

CASE 4422: Appli. of ATLANTIC
RICHFIELD FOR AN AMENDMENT OF
ORDER R-3588, LEA COUNTY, N. MEX.

Case Number

44/22

Application
Transcripts.

Small Exhibits

ETC.

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 30, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Atlantic Richfield)
Company for amendment of Order No.) Case No. 4422
R-3538, Lea County, New Mexico.)

BEFORE: Daniel S. Kutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case Number 4422.

MR. HATCH: Case 4422. Application of Atlantic Richfield Company for amendment of Order No. R-3588, Lea County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, Cox and Eaton, appearing on behalf of Atlantic Richfield Company. We have one witness and several exhibits.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 12 were marked for identification.)

E. M. PRINGLE

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

DIRECT EXAMINATION

BY MR. HINKLE:

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

A E. M. Pringle, reside in Roswell, New Mexico, and employed as senior engineer by Atlantic Richfield Company.

Q Have you previously testified before the Conservation Commission?

A Yes, I have.

Q Are your qualifications as a petroleum engineer a matter of record with the Commission?

A Yes, they are.

Q Are you familiar with the application which has been filed by Atlantic Richfield in this case?

A I am.

Q What is Atlantic Richfield seeking to accomplish by the application?

A We seek amendment of Order R-3588, which permitted injection of produced salt water into the Yates and Seven Rivers Formations.

We now seek to add perforations above the existing perforations in the Atlantic Richfield Lea 6015 Well Number One, located in Unit O, Section 9, Township 20 South, Range 33 East, the West Teas Pool. These perforations which are proposed are approximately 3054 to 3090 feet through the five-inch liner.

This is another zone in the disposal well which we think contains characteristics sufficient to allow greater disposal of produced water from the wells served by this disposal well in the West Teas Pool.

Q Are you familiar with Order R-3588 under which this well was authorized to be used as an injection well?

A Yes, I am.

Q Who obtained that order originally?

A Sinclair Oil and Gas Company at the time was the owner of this well. Through the merger of Atlantic Richfield and Sinclair in 1969, Atlantic Richfield is now the operator of this well.

The original order allowed disposal of salt water through the interval of approximately 3110 feet to 3300 feet.

Q Have you prepared, or has there been prepared under your direction, certain exhibits for introduction?

A Yes, I have.

Q Refer to Exhibit 1 and explain what that is and what it shows.

A Exhibit 1 is a plat of the West Teas Pool. It shows the leases and wells within two miles of the Lea 6015 Number One salt water disposal well.

The disposal well is shown by a yellow triangle on the plat. The west and south offsets to the disposal well are Atlantic Richfield Company Wells. The southwest diagonal is a well owned by Hansen Oil Company. Shown on the plat by colors are the zones from which the wells are producing or have produced.

Cross section locations running north-south and east-west are shown. Structural contours on the top of the

Yates are shown. The structural contours merely show that the three pools in the area being Salt Lake, West Teas and Teas produce from small anti-clines. There are three holes in between these three fields.

Q Of the nine wells which are shown, producing wells, how many are owned by Atlantic Richfield in the West Teas Pool?

A Four are owned by Atlantic Richfield, two are owned by Cities Service, one by Hansen Oil Company and one by Charles B. Reed.

Q Okay. Refer to Exhibit 2 and explain that.

A Exhibit 2 is diagrammatic sketch of the salt water disposal well. This sketch shows the casings with the setting depths and cement used along with the tubing and proposed setting depth.

The present tubing in the well is internally coated with plastic. The tubing -- pardon me, the packer depth, which we propose is shown. Existing perforations are from 3110 feet to 3214 feet and the proposed perforations of approximately 3054 feet to 3090 feet through the five-inch liner are shown.

Incidentally, this is essentially the last zone in the well that remains to be perforated.

Q In advertising the case for 4422, it's indicated that you would dispose of water through perforations and open hole. Is that the case?

A To the best of my knowledge there is no open hole in this well. The five-inch liner which runs from 2974 feet to 3300 feet was set in April, 1960.

Q So, all you are seeking to do is to perforate it from 3054 to 3090?

A That is correct.

Q Okay. Refer to Exhibit 3 and explain that.

A Exhibit 3 is a sonic log over the portion of the hole of Lea 6015 Number One salt water disposal well into which we propose to add additional perforations.

Q Refer to Exhibit 4 and explain that.

A Exhibit 4 is a completed Form C108. This was filed when Atlantic Richfield requested administrative approval to add the proposed perforations in the disposal well.

This is an application to dispose of salt water into a porous formation. The application for administrative approval was set down for hearing by the Commission. This form states that we plan to dispose of approximately 750 barrels of water a day to a maximum of approximately 1300

barrels of water a day at a pressure in the order of 2200 pounds.

It also states that water analyses are attached and states the name and addresses of the surface owner and lessees surrounding this well.

Q Now, refer to Exhibit 5 and explain that.

A Exhibit 5 --

Q Five and 6 together.

A Exhibit 5 is a water analysis of produced water being from the Lea 6 -- excuse me, Lea 886 Number One producing well in the West Teas Pool. It shows that the water contains chlorides of approximately 5500 parts per million.

The disposed water analysis is shown on Exhibit 6. This is from the existing salt water disposal system. This water is essentially identical to the produced water as that is what is being disposed of.

Q Now, refer to Exhibit 7 and explain that.

A Exhibit 7 is a tabulation of pool production. This exhibit shows the name and location of all producing wells in the West Teas Pool. It shows oil and water production for the month of June, 1970.

Q Is this the last month that the information was available?

A At the time that these exhibits were prepared, this was the last month that was available. This exhibit does show that the pool is producing 178 barrels of oil per day with 81 barrels of oil per day from Atlantic Richfield Company leases, 50 barrels of oil a day from Cities Service Leases, 5 barrels of oil per day from the Hansen Leases and 42 barrels of oil per day from the Charles Reed Lease.

The pool water production is 2118 barrels of water per day and in the month of June the water disposed of from the Cities Service Leases and Atlantic Leases were -- excuse me, was 560 barrels of water per day.

Q A total of 63,552.

A That's correct.

Q Okay. Refer to Exhibit 8 and explain that.

A Exhibit 8 is an east-west cross section; contains 7 logs running from Salt Lake Field through the West Teas Pool and two Teas. It is hung on the datum of plus 500 feet.

Marked on this cross section in red is the disposal interval that we propose to add in the Lea 6015 Number One. The cross section merely shows the continuity of the zones and substantiates the structural configuration in the

area. The individual well logs are marked to show the completion interval on the left side of the center of the logs.

Q Is the zone which you have colored in red the productive zone?

A As shown on the logs it is not open in any of the wells on this cross section. I have investigated all of the wells in the area and I do not find that it has ever been tested separately nor is it produced in any well at least within two miles of the disposal well.

On this exhibit, two West Teas producers are shown along with the salt water disposal well.

Q What is the character of this formation you propose to inject into?

A This is the Yates Formation and it is a dolomitic sand reservoir.

Q Do you think it will take water?

A This being the last interval that we can add in the disposal well, it is necessary that we try it. The characteristics of this zone are somewhat poor. I think this is demonstrated by the fact that no one has ever tested it and there's essentially no shows in this particular stringer.

We do have as later exhibits some core analyses

to show the characteristic of the zone.

Q Injection into this zone if it does take the water would permit you to increase your production, would it not?

A Yes, it would. At the present time there are several wells in the field which have high fluid levels. We are unable to produce them at their maximum rate because we are unable to dispose of anymore water than is indicated by the production at the present time.

Q Now, refer to Exhibit Number 9.

A Exhibit Number 9 is a north-south cross section. This shows the same information as on the east-west cross section.

It runs through four West Teas producers. This also shows that none of the wells are completed in the interval requested to be added in the salt water disposal well.

Q Now, refer to Exhibit 10 and explain that to the Commission.

A Exhibit 10, 10-A, 10-B and 10-C are somewhat of a group. On the cross sections thus far we have 7 of the wells in West Teas Pool.

These other logs are merely presented to show

the remaining producers that are not on the cross section. Exhibit 10 is a log of the Charles B. Reed, Snider Number One Well located in Section 16. Shown on this log on the right side of the center, as is shown on all of the logs, is the zone that we request to add in the salt water disposal well. This well produces open hole below 3200 feet and is not open in the zone that we request to add.

Exhibit 10-A is a log of the Atlantic Richfield Company Lea 886 Number Two. It shows the same information as Exhibit 10.

Exhibit 10-B is a log of the Atlantic Richfield Company 6019 Number Two, showing the same information.

Exhibit 10-C is a log of the Cities Service Company State BF Number One, again containing the same information.

These exhibits do show that none of the wells are completed in the zone proposed to be added in the salt water disposal well.

Q Now, refer to Exhibits 11 and 12.

A Exhibit Number 11 is a core analysis of the Cities Service State BF Number One. The core analysis shown runs from 3040 feet to 3055.5 feet. This covers the interval that we propose to add in the salt water disposal well.

The average of determinations from these core analyses shows 6.1 percent porosity, 2.4 millidarcies of permeability, 6.4 percent oil saturation and 76.1 percent water saturation.

Exhibit Number 12 is a core analysis from the Atlantic Richfield Company Lea 6019 Number 2. This well is presently abandoned. This core analysis runs from 3033 feet to 3501 feet. It covers the zone proposed to be added in the salt water disposal well.

