

CASE 3778: Application of ATLANTIC  
RICHFIELD for a dual completion  
and salt water disposal.

Case Number

3778

Application  
Transcripts.

Small Exhibits

ETC.

Atlantic Richfield Company

North American Producing Division  
Permian District - West Area  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041



August 19, 1970

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

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

Re: Corrosion Coupon Results as per  
Commission Order R-3507 Entered  
in Case No. 2087 Concerning  
Atlantic Richfield Company  
State "BH" No. 1, Quail Queen  
Salt Water Disposal

3778

70 AUG 20 PM 1 10

Gentlemen:

As per the above Order, we are required to submit the corrosion rates as obtained from coupon tests in the State "BH" No. 1 SWD Well. Attached are the results of laboratory analyses of the latest exposed coupons.

Yours very truly,

W. P. Tomlinson  
by *W. P. Tomlinson*

LCH:rhs  
Attach.

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

New Mexico State Engineer's Office  
State Capitol  
Santa Fe, New Mexico 87501

## CORROSION COUPON EXPOSURE RESULTS

FIELD OR UNIT: Quail Queen Fld, Lea Co., N. Mex.  
SYSTEM: SWD

LOCATION: State BH #1 SWD  
TYPE STATION: Bar type at wellhead  
REMARKS: Intermittent injection. Well approximately 2500' by line (2" tubing) from water tank.

COUPON NUMBER	EXPOSURE		WEIGHT LOSS (GMS)	CORROSION RATE (MPY)	TYPE ATTACK	REMARKS
	DATES	DAYS	VOLUME (BW)			
G-494	3-4-69--	62	65 BWPD	0.0648	0.46	Spotty etch w/scattering of minor pits
G-505	5-5-69			0.0723	0.52	
G-480	5-5-69--	64	60 BWPD	0.1061	0.77	Scattered minor pitting attack
G-481	7-8-69			0.1242	0.84	
G-797	7-8-69--	62	60 BWPD	0.0390	0.28	Scattered minor pitting attack
G-798	9-8-69			0.0457	0.33	
G-998	9-8-69--	100	53 BWPD	0.2431	1.08	Slight overall surface roughening
G-999	12-9-69			0.2903	1.29	
H-364	12-9-69--	92	65 BWPD	0.2521	1.21	Slight overall surface roughening
H-365	3-11-70			0.3176	1.53	
A-301	3-11-70--	97	38 BWPD	0.1085	.50	Slight overall surface roughening
A-302	6-16-70			0.1356	.62	

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Atlantic Richfield Company

North American Producing Division  
Permian District—West Area  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

971 JAN 18 1971



January 15, 1971

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

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

Re: Corrosion Coupon Results as per  
Commission Order R-3507 Entered  
in Case No. 3887 Concerning  
Atlantic Richfield Company  
State "BH" No. 1, Quail Queen  
Salt Water Disposal

*File*

*8778*

Gentlemen:

As per the above Order, we are required to submit the corrosion rates as obtained from coupon tests in the State "BH" No. 1 SWD Well. Attached are the results of laboratory analyses of the latest exposed coupons.

Yours very truly,

*E. M. Pringle*

E. M. Pringle

EMP:rhs  
Attach.

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

New Mexico State Engineer's Office  
State Capitol  
Santa Fe, New Mexico 87501

## CORROSION COUPON EXPOSURE RESULTS

FIELD OR UNIT: Quail Queen Fld, Lea Co., N. Mex.  
SYSTEM: SMD

LOCATION: State BH #1 SMD  
TYPE STATION: Bar type at wellhead  
REMARKS: Intermittent injection. Well approximately 2500' by line (2" tubing) from water tank.

