Range 36 East, Dean-Devonian Pool, Lea County, New Mexico.

CASE 4502: Application of Samedan Oil Corporation for special pool rules and pool extension, lea County, New Mexico. Applicant, in the abovestyled cause, seeks the promulgation of special pool rules for the East Morton-Wolfcamp-Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units. Applicant further seeks extension of the horizontal boundaries of said pool to include the fellowing.

CASE 4504:

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FXHIBIT NO.

	WEST TEAS FIELD DECEMBE	ER 1970			
OPERATOR	LEASE AND WELL	LOCATION	MONTHLY OIL	MONTHLY WATER	•
Atlantic Richfield Co.	Lea 6015 Fed. No. 2	N-9-20-33	0	54	
	Lea 886 St. No. 1	F-16-20-33	145	10,315 · G	5
	Lea 886 St. No. 2	B-16-20-33	83	1,452	/
	Lea 886 St. No. 3	E-16-20-33	1,182	11,631	
		Company Total	1,410	23,452	
Cities Service Oil Co.	State BF No. 1	G-16-20-33	1,552	1,901	•
	State BF No. 2	к-16-20-33	310	41	
		Company Total	1,862	4,942	`
Henson Oil Corp.	Atlantic State No. 1	C-16-20-33	203	0 (۲
Charles B. Read	Snyder No. 1	J-16-20-33	681	5,735	
Pool Total			4,156	34,129	

DEFORE EXAMINER 1 TT AND COMM EXHIBIT NO. 4 and and a second and a second s

ATLANTIC RICHFIELD COMPANY WEST TEAS FIELD PRODUCTION DATA

HALLIBURTON DIVISION LABORATORY HALLIBURTON COMPANY MIDLAND DIVISION

1343-A

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To <u>Atlantic Richfield</u> Box 1710		۲	8/3/70 y of Halliburton Company and neith	
Hobbs, New Mexico		in nor any point interest nor a copy mereat is to be pounded		
Submitted by Mr. Jerry		•		
Well No. Disposal 6015 No	. 1_Depth	Formation.		
CountyLea	Field <u>West_Te</u>	as S.W.D.S. Source	Well Head	
Resistivity	• 574 @ 84 F			
Specific Gravity	1.006	······ ························		
рН	6.6	· · ·		
Calcium (Ca)	900			
Magnesium (Mg)	300			
Chlorides (Cl)	5,500			
Sulfates (SO ₄)	2,700		·	
Bicarbonates (HCO₃)	33?	· · · · · · · · · · · · · · · · · · ·	·	
Soluble Iron (Fe)				
·····				
Remarks:		XAMINER UTZ	*Milligrams per liter	
•		HOIT NO. 5		
	Respectful	ly cubmitted,	 	
Analyst. Robert Lansford		HALLIBURTON	COMPANY	
CC:		By Kalist Dryskow	CHEANSI	

EXHIBIT NO.

1343-A	HALLIBURTON DIVISIO HALLIBURTON C MIDLAND DIV	OMPANY Ł	CXHIBIT NO		
	LABORATORY WATE	ER ANALYSIS N	0, <u>W1=272=70</u>		
To Atlantic Richfie	ald Company	Date	8/3/70		
	<u>:0 88240</u>	it nor any part thereof n ar disclosed without first of laboratory manageme course of regular business	This report is the property of Halliburtan Company and neither it nor any part thereaf nor a copy thereaf is to be published ar disclosed without first securing the express written apprava of laboratory management; it may however, be used in the course of regular business operations by any person or concerr and employees thereaf receiving such report from Halliburtor Company.		
Submitted byMr.	Jerry Guy	Date Rec	8/3/70		
Well No. State Lea 886	# 1Depth	Formation_	Yates		
County Lea	Field West Teas	Source	Well Head		
Resistivity	.612 @ 84 F		<u></u>		
Specific Gravity	1.006				
рН	6.5	·			
Calcium (Ca)	800		*MPL		
Magnesium (Mg)		·			
Chlorides (Cl)	5,500				
Sulfates (SO ₄)	2,200				
Bicarbonates (HCO ₃)	33?		· · ·		
Soluble Iron (Fe)	Nil		۲		
••••••					
••••••					
Remarks:	POTORE-IMA) Source Dates Source BX: BEA	MINED UTZ M COLLECTION MC. 6	*Milligrams per liter		