The average determinations from this core is 9.8 percent porosity, 10 percent oil saturation, 71.3 percent water saturation. As shown on this Exhibit 12, the interval directly above and below the zone to be added in the salt water disposal well is described as being dense with no shows.

Q Now, from your study of the West Teas Pool and the information which you have given to the Commission here, in your opinion would there be any adverse affect or would it affect correlative rights in any way by the injection of water into this new zone?

A We cannot foresee any adverse affects in that there are no wells producing from this zone. To the best of my knowledge there are no separate tests of the zone or

no significant shows of oil in it.

The cores indicate it to be essentially water bearing. In fact, there might be some beneficial purpose in adding this zone in that it would allow for additional disposal of water and additional production from the wells served by this disposal well and would perhaps protect correlative rights.

Q You have not been disposing of any water in surface pits, have you?

A No, sir, we have not.

MR. HINKLE: We would like to offer in evidence Exhibits 1 through 12.

MR. NUTTER: Atlantic's Exhibits 1 through 12 will be admitted in evidence.

MR. HINKLE: Do you have anything else?

THE WITNESS: No, sir.

MR. HINKLE: That's all we have.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Pringle, on these two cross sections you have indicated the zone which is to be added to the disposal. You mentioned that none of these wells that are on the cross sections are producing from that zone.

However, the zone which you are disposing at the present time is open in all these wells that are producing, isn't it?

A Yes, it is. The perforations existing in the Lea 6015 Number One as shown on Exhibit 8 are marked on the left side of the center of the log and they are within the Yates Seven Rivers Formation which produces in the West Teas Pool.

Q Has there been any indication to date that disposal into this zone has affected the production from any of the offsetting wells?

A We don't have any definite indication that there has been affect. The wells in West Teas Pools produce a substantial amount of water naturally.

They did prior to injection. Perhaps it's difficult to evaluate any affect of injection or disposal into these zones. For instance, this is matched by the natural production of water shown on Exhibit 7 as an example from the Charles B. Reed Well.

This well produced according to the June information 46,760 barrels of water and since the water that we are disposing of is exactly the produced water, it would be difficult to tell if there was any production of disposed

water.

Q Now, on your Exhibit 7 this 6015 Number Two --

A Yes, sir.

Q -- which produces 539 barrels of water per month would be the well on Exhibit 1, which is directly west of the disposal well, I believe, wouldn't it?

A Yes, it would.

Q Now, which well would be the one immediately south of the disposal well?

A That's the Lea 886 Well Number Two.

Q And it makes a pretty sizeable amount of water.

A It made 773 barrels of water during the month which is approximately 25 barrels of water a day.

Q Oh, I was looking at the wrong one. I was looking at the Number One there.

A Yes, sir. The Number One Well is located in the "F" location in Section 16.

Q That's two locations away from the disposal well, isn't it?

A Yes, sir. It is separated from the disposal well by the Hansen Well. The Hansen Well produced 164 barrels of oil and no water during the month of June.

I should state that water production in this

field varies from month to month. I present this as being the latest that we had available at the time. However, the water production is obtained, of course, on a test and this is allocated on the basis of the total water-oil ratio and the oil run for a month and it will vary substantially.

For instance, I really doubt that Mr. Reed is producing 46,000 barrels of water. I think it is substantial but, perhaps, is not that much.

Q I see.

MR. NUTTER: Are there any further questions of Mr. Pringle? He may be excused.

Do you have anything further, Mr. Hinkle?

MR. HINKLE: That's all.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 4422?

MR. MOTTER: Mr. Examiner, Dean Motter with Cities Service. We have an interest, of course, in the salt water disposal system. We concur in the application and urge you to approve the application.

MR. NUTTER: Thank you. Is there anything further? We will take the case under advisement.

I N D E X

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Blenda Burks
Court Reporter

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Executive Hearing of the No. 4422
Filed by me on 9/30, 1970.
[Signature] Secretary
App. Mexico Oil Conservation Commission

dearnley-meier reporting service, inc.

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

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



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
State Land Office Building
Santa Fe, New Mexico
September 2, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Atlantic Richfield
Company for amendment of Order No.
R-3588, Lea County, New Mexico.

Case No. 4422

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. HATCH: Application of Atlantic Richfield Company for amendment of Order No. R-3588, Lea County, New Mexico. Applicant in the above styled cause, seeks the amendment of Order No. R-3588, which order authorized the disposal of produced salt water into the Yates and Seven Rivers formation in the perforated and open-hole interval from 3110 feet to 3300 feet in the Sinclair ARC Federal Well No. 1 located in Unit 0 of Section 9, Township 20 South, Range 33 East, West Teas Pool, Lea County, New Mexico. Applicant now seeks authority to dispose into said zones in the interval from 3010 feet to 3300 feet.

The applicant has requested that this case be continued to September 30, 1970.

MR. UTZ: 4422 will be continued to September 30th.

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

I, Peter A. Lumia, Court Reporter, do hereby certify
that the foregoing and attached Transcript of Hearing before
the New Mexico Oil Conservation Commission was reported by
me and that the same is a true and correct record of the
said proceedings, to the best of my knowledge, skill and
ability.

Peter A. Lumia
Peter A. Lumia, C.S.R.

I do hereby certify that the foregoing is
a complete record of the proceedings of
the hearing of Case No. 4422
heard by me on 9-2-79 at
Theresa R. [Signature]
New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

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

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

October 27, 1970

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

Re: Case No. 4422
Order No. R-3588-A
Applicant:
Atlantic Richfield Co.

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other State Engineer Office and Bureau of Land Management

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. 4422
Order No. R-3588-A

APPLICATION OF ATLANTIC RICHFIELD
COMPANY FOR AMENDMENT OF ORDER
NO. R-3588, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 30, 1970, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 27th day of October, 1970, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That by Order No. R-3588, dated November 26, 1968, the Commission authorized Sinclair Oil Corporation to utilize the Lease 6015 ARC Federal Well No. 1, located in Unit O of Section 9, Township 20 South, Range 33 East, NMPM, West Teas Pool, Lea County, New Mexico, to dispose of produced salt water into the Yates and Seven Rivers formations, with injection into the perforated and open-hole interval from approximately 3110 feet to 3300 feet.

(3) That the applicant, Atlantic Richfield Company, the present operator of the subject well, now seeks amendment of said Order No. R-3588 to permit disposal of produced salt water into said zones, with injection into the perforated interval from approximately 3054 feet to 3214 feet in lieu of the injection interval presently authorized by said Order No. R-3588.

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CASE No. 4422

Order No. R-3588-A

(4) 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 the Sinclair Lea 6015 ARC Federal Well No. 1, located in Unit O of Section 9, Township 20 South, Range 33 East, NMPM, West Teas Pool, Lea County, New Mexico, to dispose of produced salt water into the Yates and Seven Rivers formations, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3000 feet, with injection into the perforated interval from approximately 3054 feet to 3214 feet;

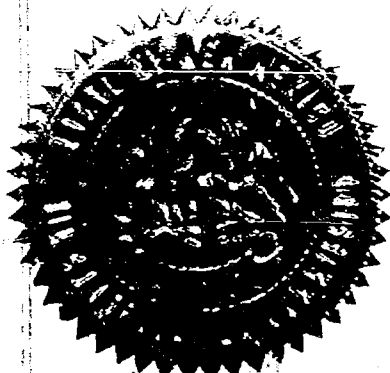
PROVIDED HOWEVER, that the tubing shall be plastic lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(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 Order No. R-3588, dated November 26, 1968, is hereby superseded.

(4) 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.



esr/

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX J. ARMISTEAD, Member

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

Docket No. 22-70

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 30, 1970

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 4416: (Continued from the September 16, 1970, Examiner Hearing)

Application of Robert L. Parker Trust for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a cooperative waterflood project in the Langlie Mattix Pool on its George L. Erwin Lease by the injection of water through its Erwin Well No. 2 located in Unit L of Section 35, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 4422: (Continued from the September 2, 1970, Examiner Hearing)

Application of Atlantic Richfield Company for amendment of Order No. R-3588, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3588, which order authorized the disposal of produced salt water into the Yates and Seven Rivers formation in the perforated and open-hole interval from 3110 feet to 3300 feet in the Sinclair ARC Federal Well No. 1 located in Unit O of Section 9, Township 20 South, Range 33 East, West Teas Pool, Lea County, New Mexico. Applicant now seeks authority to dispose into said zones in the interval from 3010 feet to 3300 feet.

CASE 4222: (Reopened)

In the matter of Case 4222 being reopened pursuant to the provisions of Order No. R-3850, which order established 80-acre spacing units for the West Sawyer-San Andres Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units and present evidence as to whether or not the subject pool is in fact an associated reservoir.

CASE 4429: Application of Union Texas Petroleum Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Langlie-Jal Unit Area comprising 3,748 acres, more or less, of federal, state, and fee lands in Townships 24 and 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4430: Application of Union Texas Petroleum Corporation of a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Langlie-Jal Unit by the injection of water into the Seven Rivers and Queen formations through 46 wells in Townships 24 and 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.

(Reopened)

CASE 4173: In the matter of Case 4173 being reopened pursuant to the provisions of Order No. R-3811-A, which order extended 80-acre spacing units and a limiting gas-oil ratio of 4000 cubic feet of gas per barrel of oil for the Hobbs-Drinkard Pool, Lea County, New Mexico, for a period of 90 days. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing, why the limiting gas-oil ratio should not revert to 2000 to one, and/or why all casing-head gas produced by wells in the pool should not be reinjected.