COUPON NUMBER	EXPOSURE		WEIGHT LOSS (GMS)	CORROSION RATE (MPY)	TYPE ATTACK
	DATES	DAYS VOLUME (BW)			
G-494 G-505	3-4-69-- 5-5-69	62 65 BWPD	0.0648 0.0723	0.46 0.52	Spotty etch w/scattering of minor pits
G-480 G-481	5-5-69-- 7-8-69	64 60 BWPD	0.1061 0.1242	0.77 0.84	Scattered minor pitting attack
G-797 G-798	7-8-69-- 9-8-69	62 60 BWPD	0.0390 0.0457	0.28 0.33	Scattered minor pitting attack
G-998 G-999	9-8-69-- 12-9-69	100 53 BWPD	0.2431 0.2903	1.08 1.29	Slight overall surface roughening
H-364 H-365	12-9-69-- 3-11-70	92 65 BWPD	0.2521 0.3176	1.21 1.53	Slight overall surface roughening
A-001 A-002	3-11-70-- 6-16-70	97 38 BWPD	0.1085 0.1356	.50 .62	Slight overall surface roughening
A-208 A-209	6-16-70-- 11-30-70	167 76 BWPD	0.0647 0.1140	.17 .30	Spotty etch

Atlantic Richfield Company

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

W. P. Tomlinson  
District Engineer

OCT 30 1969



October 29, 1969

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

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

Re: Corrosion Coupon Results as per  
Commission Order 3507 Entered  
In Case No. 3887 Concerning  
Atlantic Richfield Company  
State "BH" No. 1, Quail Queen  
Salt Water Disposal

*File  
Case #3778*

Gentlemen:

As per the above Order, we are required to submit the corrosion rates as obtained from coupon tests in the State "BH" No. 1 SWD well. Attached are the results of laboratory analyses of the latest exposed coupons.

Yours very truly,

*W P Tomlinson*

W. P. Tomlinson

EMP:jcb

Attachment

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

New Mexico State Engineer's Office  
State Capitol  
Santa Fe, New Mexico 87501

OCT 30 1969

CORROSION COUPON EXPOSURE RESULTS

FIELD OR UNIT: Quail Queen Fld., Lea Co., N. Mex.  
SYSTEM: SWD

LOCATION: State BH #1 SWD

TYPE STATION: Bar type at wellhead

REMARKS: Intermittent injection. W  
line (2" tubing) from water

COUPON NUMBER	EXPOSURE		VOLUME (BW)	WEIGHT LOSS (GMS)	CORROSION RATE (MPY)	TYPE ATTACK
	DATES	DAYS				
G-494	3-4-69--	62	65 BWPD	0.0648	0.46	Spotty etch w/scattering of minor pits
G-525	5-5-69			0.0723	0.52	
G-480	5-5-69--	64	60 BWPD	0.1061	0.77	Scattered minor pitting attack
G-481	7-8-69			0.1242	0.84	
G-797	7-8-69--	62	60 BWPD	0.0390	0.28	Scattered minor pitting attack
G-798	9-8-69			0.0457	0.33	



Atlantic Richfield Company

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

W. P. Tomlinson  
District Engineer



MAIN OFFICE 006

May 28, 1969

'69 MAY 29 PM 1 42

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

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

Re: Corrosion Coupon Results as per  
Commission Order 3507 Entered  
In Case No. 3887 Concerning  
Atlantic Richfield Company  
State "BH" No. 1, Quail Queen  
Salt Water Disposal

*File*  
*Case*  
*377F*

Gentlemen:

As per the above Order, we are required to submit the corrosion rates as obtained from coupon tests in the State "BH" No. 1 SWD well. Attached are the results of laboratory analyses of the latest exposed coupons.