Respectfully submitted,

Analyst: Robert Lansford HALLIBURTON COMPANY cc:

Бy D.VISIO! CHEMIST

This report is limited to the described sample tested. Any user of this report agrees that Halliburton shall not be liable for any loss or damage, whether it be to act or omission, resulting from such report or its use.

EXHIBIT NO

January 20, 1971

Hanson Oil Corporation P. O. Box 1515 Roswell, New Mexico 88201

Attention: Mr. Ernest A. Hanson

Gentlemen:

Atlantic Richfield Company has made application to the New Mexico Oil Conservation Commission to convert the Lea 6015 ARC Federal No. 2 well, located in Unit N, Section 9, T20S-R33E, to salt water disposal use.

Attached is a plat of the area, a diagrammatic sketch of the well, and a Commission Form C-108, which gives details of this request. As shown, we plan to dispose of produced water from the West Teas Pool into this well in the interval of approximately 2,978 feet to 3,350 feet, which is the Yates and Seven Rivers formation. We plan to use this well in conjunction with the Lea 6015 ARC Well No. 1, which is presently being used for salt water disposal.

As an offset operator, we ask your waiver of objection to this proposal. If you have no objection, please sign one copy of this letter and return it to P. O. Box 1978, Roswell, New Mexico 88201.

Very truly yours,

signed ; E. M. PRINGLE B. M. Pringle

EMP:rhs Attechs.

We have no objection to the above proposal.

OIL CORPORATION TANSON BY. Date

PECODE	TNA MANDO	n na na na managan Filipi nay
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OIL COM		MORES
·	<u>.</u>	
CASE NO.	4505	
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CLARENCE E. HINKLE W. E. BONDURANT, JR. LEWIS C. COX, JR. PAUL W. EATON, JR. COMRAD E. COFFIELD HAROLD L. HENSLEY, JR. STUART O. SHANOR C. D. MARTIN PAUL J. KELLY, JR.

LAW OFFICES HINKLE, BONDURANT, COX & EATON

600 HINKLE BUILDING POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

January 20, 1971

MIQLAND, TEXAS OFFICE 521 MIDLAND TOWER (915) MU 3-4891

TELEPHONE (505 822-8510

(nac 4505

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Oil Conservation Commission Box 2088 Santa Fe, New Mexico 87501

Gentlemen:

We enclose herewith, in triplicate, application of Atlantic Richfield Company for conversion of one of its wells in the West Teas Pool to a salt water disposal well.

We would appreciate your placing this matter on the docket for the next examiner's hearing.

Yours very truly,

HINKLE, BONDURANT, COX & EATON

By Clarence E. Kinkle

CEH:cs Enc. cc: Marvin Pringle cc: Phil Tomlinson

DESCRIPTION STREED

Derie 2-11-21

BEFORE THE OIL CONSERVATION COMMISSION

Car 4505

STATE OF NEW MEXICO

APPLICATION OF ATLANTIC RICHFIELD COMPANY FOR CONVERSION OF ITS FEDERAL NO. 2 WELL LOCATED IN UNIT N, 1980 FEET FROM THE WEST LINE AND 330 FEET FROM THE SOUTH LINE OF SECTION 9, TOWNSHIP 20 SOUTH, RANGE 33 EAST, LEA COUNTY TO A SALT WATER DISPOSAL WELL FOR DISPOSAL THROUGH PERFORATIONS FROM 2978 FEET TO 3350 FEET IN THE YATES-SEVEN RIVERS FOR-' MATION.