CASE 4420: (Continued and Readvertised)

Application of Xplor Company for the creation of a new gas pool and special rules therefor, a dual completion, and authority to commingle, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Pennsylvanian gas pool for its Cleveland Well No. 1 located in Unit G of Section 23, Township 12 South, Range 32 East, Lea County, New Mexico, and for the promulgation of special rules therefor, including a provision for 160-acre spacing units. In the alternative, applicant seeks approval of a non-standard 160-acre gas proration unit comprising the NE/4 of said Section 23 to be dedicated to said well. Applicant also seeks authority to dually complete said well in such a manner as to produce oil from the East Caprock-Devonian Pool and gas from said Pennsylvanian formation and to commingle on the surface the liquids from said zones.

CASE 4431: Application of William A. and Edward R. Hudson for unorthodox well locations and a dual completion, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to drill a well at an unorthodox location (off pattern) 660 feet from the South line and 1980 feet from the West line of Section 15, Township 17 South, Range 32 East, Lea County, New Mexico, for the production of oil from the Baish-Wolfcamp and Maljamar-Abo Pools and to dually complete said well in the subject pools.

CASE 4432: Application of MWJ production Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the rules governing the Baum-Upper Pennsylvanian Pool to permit the drilling of an oil well at an unorthodox location 2310 feet from the South line and 990 feet from the West line of Section 5, Township 14 South, Range 33 East, Lea County, New Mexico.

CASE 4433: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to permit Allied Chemical Corporation to appear and show cause why said corporation should be permitted to institute its proposed waterflood project in its Milnesand (San Andres) Unit Area, Milnesand-San Andres Pool, Roosevelt County, New Mexico, by the injection of fresh water; said corporation testified in the hearing that authorized said waterflood project that produced salt water be used for waterflooding purposes.

CASE 4423: (Continued from the September 2, 1970, Examiner Hearing)

Application of Union Oil Company of California for compulsory pooling, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the San Andres formation underlying the N/2 NE/4 of Section 20, Township 8 South, Range 38 East, Bluit-San Andres Associated Pool, Roosevelt County, New Mexico. Said acreage to be dedicated to a well to be drilled at an orthodox location in the NW/4 NE/4 of said Section 20. Also to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4434: Application of Union Oil Company of California for the creation of a new gas pool and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for its Pipeline Federal Well No. 1 located in Section 4, Township 19 South, Range 34 East, Lea County, New Mexico. Applicant further seeks the promulgation of special rules therefor, including a provision for 640-acre spacing and proration units and fixed well location requirements.

CASE 4435: Application of Blackrock Oil Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Mobil Atlantic Well No. 1 located in Unit D of Section 10, Township 9 South, Range 36 East, Lea County, New Mexico, in such a manner as to produce oil from the Pennsylvanian formation through tubing and to dispose of produced salt water into the San Andres formation from 4300 feet to 5045 feet and possibly other formations between the 8 5/8-inch casing shoe at 4153 feet and the top of the cement at 9205.

CLARENCE E. HINKLE
W. E. BONDURANT, JR.
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
STUART D. SHANOR
C. D. MARTIN
PAUL J. KELLY, JR.

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August 28, 1970

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31 AUG 31 11 AM '70



Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Re: Case No. 4422

Gentlemen:

The writer advised Mr. Dan Nutter by telephone that our client, Atlantic Richfield Company, would like to continue Case No. 4422, which is on the examiner's docket for September 2 until the next examiner's hearing which we understand will be held on September 30. The reason for the continuance is that one of the persons whom Atlantic Richfield would like to have testify with respect to this case will not be available on the 2nd.

Please consider this as a motion on behalf of Atlantic Richfield for continuance of said case to the next examiner's hearing.

Yours sincerely,

HINKLE, BONDURANT, COX & EATON

By 

CEH:cs

DOCKET MAILED
Date 9-18-70

Docket No. 20-70

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 2, 1970

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

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

- CASE 4415: Application of Depco, Inc. for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by injection into the Grayburg and San Andres formations through 6 wells located in Sections 27, 33 and 34, Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.
- CASE 4416: Application of Robert L. Parker Trust for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a cooperative waterflood project in the Langlie-Mattix Pool on its George L. Erwin Lease by the injection of water through its Erwin Well No. 2 located in Unit L of Section 35, Township 24 South, Range 37 East, Lea County, New Mexico.
- CASE 4417: Application of J. Cleo Thompson for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for the applicant's Evans Wells Nos. 9 and 12 located, respectively, in Units A and B of Section 33, Township 16 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico. Applicant seeks authority to dispose of water produced by said wells in unlined surface pits located in the vicinity of said wells.
- CASE 4418: Application of Texas Pacific Oil Company for amendment of Order No. R-3200, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3200, which order authorized the applicant to institute a waterflood project in the South Eunice Pool, Lea County, New Mexico, by the injection of water through six wells located in Sections 5, 8, and 9 of Township 22 South, Range 36 East. Applicant seeks authority to delete the six wells authorized in said Order R-3200 and substitute therefor six other wells located in said Sections 8 and 9.

September 2, 1970 - Examiner Hearing

-2-

Docket No. 20-70

CASE 4419: Application of Billings, Keyser and Kennedy for a non-standard gas proration unit, Eddy County, New Mexico. Applicant in the above-styled cause, seeks, in exception to Rule 104 B I, approval of a 320-acre non-standard gas proration unit comprising the NW/4 of Section 2 and Lots 1, 2 and 3 and the SE/4 NE/4 of Section 3, Township 22 South, Range 26 East, Eddy County, New Mexico, said unit to be dedicated to a wildcat gas well to be drilled in the NE/4 NE/4 of said Section 3.

CASE 4420: Application of Xplor Company for a dual completion, authority to gas-lift oil production, and to flare gas, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Cleveland Well No. 1 located in Unit G of Section 23, Township 12 South, Range 32 East, Lea County, New Mexico, in such a manner as to produce oil from the East Caprock-Devonian Pool through 2 3/8-inch tubing and gas from the Pennsylvanian formation within one mile of the East Caprock-Pennsylvanian Pool. Applicant further seeks authority to use a portion of said gas to gas-lift said oil production and to subsequently flare said gas in exception to Rule 404 of the Commission Rules and Regulations.

CASE 4421: Application of Phillips Petroleum Company for creation of a new oil pool, special pool rules therefor, and redesignation of the vertical limits of the Ranger Lake-Pennsylvanian Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of oil from the Bough section of the Pennsylvanian formation for its Phillips West Ranger Lake Unit Well No. 1 located in Unit C of Section 26, Township 12 South, Range 34 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre spacing and proration units, with vertical limits of said pool to be the interval from sub-sea datum -5671 feet to -6016 feet as found in said Well No. 1. Applicant further seeks the contraction of the vertical limits of the Ranger Lake-Pennsylvanian Pool to that interval from sub-sea datum -6080 feet to -6230 feet as found in its West Ranger Lake Unit Tract 2 Well No. 1 located in Unit P of Section 23, said township and range.

CASE 4422: Application of Atlantic Richfield Company for amendment of Order No. R-3588, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3588, which order authorized the disposal of produced salt water into the Yates and Seven Rivers formation in the perforated