Yours very truly,

W. P. Tomlinson

WPT:jcb

Attachment

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

New Mexico State Engineer's Office  
State Capitol  
Santa Fe, New Mexico 87501

# CORROSION COUPON EXPOSURE RESULTS

FIELD OR UNIT: Quail Queen Fld., Lea Co., N. Mex.  
 SYSTEM: SWD

LOCATION: State BH #1 SWD  
 TYPE STATION: Bar type at wellhead  
 REMARKS: Intermittent injection. V  
 line (2" tubing) from water

COUPON NUMBER	EXPOSURE		VOLUME (BW)	WEIGHT LOSS (GMS)	CORROSION RATE (MPY)	TYPE ATTACK
	DATES	DAYS				
G-494	3-4-69--	62	65 BWP	0.0648	0.46	Spotty etch w/scattering of minor pits
G-505	5-5-69			0.0723	0.52	

MAIN OFFICE 000

'69 MAY 29 PM 1 42

Atlantic Richfield Company

North American Producing Division

New Mexico-Arizona District

Post Office Box 1978

Roswell, New Mexico 88201

Telephone 505 622 4041

W. P. Tomlinson

District Engineer

MAIN OFFICE

'69 AUG 4 AM 8 12



August 1, 1969

New Mexico Oil Conservation Commission

P. O. Box 2088

Santa Fe, New Mexico 87501

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

Re: Corrosion Coupon Results as per  
Commission Order 3507 Entered  
In Case No. 3887 concerning  
Atlantic Richfield Company  
State "BH" No. 1, Quail Queen  
Salt Water Disposal

*File*

*Case  
3778*

Gentlemen:

As per the above Order, we are required to submit the corrosion rates as obtained from coupon tests in the State "BH" No. 1 FWD well. Attached are the results of laboratory analyses of the latest exposed coupons.

Yours very truly,

*W. P. Tomlinson*

W. P. Tomlinson

EMP:jcb

Attachment

cc: New Mexico Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

New Mexico State Engineer's Office  
State Capitol  
Santa Fe, New Mexico 87501

## CORROSION COUPON EXPOSURE RESULTS

FIELD OR UNIT: Quail Queen Fld., Lea Co., N. Mex.

SYSTEM: SWD

LOCATION: State BH #1 SWD

TYPE STATION: Bar type at wellhead

REMARKS: Intermittent injection. W.  
line (2" tubing) from water

COUPON NUMBER	EXPOSURE		VOLUME (BW)	WEIGHT LOSS (GMS)	CORROSION RATE (MPY)	TYPE ATTACK
	DATES	DAYS				
G-494	3-4-69--	62	65 BWP	0.0648	0.46	Spotty etch w/scattering of minor pits
G-505	5-5-69			0.0723	0.52	
G-480	5-5-69--	64	60 BWP	0.1061	0.77	Scattered minor pitting attack
G-481	7-8-69			0.1242	0.84	

**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. 3778  
Order No. R-3507**

**APPLICATION OF ATLANTIC RICHFIELD COMPANY  
FOR A DUAL COMPLETION AND SALT WATER DIS-  
POSAL, LEA COUNTY, NEW MEXICO.**

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:**

This cause came on for hearing at 9 a.m. on September 25, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 2nd day of October, 1968, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

**FINDS:**

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

(2) That the applicant, Atlantic Richfield Company, seeks authority to complete its State BH Well No. 1, located 660 feet from the North line and 660 feet from the West line of Section 13, Township 19 South, Range 34 East, NMPM, Quail-Queen Pool, Lea County, New Mexico, as a dual completion to produce oil from the Lower Queen formation in the interval from approximately 5080 feet to 5136 feet through 2 7/8-inch tubing and to dispose of produced salt water into the Upper Queen formation through the casing-tubing annulus in the perforated interval from approximately 4820 feet to 4830 feet.

(3) That coupon corrosion tests shall be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission.