Oil Conservation Commission Box 2088 Santa Fe, New Mexico 87501

Comes Atlantic Richfield Company, acting by and through the undersigned attorneys, and hereby makes application for conversion of its Federal No. 2 well located in Unit N, 1980 feet from the west <u>line and 330 feet from the south line of Section 9. Township 20 South</u>, <u>Range 33 East, Lea County to a salt water disposal well for disposal</u> through perforations from <u>2978 feet to 3350 feet in the Yates-Seven</u> Rivers formation, and in support thereof respectfully shows:

1. That applicant is the owner of the following wells producing from the West Teas Pool, all being located in Section 16, Township 20 South, Range 33 East:

State No. 1 located in Unit F; State No. 2 located in Unit B; State No. 3 located in Unit E.

Applicant is also the owner of Federal No. 1 well located in Unit O, Section 9, Township 20 South, Range 33 East which was converted to a salt water disposal well under Order R-3588 of the Commission dated November 26, 1968 and under Order R-3588-A entered on October 27, 1970 Order R-3588 was amended to permit disposal of produced salt water into the Yates-Seven Rivers formation through perforations from approximately 3054 feet to 3214 feet. 2. Applicant is also the owner of Federal No. 2 well located in Unit N of Section 9, Township 20 South, Range 33 East which well was completed in the Yates-Seven Rivers formation and is now depleted. Applicant is desirous of converting said well to supplement the disposal of produced salt water from the wells hereinabove referred to which are still operated by applicant in the West Teas Pool. There is filed herewith a log of said well and also a diagrammatic sketch attached hereto as Exhibit "A" showing all casing strings including diameters and setting depths, quantities used and tops of cement, perforated intervals, tubing strings including diameters and location of packer.

3. There is attached hereto as Exhibit "B" a plat showing the location of the proposed injection well and the location of all other wells within a radius of 2 miles from the proposed in jection well, together with the structural condition of the West Teas Pool contoured on top of the Yates formation. The plat also indicates the lease owners within a radius of 2 miles of the proposed injection well.

4. Applicant requests that this matter be included on the next examiner's docket.

Respectfully submitted,

ATLANTIC RICHFIELD COMPANY

<u>Member of the Firm of</u> HINKLE, BONDURANT, COX & EATON By CA

Attorneys for Applicant Box 10 Roswell, New Mexico 88201



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TEAS BONE SPRINGS EXHIBIT "B"					West Teas Field		
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		S SEVEN RIVERS	S WESI		CONTOURS ON TOP OF YATES FORM.		

-2-CASE No. 4505

approximately **2.750** feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus or the annulus left open at the surface in order to determine leakage in the casing, tubing, or packer.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, <u>Atlantic Richfield Company</u>, is hereby authorized to utilize its <u>Federal Well No. 2</u>, located in Unit <u>N</u> of Section <u>9</u>, Township <u>20</u> <u>South</u>, Range <u>33</u> <u>East</u>, NMPM, <u>West Teas Yates-Seven Rivers Pool</u> <u>Lea</u> County, New Mexico, to dispose of produced salt water into the <u>Yates-Seven Rivers</u> formation, injection to be accomplished through <u>23/17</u>-inch tubing installed in a packer set at approximately <u>2950</u> feet, with injection into the <u>perforated</u> interval <u>2978</u> feet to <u>3350</u> 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.

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

CASE No. 4505

64

Order No. R-4//2

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

APPLICATION OF ATLANTIC RICHFIELD COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on <u>February 24</u>, 1971, at Santa Fe, New Mexico, before Examiner <u>Elvis A. Utz</u>.

NOW, on this _____ day of _____, 1971, the Commission, a guorum 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, <u>Atlantic Richfield Company</u> is the owner and operator of the <u>Federal Well No. 2</u> located in Unit <u>N</u> of Section <u>9</u>, Township <u>20</u> South, Range <u>33 East</u>, NMPM, West Teas Yates-Seven Rivers Pool <u>Lea</u> County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the <u>Yates-Seven Rivers</u> formation, with injection into the <u>perforated</u> interval from approximately <u>2978</u> feet to <u>3350</u> feet.

(4) That the injection should be accomplished through **23/8**-inch plastic-lined tubing installed is a packer set at