September 2, 1970 - Examiner Hearing

Docket No. 20-70

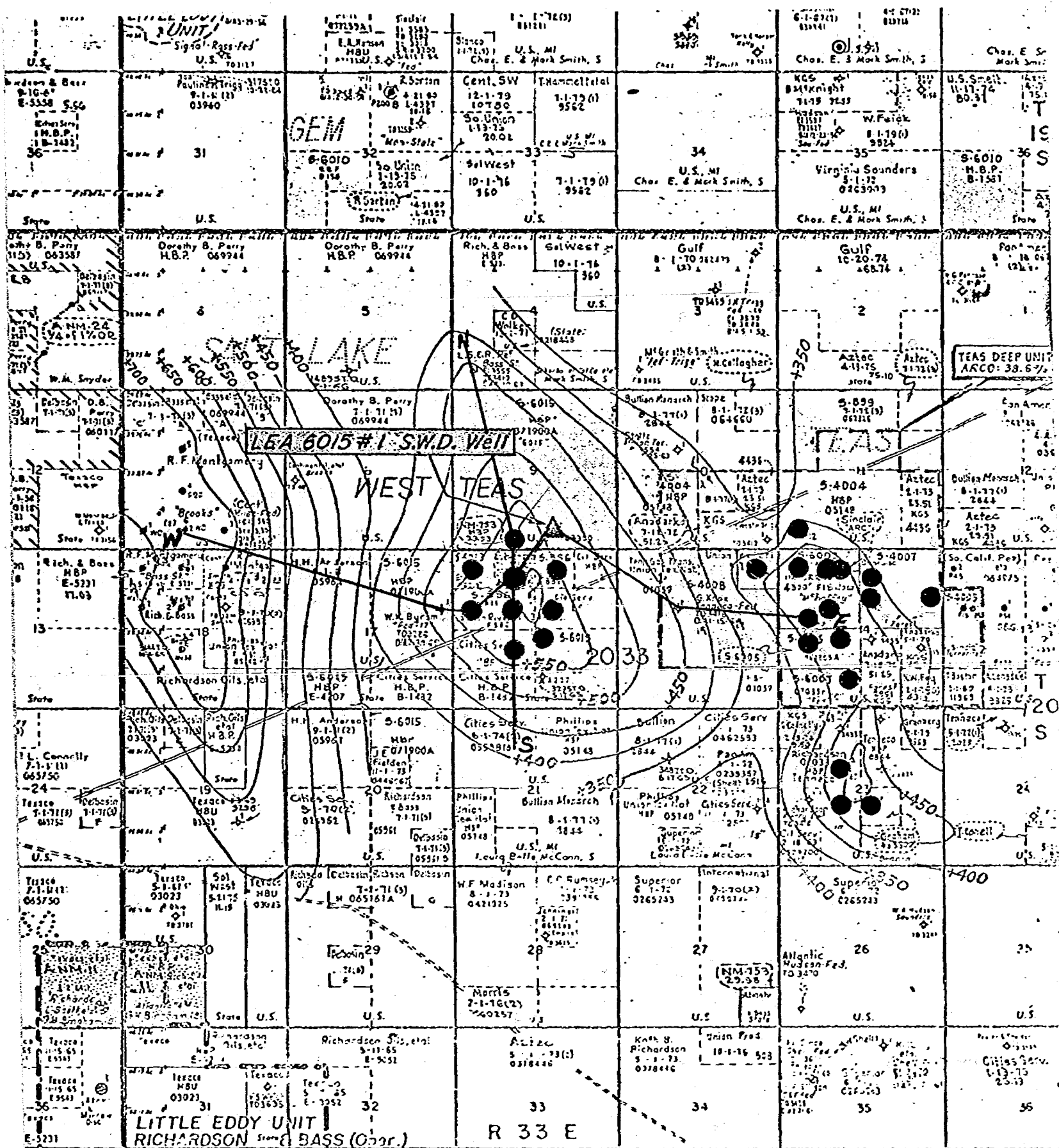
-3-

Case 4422 continued

and open-hole interval from 3110 feet to 3300 feet in the Sinclair ARC Federal Well No. 1 located in Unit O of Section 9, Township 20 South, Range 33 East, West Teas Pool, Lea County, New Mexico. Applicant now seeks authority to dispose into said zones in the interval from 3010 feet to 3300 feet.

CASE 4423: Application of Union Oil Company of California for compulsory pooling, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the San Andres formation underlying the N/2NE/4 of Section 20, Township 8 South, Range 38 East, Bluitt-San Andres Associated Pool, Roosevelt County, New Mexico. Said acreage to be dedicated to a well to be drilled at an orthodox location in the NW/4 NE/4 of said Section 20. Also to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

(Continued from the August 19, 1970 Examiner Hearing)
CASE 4410: Application of Major, Giebel & Forster for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Crosby-Devonian Pool, Lea County, New Mexico, said acreage to be dedicated to a well to be drilled in said quarter section. Also, to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.



LEGEND

- TEAS BONE SPRINGS
- TEAS YATES SEVEN RIVERS
- TEAS YATES SEVEN RIVERS WEST
- N—S Cross Section Location

ATLANTIC RICHFIELD COMPANY

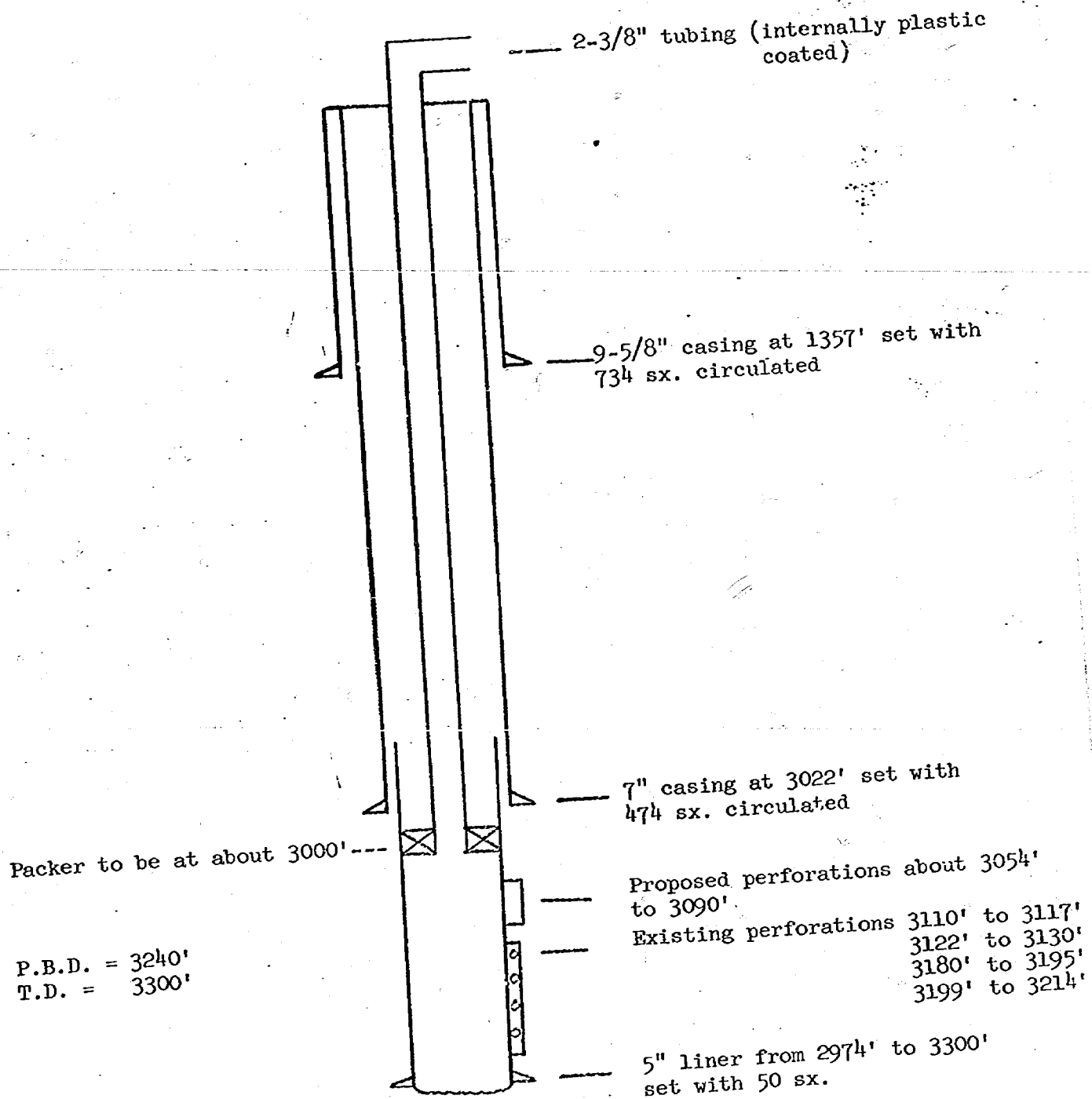
Plat. of 1

West Teas Field

Lea County, New Mexico

Contours on top of Yates formation

ATLANTIC RICHFIELD COMPANY
 Schematic Sketch of Salt Water Disposal Well
 Lea 6015 No. 1, Unit O, Sec. 9, T-20S-R-33-E
 West Teas Field, Lea County, New Mexico



BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 App. EXHIBIT NO. 2
 C 4422

EXHIBIT NO. 2

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

OPERATOR ATLANTIC RICHFIELD COMPANY		ADDRESS P. O. Box 1610, Midland, Texas	
LEASE NAME Lea 6015 ARC Federal	WELL NO. 1	FIELD West Teas	COUNTY Lea
LOCATION UNIT LETTER 0 WELL IS LOCATED 660 FEET FROM THE south LINE AND 1980 FEET FROM THE east LINE, SECTION 9 TOWNSHIP 20S RANGE 33E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	9-5/8"	1357'	734 sx.
INTERMEDIATE	7"	3022'	474 sx.
LONG STRING Liner	5"	3300'	50 sx.
TUBING	2-3/8"	approx. 3000'	NAME, MODEL AND DEPTH OF TUBING PACKER Tension packer at about 3000'
NAME OF PROPOSED INJECTION FORMATION Yates-Seven Rivers		TOP OF FORMATION 3000'	BOTTOM OF FORMATION T.D. in Seven Rivers
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations	PROPOSED INTERVAL(S) OF INJECTION 3010 to 3300' (T.D.)
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil - dry hole		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 1357'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None in well	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None in well
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 750	MINIMUM 1300	MAXIMUM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -		WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) W. M. Snyder Estate, Box 726, Lovington, New Mexico 88260		ARE WATER ANALYSES ATTACHED? Yes	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
Hanson Oil Company, Box 1515, Roswell, New Mexico 88201			
Cities Service Oil Company, Box 4906, Midland, Texas 79701			
Union Texas Petroleum, 1300 Wilco Building, Midland, Texas 79701			
BEFORE EXAMINER NUTTER			
OIL CONSERVATION COMMISSION			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)? Yes		ELECTRICAL LOG Yes	
		DIAGRAMMATIC SKETCH OF WELL Yes	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

District Engineer

(Signature)

(Title)

(Date)

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

Exhibit No. 4

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

EXHIBIT NO. 5LABORATORY WATER ANALYSIS No. W1-272-70To Atlantic Richfield CompanyDate 8/3/70Box 1710Hobbs, New Mexico 88240

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Mr. Jerry GuyDate Rec. 8/3/70Well No. State Lea 886 # 1 DepthFormation YatesCounty Lea Field West TeasSource Well HeadResistivity612 @ 84 FSpecific Gravity 1.006pH 6.5Calcium (Ca) 800 *MPLMagnesium (Mg) 360Chlorides (Cl) 5,500Sulfates (SO₄) 2,200Bicarbonates (HCO₃) 337Soluble Iron (Fe) Nil

.....