-2-

Case No. 3778

Order No. R-3507

(4) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Atlantic Richfield Company, is hereby authorized to complete its State BH Well No. 1, located 660 feet from the North line and 660 feet from the West line of Section 13, Township 19 South, Range 34 East, NMPM, Quail-Queen Pool, Lea County, New Mexico, as a dual completion to produce oil from the Lower Queen formation in the interval from approximately 5080 feet to 5136 feet through 2 7/8-inch tubing and to dispose of produced salt water into the Upper Queen formation through the casing-tubing annulus in the perforated interval from approximately 4820 feet to 4830 feet;

PROVIDED HOWEVER, that coupon corrosion tests shall be conducted on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission;

PROVIDED FURTHER, that the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

GUYTON S. HAYE, Member

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

**State of New Mexico**  
**Oil Conservation Commission**



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

Re: Case No. 3778  
Order No. R-3507  
Applicant:  
  
**Atlantic Richfield Company**

*A. L. Porter, Jr.*  
A. L. PORTER, Jr.  
Secretary-Director

Hobbs OCC x  
 Artesia OCC \_\_\_\_\_  
 Astec OCC \_\_\_\_\_  
 Other \_\_\_\_\_

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 25, 1968

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

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

CASE 3778: (Continued from the August 7, 1968, Examiner Hearing)

Application of Atlantic Richfield 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 State RH Well No. 1 located 660 feet from the North and West lines of Section 13, Township 19 South, Range 34 East, Quail-Queen Pool, Lea County, New Mexico, in such a manner as to permit production of oil from 5080 feet to 5136 feet in the lower Queen formation through tubing and the disposal of produced salt water into the upper Queen formation through the casing-tubing annulus in the perforated interval from 4820 feet to 4830 feet.

CASE 3862: Application of Gulf Oil Company - U. S. for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its W. D. Grimes (NCT-A) Well No. 16, located in Unit D of Section 32, Township 18 South, Range 38 East, Lea County, New Mexico, to produce oil from undesignated Paddock and Blinbry oil pools through parallel strings of tubing.

CASE 3863: Application of Pan American Petroleum Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the North Crow Flats Unit Area comprising 6,419 acres, more or less, of Federal, State and Fee lands in Township 16 South, Range 28 East, Eddy County, New Mexico.

CASE 3864: Application of Pubco Petroleum Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp formation in the perforated interval from approximately 10,756 feet to 10,834 feet in the Sinclair 668 State Well No. 1 located in Unit E of Section 27, Township 16 South, Range 34 East, Kemnitz-Wolfcamp Pool, Lea County, New Mexico.



- CASE 3365:** Application of Southern Union Production Company for an unorthodox location and a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Jicarilla "A" Well No. 9 to produce gas from the Blanco-Mesaverde and Basin Dakota Pools at an unorthodox location for the Blanco-Mesaverde Pool 790 feet from the North line and 1670 feet from the West line of Section 14, Township 26 North, Range 4 West, Rio Arriba County, New Mexico.
- CASE 3866:** Application of Shell Oil Company for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 3360 feet to 3512 feet in its Thelma Crosby "F" Well No. 1 located in Unit H of Section 17, Township 9 South, Range 30 East, Cato-San Andres Pool area, Chaves County, New Mexico.
- CASE 3867:** Application of Tenneco Oil Company for a unit agreement, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Hospah Unit Area comprising 476 acres, more or less, of federal lands in Section 12, Township 17 North, Range 9 West, South Hospah Upper Sand Oil Pool, McKinley County, New Mexico.
- CASE 3868:** Application of Texaco, Inc., for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks expansion of the Texaco BV Waterflood Project, Lazy J-Pennsylvanian Pool, by the conversion to water injection of its "BV" State (NCT-1) Well No. 5 located in Unit M of Section 26, Township 13 South, Range 33 East, Lea County, New Mexico.
- CASE 3869:** Application of Texaco, Inc., for a down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle the marginal production from the Blinebry and Paddock Oil Pools in the wellbore of its C. H. Lockhart Federal NCT-1 Well No. 3 located in Unit O of Section 18, Township 22 South, Range 38 East, Lea County, New Mexico.

Page 3

September 25, 1968, Examiner Hearing

Docket No. 28-68

CASE 3870: Application of D. W. St. Clair for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 4941 feet to 5060 feet in his Superior-Federal Well No. 7 located in Unit G of Section 25, Township 19 South, Range 34 East, Pearl-Queen Pool, Lea County, New Mexico.

CASE 3871: Application of Stoltz and Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the North Bagley Upper, Middle, and Lower Pennsylvanian Pools underlying the E/2 SE/4 of Section 32, Township 11 South, Range 33 East, Lea County, New Mexico.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF ATLANTIC RICHFIELD COMPANY )  
FOR AN ORDER TO PERMIT THE INJECTION OF )  
PRODUCED WATER FROM STATE BG WELL NO. 1 )  
LOCATED IN THE SE $\frac{1}{4}$ NE $\frac{1}{4}$  SECTION 14, TOWNSHIP )  
19 SOUTH, RANGE 34 EAST, N.M.P.M. AND ALSO )  
WATER PRODUCED FROM THE LOWER QUEEN FORMA- )  
TION OF THE QUAIL QUEEN POOL PRODUCED FROM )  
STATE BH WELL NO. 1 INTO THE SAID STATE )  
BH WELL NO. 1 LOCATED IN THE NW $\frac{1}{4}$ NW $\frac{1}{4}$  SECTION )  
13, TOWNSHIP 19 SOUTH, RANGE 34 EAST, N.M.P.M. )  
SAID WATER TO BE INJECTED INTO THE UPPER )  
QUEEN ZONE OF STATE BH WELL NO. 1, BOTH )  
WELLS BEING LOCATED IN THE QUAIL QUEEN POOL, )  
LEA COUNTY, NEW MEXICO. )

*Box 3778*

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico

MAIN OFFICE

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Comes Atlantic Richfield Company, acting by and through the undersigned attorneys, and hereby makes application for an order to permit the injection of produced water from State BG Well No. 1 located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$  Section 14, Township 19 South, Range 34 East, N.M.P.M. and also water produced from the Lower Queen formation of the Quail Queen Pool produced from State BH Well No. 1 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 13, Township 19 South, Range 34 East, N.M.P.M. said water to be injected into the Upper Queen zone of State BH Well No. 1, both wells being located in the Quail Queen Pool, Lea County, New Mexico, and as grounds for such application respectfully shows:

1. That both of the above mentioned wells, namely State BG No. 1 and State BH No. 1, are situated within the Quail Queen Pool, Lea County and upon leases owned by applicant and are producing from the Quail Queen Pool, as defined by the Oil Conservation Commission.

2. That there is filed herewith a plat showing the location of the proposed injection well, the location of all other wells within a radius of 2 miles from the proposed injection well and the formation from which said wells are producing or have produced.

DOCKET MAILED

Date 9-13-68

DOCKET MAILED

Date 5/23/68

DOCKET MAILED

Date 7/26/68

3. That there is also filed herewith a sonic-gamma ray log of the proposed injection well, together with a diagrammatic sketch of the proposed injection well showing the manner in which said well is to be reworked and dually completed so that water may be injected into the Upper Queen zone and said well continue to be produced from the producing section of the Quail Queen Pool, Said diagrammatic sketch shows all casing strings, including diameters and setting depths, quantities used and tops of cement and perforations, as well as tubing string, including diameter and setting depth, and the type and location of packer to be used.

4. That waivers have been obtained from all offset lease owners to the injection of produced water from State BG No. 1 into State BH No. 1 above referred to.

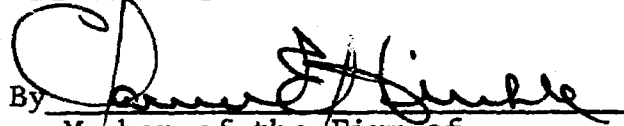
5. The produced water will be injected into the Upper Queen zone and it is anticipated that the dual completion will effectively separate the Upper Queen zone from the Quail Queen producing zone.

6. A copy of this application, together with a copy of the plat, log and diagrammatic sketch, are being furnished to the office of the State Engineer, Capitol Building, Santa Fe in accordance with the provisions of Rule 701.

Applicant requests that this matter be set down for hearing at the earliest possible examiner's hearing.