.....

.....

Remarks:

*Milligrams per liter

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
APP EXHIBIT NO. 5
CASE NO. 4x22

Respectfully submitted,

Analyst: Robert Lansford

cc:

HALLIBURTON COMPANY

By

DIVISION CHEMIST

NOTICE

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.

1342-A

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W1-273-70

To Atlantic Richfield Company

Date 8/3/70

Box 1710

Hobbs, New Mexico 88240

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Submitted by Mr. Jerry Guy

Date Rec. 8/3/70

Well No. Disposal

Depth

Formation

County Lea

Field

West Teas S.W.D.S.

Source

Well Head

Resistivity574 @ 84 F

Specific Gravity 1.006

pH 6.6

Calcium (Ca) 900

*MPL

Magnesium (Mg) 300

Chlorides (Cl) 5,500

Sulfates (SO₄) 2,700

Bicarbonates (HCO₃) 337

Soluble Iron (Fe) N11

Remarks:

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
App EXHIBIT NO. 6
CASE NO. 4422

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford
cc:

HALLIBURTON COMPANY

By Robert Lansford
DIVISION CHEMIST

NOTICE

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. 6

EXHIBIT NO. 7

ATLANTIC RICHFIELD COMPANY
WEST TEAS FIELD PRODUCTION DATA
JUNE 1970

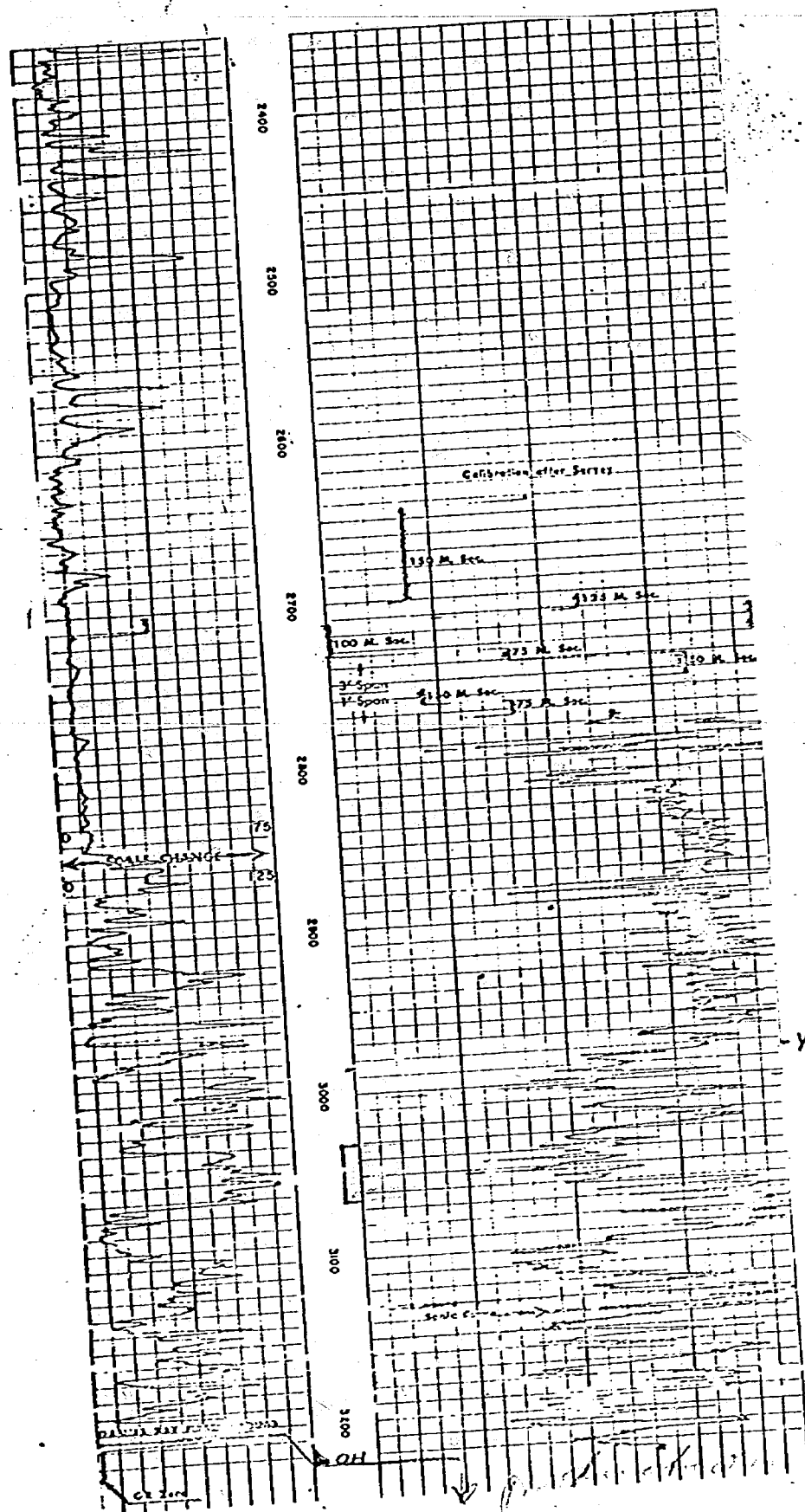
<u>OPERATOR</u>	<u>LEASE AND WELL</u>	<u>LOCATION</u>	<u>MONTHLY OIL</u>	<u>MONTHLY WATER</u>
Atlantic Richfield Co.	Lea 6015 Fed. No. 2	N-9-20-33	539	539
	Lea 886 St. No. 1	F-16-20-33	804	3,819
	Lea 886 St. No. 2	B-16-20-33	40	773
	Lea 886 St. No. 3	E-16-20-33	1,045	7,200
Cities Service Oil Co.	State BF No. 1	G-16-20-33	1,178	3,720
	State BF No. 2	K-16-20-33	311	41
Hanson Oil Corp.	Atlantic State No. 1	C-16-20-33	164	0
Charles B. Read	Snyder No. 1	J-16-20-33	1,262	46,760
Pool Total			5,343	63,552

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 7
CASE NO. 4422

ATLANTIC RICHFIELD COMPANY
 Log of Charles B. Read Snyder No. 1
 2310' FSL & 2310' FEL of Sec. 16, T20S-R33E