Respectfully submitted,

ATLANTIC RICHFIELD COMPANY

By   
Member of the Firm of  
HINKLE, BONDURANT & CHRISTY  
Attorneys for Applicant  
Box 10  
Roswell, New Mexico

Altauer-Richtmeyer Company

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

Jack Biard  
District Landman

RECEIVED APR 17 1968



March 29, 1968

Union Producing Company  
P. O. Box 4306  
Midland, Texas 79701  
ATTENTION: Mr. J. T. Reeves

Getty Oil Company  
P. O. Box 1231  
Midland, Texas  
ATTENTION: Mr. J. B. Davis

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico  
ATTENTION: Mr. F. E. Curtis

Mobil Oil Company  
P. O. Box 820  
Roswell, New Mexico  
ATTENTION: Mr. J. L. Posey

Gentlemen:

It is our intent to request a hearing before the New Mexico Oil Conservation Commission to obtain a permit to dispose of oil field brine in the upper Queen formation in our State "BH" No. 1 well located in the NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> Section 13, Township 19 South, Range 34 East, Lea County, New Mexico.

The attached plat, diagram of in-hole installation, and cross section show our disposal plan. The Queen will be perforated from approximately 4820' through 4830' and injection will be down the casing-tubing annulus. A packer will be set in the vicinity of 5050' to permit continued production of the existing oil completion. The cross section shows the relationship of the interval we will perforate to that tested in the nearby State "BG" No. 1 well. That test resulted in production of 185 barrels of formation water in 24 hours. Since there is no oil production from this zone in the general area, it is concluded that no harm can result

Union Producing Company et al  
Page 2  
March 29, 1968

from using it for disposal. We expect to inject between  
100 and 150 barrels of water per day.

As you have leases in the area, we request that you waive  
all objections to this proposal by signing a copy of this  
letter in the space provided below and returning same to  
this office.

Your cooperation will be sincerely appreciated.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

*Fred N. Millsap, Jr.*

Fred N. Millsap, Jr.  
Land Department

FNM/dlm  
Attachments

AGREED AND ACCEPTED THIS  
15 DAY OF April, 1968.

MOBIL OIL COMPANY

By: *C. H. Henderson*

Atlantic Richfield Company

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

Jack Biard  
District Landman

JT

NM-2613  
P.D.S.



March 29, 1968

Union Producing Company  
P. O. Box 4306  
Midland, Texas 79701  
ATTENTION: Mr. J. T. Reeves

Getty Oil Company  
P. O. Box 1231  
Midland, Texas 79701  
ATTENTION: Mr. J. B. Davis

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico 88201  
ATTENTION: Mr. F. E. Curtis

Mobil Oil Company  
P. O. Box 820  
Roswell, New Mexico 88201  
ATTENTION: Mr. J. L. Posey

Shell Oil Company  
P. O. Box 1509  
Midland, Texas 79701  
ATTENTION: Mr. R. A. Clark

Gentlemen:

It is our intent to request a hearing before the New Mexico Oil Conservation Commission to obtain a permit to dispose of oil field brine in the upper Queen formation in our State "BH" No. 1 well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 13, Township 19 South, Range 34 East, Lea County, New Mexico.

The attached plat, diagram of in-hole installation, and cross section show our disposal plan. The Queen will be perforated from approximately 4820' through 4830' and injection will be down the casing-tubing annulus. A packer will be set in the vicinity of 5050' to permit continued production of the existing oil completion. The cross section shows the relationship of the interval we will perforate to that tested in the



Union Producing Company, et al  
Page 2  
March 29, 1968

nearby State "BG" No. 1 well. That test resulted in production of 185 barrels of formation water in 24 hours. Since there is no oil production from this zone in the general area, it is concluded that no harm can result from using it for disposal. We expect to inject between 100 and 150 barrels of water per day.

As you have leases in the area, we request that you waive all objections to this proposal by signing a copy of this letter in the space provided below and returning same to this office.