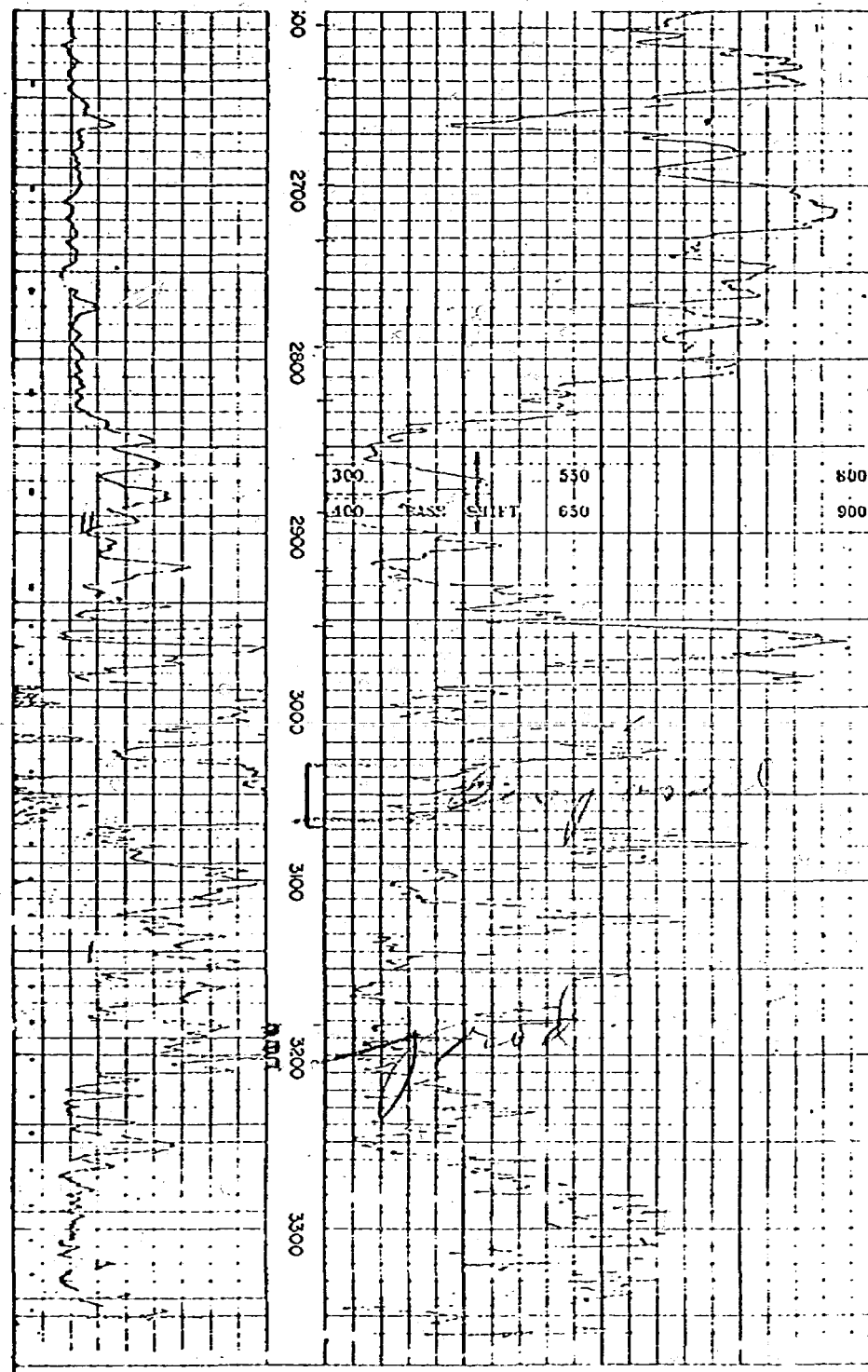
EXHIBIT NO. 10

BEFORE EXAMINER NUTTER
 OIL CONSERVATION COMMISSION
 App EXHIBIT NO. 10
 CASE NO. 4477

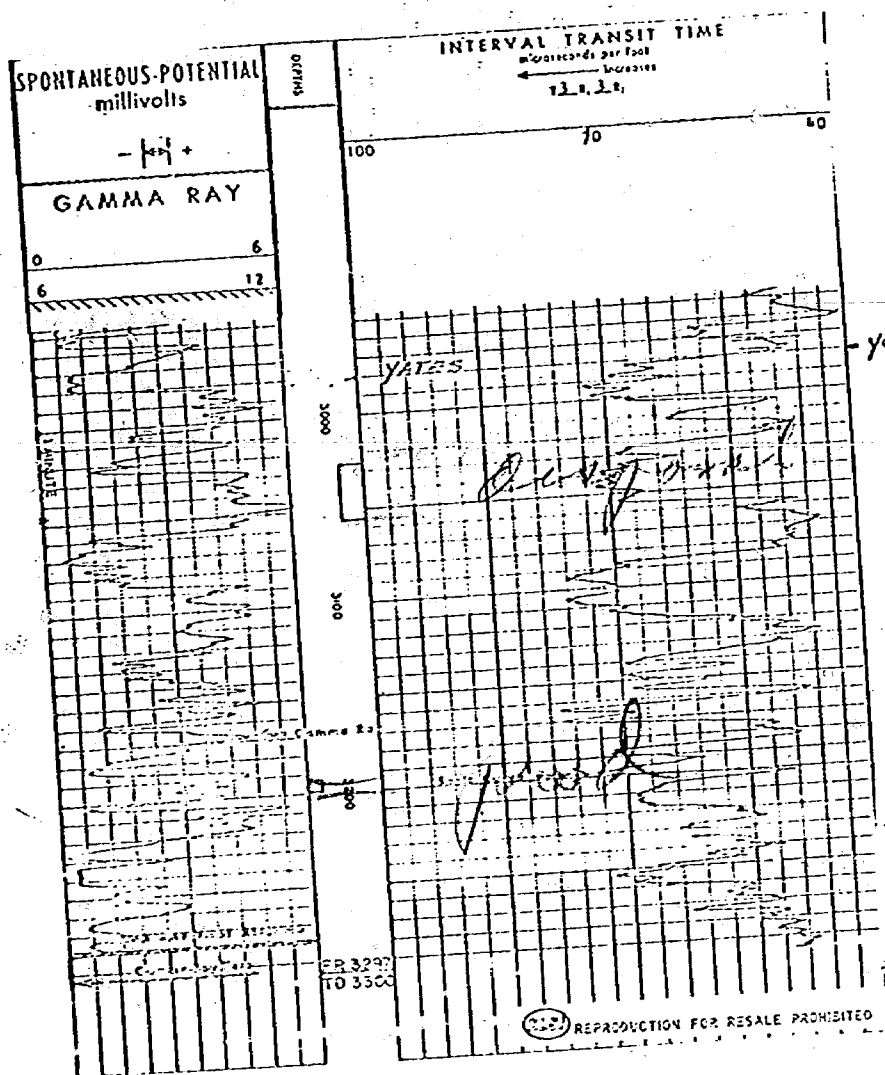


ATLANTIC RICHFIELD COMPANY
Atlantic Richfield Co. Lea 886 No. 2
660' FNL & 1980' FEL of Sec. 16, T20S-R33E

EXHIBIT NO. 10A

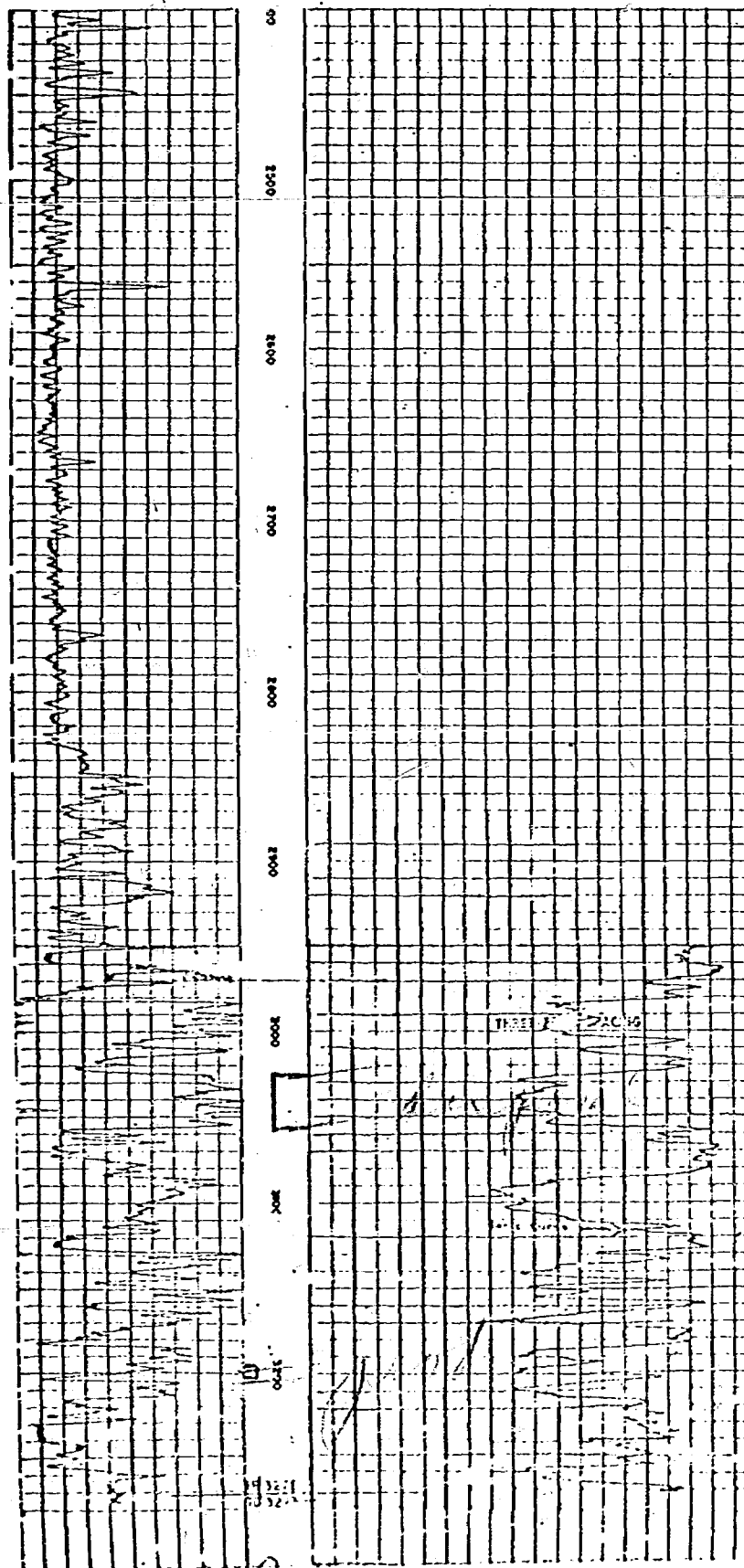


ATLANTIC RICHFIELD COMPANY
 Log of Atlantic Richfield Co. Lea 6019 No. 2
 660' FNL & 660' FWL of Sec. 16, T20S-R33E
 EXHIBIT NO. 103



ATLANTIC RICHFIELD COMPANY
Log of Cities Service Oil Co. State BF No. 1
1980' FNL & 1980' FEL of Sec. 16, T20S-R33E

EXHIBIT NO. 10C



Notes +565

RILEY G. MAXWELL COMPANY

Petroleum Geology and Engineering

CORE LABORATORY

EXHIBIT NO. 11

CASE NO. 4422

EXHIBIT NO. 11

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION

COMPANY Cities Service Oil Company
FEE State "R" WELL NO. 1
FIELD West Texas
LOCATION 1980' FN & EL of Sec. 16, T20S,
R33E
COUNTY Lea STATE New Mexico

SURFACE ELEV. 3511' GL 3542' DE
DRILLING FLUID Water Loss Mud
FORMATION Yates
TYPE OF CORE Diamond (3-1/2")
ANALYST J.H. W. SMITH
LAB. NO. H-254 DATE 5-13-60

These analyses are based upon accepted laboratory techniques. The opinions advanced represent our best judgment in interpretation of the results but no warranty is expressed or implied.

TABULAR PRESENTATION OF RESULTS

GRAPHICAL PRESENTATION OF RESULTS

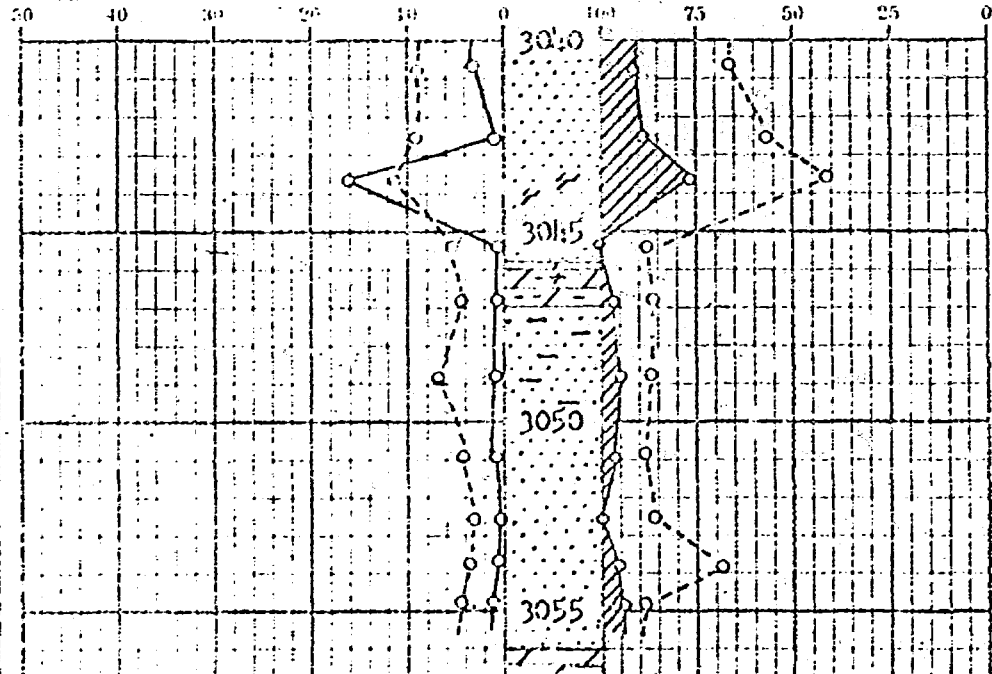
PERMEABILITY (millidarcys)
50 40 30 20 10 0

OIL CONTENT (percent pore space)
0 25 50 75 100

SAMPLE NO.	DEPTH OF SAMPLE	POROSITY (%)	PERMEABILITY (millidarcys)		SATURATION DATA (% pore space)		CHLORIDES (ppm NaCl)	PROBABLE FLUID
			HORIZONTAL OR MAXIMUM	VERTICAL 90° TO MAX	OIL	TOTAL WATER		
1	3040.0-41.8	8.7	2.8	1.9	8.2	66.6		
2	3041.8-43.3	8.9	1.1	1.0	10.8	57.7		
3	3043.3-44.4	11.2	16	13	23.3	41.5		
4	3044.4-46.1	5.3	0.2	0.2	0.0	88.0		
5	3046.1-48.0	4.4	0.5	0.3	3.5	90.9		
6	3048.0-49.9	6.8	0.7	0.5	5.0	86.4		
7	3049.9-51.6	4.2	0.5	0.4	3.0	88.1		
8	3051.6-53.1	3.1	0.5	0.5	0.0	85.3		
9	3053.1-54.3	3.8	0.7	0.5	5.0	68.6		
10	3054.3-55.5	4.6	0.9	0.3	5.5	87.8		

POROSITY (percent)
20 40 60 80 100

WATER CONTENT (percent pore space)
0 25 50 75 100



Atlantic Richfield Company

North American Producing Division
Permian District
Post Office Box 1610
Midland, Texas 79701
Telephone 915 682 8631

W. P. Tomlinson
District Engineer -- West Area

August 10, 1970

New Mexico Oil Conservation Commission
Box 1148
Santa Fe, New Mexico 87501

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

Subject: Atlantic Richfield Application for
Permission to perforate additional
Section, Lea 6015, Federal No. 1,
(SWD), West Teas Pool, Lea County,
New Mexico

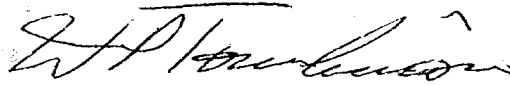
Gentlemen:

Atlantic Richfield Company is the operator of the Lea 6015 ARC Federal No. 1 salt water disposal well in the West Teas Pool, Lea County, New Mexico. The well was put into disposal service in 1968 after permission was granted to dispose of water into the Yates and Seven Rivers formations by Order No. R-3588. Additional disposal capacity is now needed, so we are requesting permission to perforate additional section in the Yates and Seven Rivers formations. No changes in the system other than this are anticipated.

Lea 6015 Well No. 1 receives water from the Lea 6015 Federal and Lea 886 State leases operated by Atlantic and from the State BF lease operated by Cities Service. At this time the SWD well is at capacity, injecting some 700 BWPd at a surface pressure of 2200 psi. Original permission was given to inject into the Yates and Seven Rivers formations through the interval from approximately 3110 to 3300 feet. We request permission to extend this approximate interval in the same formations to 3010 feet to 3300 feet. It is anticipated that the capacity needed can be obtained by adding perforations from about 3054 feet to 3090 feet as shown on the attached schematic sketch.

Attached is Form C-108 submitted in triplicate along with a log of the well and a plat of the area. As shown on Form C-108, the surface lessee and offset operators are furnished copies of this application. If additional information is needed, please let us know.

Very truly yours,



W. P. Tomlinson

WPT/agp

70 AUG 14 AM 8 23



Case 4422

DOCKET MAILED

Date 8-21-70

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR ATLANTIC RICHFIELD COMPANY		ADDRESS P. O. Box 1610, Midland, Texas			
LEASE NAME Lea 6015 ARC Federal	WELL NO. 1	FIELD West Teas	COUNTY Lea		
LOCATION UNIT LETTER 0 : WELL IS LOCATED 660 FEET FROM THE south LINE AND 1980 FEET FROM THE east LINE, SECTION 9 TOWNSHIP 20S RANGE 33E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING SURFACE CASING	SIZE 9-5/8"	SETTING DEPTH 1357'	SACKS CEMENT 734 sx.	TOP OF CEMENT surface	TOP DETERMINED BY circulated
INTERMEDIATE	7"	3022'	474 sx.	surface	circulated
LONG STRING Liner	5"	3300'	50 sx.	2974'	circulated
TUBING 2-3/8"	approx. 3000'	NAME, MODEL AND DEPTH OF TUBING PACKER Tension packer at about 3000'			
NAME OF PROPOSED INJECTION FORMATION Yates-Seven Rivers		TOP OF FORMATION 3000'		BOTTOM OF FORMATION T.D. in Seven Rivers	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations		PROPOSED INTERVAL(S) OF INJECTION 3010 to 3300' (T.D.)	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil - dry hole		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 1357'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None in well		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None in well	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 750	MINIMUM 750	MAXIMUM 1300	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 2200
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Yes		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) W. M. Snyder Estate, Box 726, Lovington, New Mexico 88260			NATURAL WATER IN DISPOSAL ZONE Yes		
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			ARE WATER ANALYSES ATTACHED? Yes		
Hanson Oil Company, Box 1515, Roswell, New Mexico 88201					
Cities Service Oil Company, Box 4906, Midland, Texas 79701					
Union Texas Petroleum, 1300 Wilco Building, Midland, Texas 79701					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes			EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-6)? Yes			ELECTRICAL LOG Yes		
			DIAGRAMMATIC SKETCH OF WELL Yes		