Yours cooperation will be sincerely appreciated.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

*Fred N. Millsap, Jr.*

Fred N. Millsap, Jr.  
Land Department

FFM/dlm  
Attachments

AGREED AND ACCEPTED THIS

17 DAY OF April, 1968.

SHELL OIL COMPANY

By *J. E. Schuler*



PENNZOIL



COMPANY

1007 MIDLAND SAVINGS BUILDING • MIDLAND, TEXAS • TELEPHONE 915 MUTUAL 2-7316  
MAILING ADDRESS: P. O. DRAWER 1828 • MIDLAND, TEXAS 79701

April 5, 1968

Atlantic Richfield Company  
P. O. Box 1978  
Roswell, New Mexico 88201


Attention: Mr. Fred N. Millsap, Jr.  
Land Department

Gentlemen:

Attached is signed copy of your letter of March 29 in which we waive all objections to your proposal to dispose of oil field brine in the upper Queen formation in your State "BH" No. 1, Lea County, New Mexico.

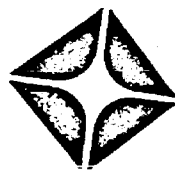
Yours very truly,

PENNZOIL UNITED, INC.

  
Charles A. Brown  
Manager of Production  
and Engineering

CAB:FMcB  
Attach.

Atlantic Richfield Company North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041  
Jack Biard  
District Landman



March 29, 1968

Union Producing Company  
P. O. Box 4306  
Midland, Texas 79701  
ATTENTION: Mr. J. T. Reeves

Getty Oil Company  
P. O. Box 1231  
Midland, Texas  
ATTENTION: Mr. J. B. Davis

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico  
ATTENTION: Mr. F. E. Curtis

Mobil Oil Company  
P. O. Box 820  
Roswell, New Mexico  
ATTENTION: Mr. J. L. Posey

Gentlemen:

It is our intent to request a hearing before the New Mexico Oil Conservation Commission to obtain a permit to dispose of oil field brine in the upper Queen formation in our State "BH" No. 1 well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 13, Township 19 South, Range 34 East, Lea County, New Mexico.

The attached plat, diagram of in-hole installation, and cross section show our disposal plan. The Queen will be perforated from approximately 4820' through 4830' and injection will be down the casing-tubing annulus. A packer will be set in the vicinity of 5050' to permit continued production of the existing oil completion. The cross section shows the relationship of the interval we will perforate to that tested in the nearby State "BG" No. 1 well. That test resulted in production of 185 barrels of formation water in 24 hours. Since there is no oil production from this zone in the general area, it is concluded that no harm can result

Union Producing Company et al  
Page 2  
March 29, 1968

from using it for disposal. We expect to inject between  
100 and 150 barrels of water per day.

As you have leases in the area, we request that you waive  
all objections to this proposal by signing a copy of this  
letter in the space provided below and returning same to  
this office.

Your cooperation will be sincerely appreciated.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

*Fred N. Millsap, Jr.*

Fred N. Millsap, Jr.  
Land Department

FNM/dlm  
Attachments

AGREED AND ACCEPTED THIS  
5th DAY OF April, 1968.

PENNZOIL UNITED, INC., successor in title to  
UNION PRODUCING COMPANY

By: *F. Clinton Edwards*  
Vice President

# Gulf Oil Corporation

EXPLORATION AND PRODUCTION DEPARTMENT—U. S. OPERATIONS  
ROSWELL DISTRICT

T. W. Kidd  
DISTRICT MANAGER  
M. I. Taylor  
DISTRICT PRODUCTION  
MANAGER  
F. O. Mortlock  
DISTRICT EXPLORATION  
MANAGER  
H. A. Rankin  
DISTRICT SERVICES MANAGER

P. O. Drawer 1938  
Roswell, New Mexico 88201

April 3, 1968

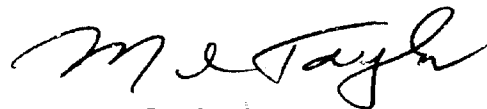
Atlantic Richfield Company  
Post Office Box 1978  
Roswell, New Mexico 88201

Attention: Mr. Fred N. Millsap, Jr.