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

District Engineer

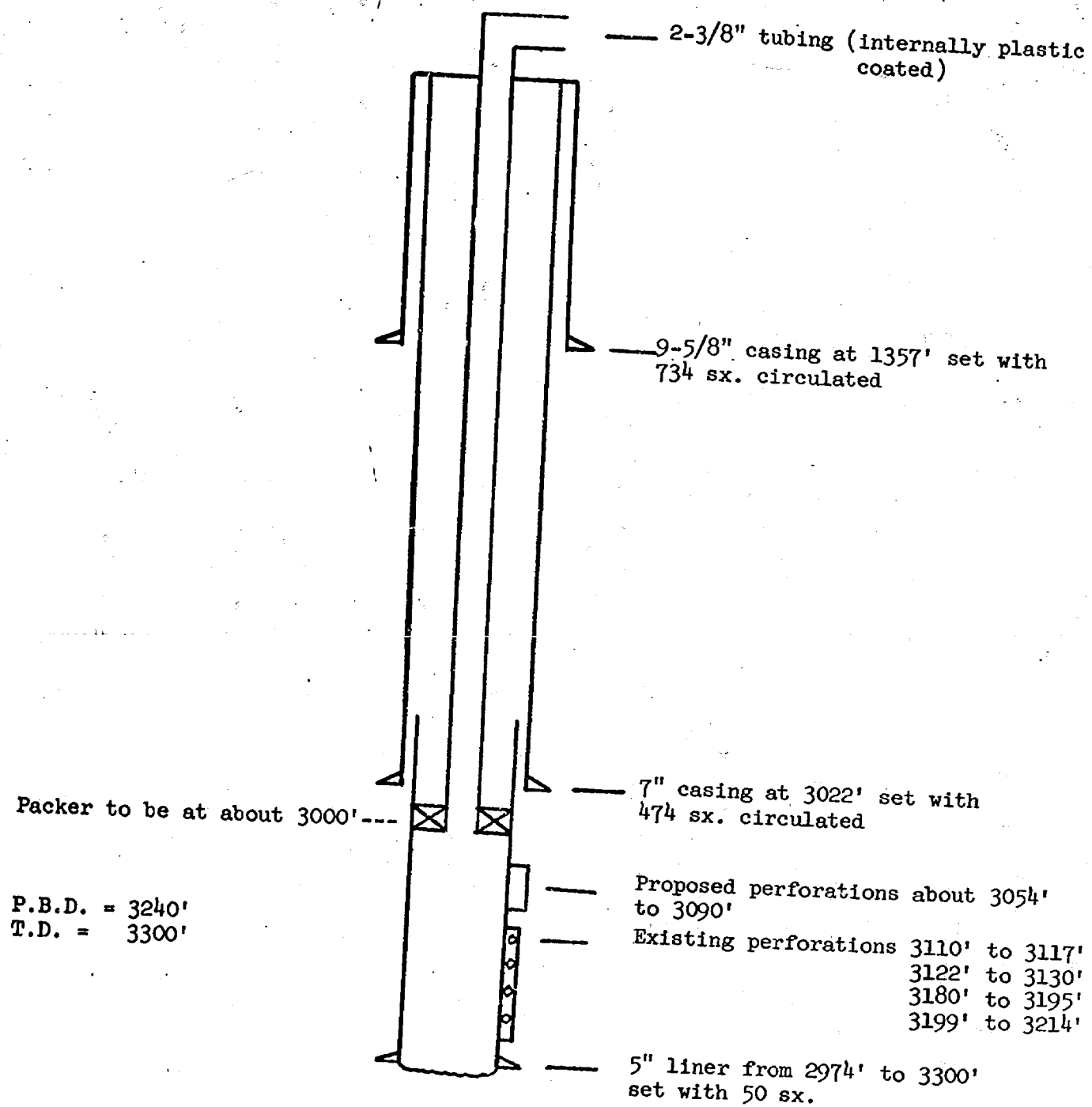
(Signature)

(Title)

(Date)

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

ATLANTIC RICHFIELD COMPANY
 Schematic Sketch of Salt Water Disposal Well
 Lea 6015 No. 1, Unit O, Sec. 9, T-20S-R-33-E
 West Teas Field, Lea County, New Mexico



HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W1-272-70

To Atlantic Richfield CompanyDate 8/3/70Box 1710Hobbs, New Mexico 88240

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Submitted by Mr. Jerry GuyDate Rec. 8/3/70Well No. State Lea 886 # 1

Depth _____

Formation YatesCounty Lea

Field _____

West Teas

Source _____

Well HeadResistivity612 @ 84 FSpecific Gravity 1.006pH 6.5Calcium (Ca) 800

*MPL

Magnesium (Mg) 360Chlorides (Cl) 5,500Sulfates (SO₄) 2,200Bicarbonates (HCO₃) 337Soluble Iron (Fe) N11

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford

cc:

HALLIBURTON COMPANY

By Robert Lansford

DIVISION CHEMIST

NOTICE

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HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
MIDLAND DIVISION

LABORATORY WATER ANALYSIS No. W1-273-70To Atlantic Richfield CompanyDate 8/3/70Box 1710Hobbs, New Mexico 88240

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Mr. Jerry GuyDate Rec. 8/3/70Well No. Disposal

Depth

Formation

County Lea

Field

West Teas S.W.D.S.

Source

Well HeadResistivity574 @ 84 FSpecific Gravity 1.006pH 6.6Calcium (Ca) 900

*MPL

Magnesium (Mg) 300Chlorides (Cl) 5,500Sulfates (SO₄) 2,700Bicarbonates (HCO₃) 337Soluble Iron (Fe) N11

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford

CC:

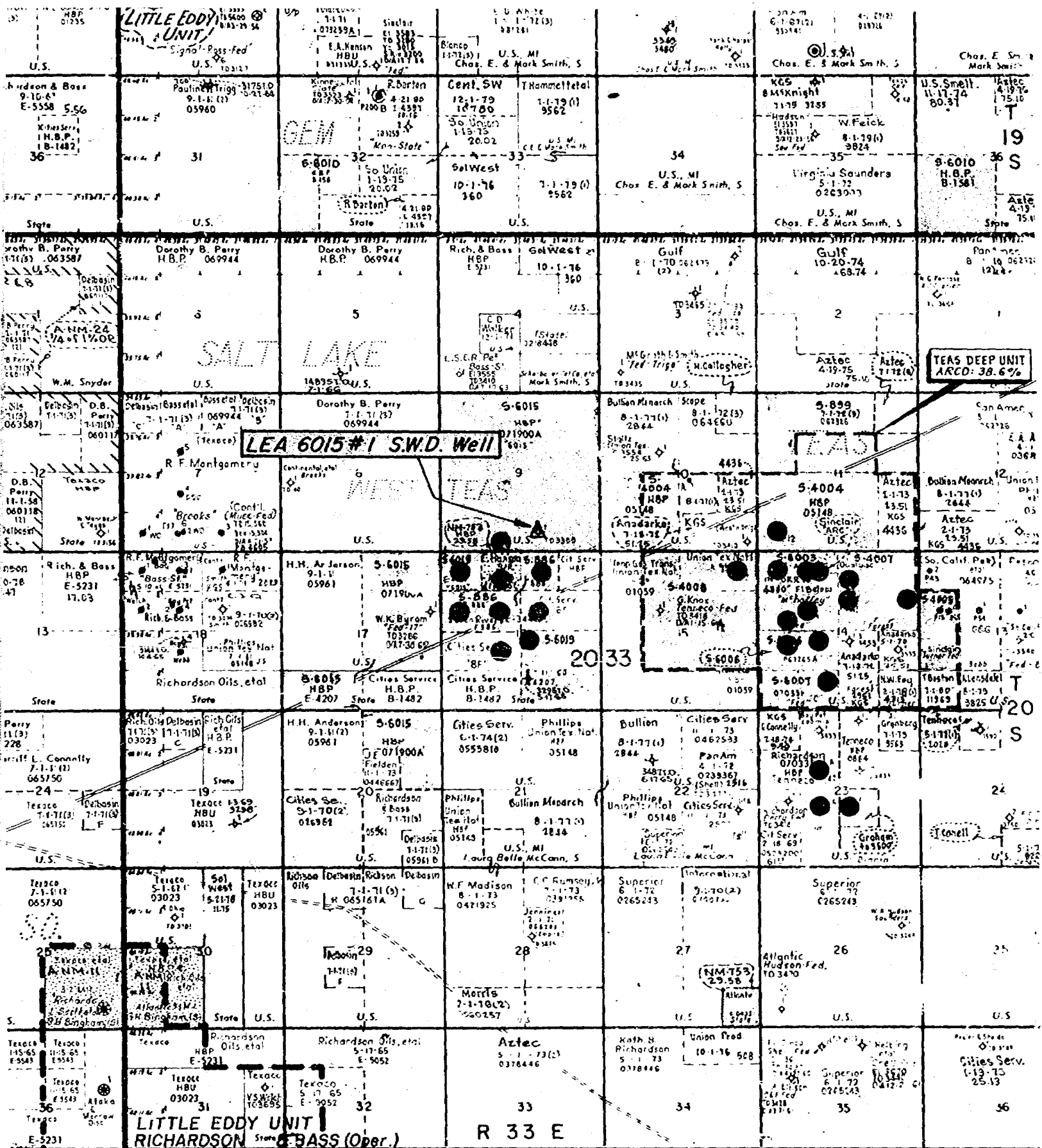
HALLIBURTON COMPANY

By


DIVISION CHEMIST

NOTICE

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DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4422

Order No. R- 3588-A

APPLICATION OF ATLANTIC RICHFIELD
COMPANY FOR AMENDMENT OF ORDER
NO. R-3588, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 30, 1970,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of October, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That by Order No. R-3588, dated November 26, 1968, the
Commission authorized Sinclair Oil Corporation to utilize the
Lease 6015 ARC Federal Well No. 1, located in Unit O of Section
9, Township 20 South, Range 33 East, NMPM, West Teas Pool, Lea
County, New Mexico, to dispose of produced salt water into the
Yates and Seven Rivers formations, with injection into the
perforated and open-hole interval from approximately 3110 feet
to 3300 feet.

(3) That the applicant, Atlantic Richfield Company, the
present operator of the subject well, now seeks amendment of

said Order No. R-3588 to permit disposal of produced salt water into said zones, with injection into the perforated ~~and open-hole~~ interval from approximately ³⁰⁵⁴ ~~3010~~ feet to ³³⁰⁰ ~~3300~~ feet in lieu of the injection interval presently authorized by said Order No. R-3588.

(4) 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 the Lea 6015 ARC Federal Well No. 1, located in Unit O of Section 9, Township 20 South, Range 33 East, NMPM, West Teas Pool, Lea County, New Mexico, to dispose of produced salt water into the Yates and Seven Rivers formations, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3000 feet, with injection into the perforated ~~and open-hole~~ interval from approximately ³⁰⁵⁴ ~~3010~~ feet to ³³⁰⁰ ~~3300~~ 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 Order No R-3588, dated November 26, 1968, is hereby superseded.

(4) 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.