Gentlemen:

Returned herewith is executed copy of your letter of March 29 whereby Gulf waives objections to your application to the New Mexico Oil Conservation Commission for permit to dispose of oil field brine in your State "BH" No. 1 well.

Yours very truly,



M. I. Taylor

Enclosure

MIT:bc



Atlantic Richfield Company

North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041

Jack Biard  
District Landman



March 29, 1968

Union Producing Company  
P. O. Box 4306  
Midland, Texas 79701  
ATTENTION: Mr. J. T. Reeves

Getty Oil Company  
P. O. Box 1231  
Midland, Texas  
ATTENTION: Mr. J. B. Davis

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico  
ATTENTION: Mr. F. E. Curtis

Mobil Oil Company  
P. O. Box 820  
Roswell, New Mexico  
ATTENTION: Mr. J. L. Posey

Gentlemen:

It is our intent to request a hearing before the New Mexico Oil Conservation Commission to obtain a permit to dispose of oil field brine in the upper Queen formation in our State "BH" No. 1 well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 13, Township 19 South, Range 34 East, Lea County, New Mexico.

The attached plat, diagram of in-hole installation, and cross section show our disposal plan. The Queen will be perforated from approximately 4820' through 4830' and injection will be down the casing-tubing annulus. A packer will be set in the vicinity of 5050' to permit continued production of the existing oil completion. The cross section shows the relationship of the interval we will perforate to that tested in the nearby State "BG" No. 1 well. That test resulted in production of 185 barrels of formation water in 24 hours. Since there is no oil production from this zone in the general area, it is concluded that no harm can result

Union Producing Company et al  
Page 2  
March 29, 1968

from using it for disposal. We expect to inject between  
100 and 150 barrels of water per day.

As you have leases in the area, we request that you waive  
all objections to this proposal by signing a copy of this  
letter in the space provided below and returning same to  
this office.

Your cooperation will be sincerely appreciated.

Yours very truly,

ATLANTIC RICHFIELD COMPANY



Fred N. Millsap, Jr.  
Land Department

FNW/dlm  
Attachments

AGREED AND ACCEPTED THIS  
3rd DAY OF April, 1968.

GULF OIL CORPORATION

By:   
District Production Manager

AtlanticRichfieldCompany North American Producing Division  
New Mexico-Arizona District  
Post Office Box 1978  
Roswell, New Mexico 88201  
Telephone 505 622 4041  
  
Jack Biard  
District Landman



March 29, 1968

Union Producing Company  
P. O. Box 4306  
Midland, Texas 79701  
ATTENTION: Mr. J. T. Reeves

✓ Getty Oil Company  
P. O. Box 1231  
Midland, Texas  
ATTENTION: Mr. J. B. Davis

Gulf Oil Corporation  
P. O. Box 1938  
Roswell, New Mexico  
ATTENTION: Mr. F. E. Curtis

Mobil Oil Company  
P. O. Box 820  
Roswell, New Mexico  
ATTENTION: Mr. J. L. Posey

Gentlemen:

It is our intent to request a hearing before the New Mexico Oil Conservation Commission to obtain a permit to dispose of oil field brine in the upper Queen formation in our State "BH" No. 1 well located in the NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> Section 13, Township 19 South, Range 3<sup>4</sup> East, Lea County, New Mexico.

The attached plat, diagram of in-hole installation, and cross section show our disposal plan. The Queen will be perforated from approximately 4820' through 4830' and injection will be down the casing-tubing annulus. A packer will be set in the vicinity of 5050' to permit continued production of the existing oil completion. The cross section shows the relationship of the interval we will perforate to that tested in the nearby State "BG" No. 1 well. That test resulted in production of 185 barrels of formation water in 24 hours. Since there is no oil production from this zone in the general area, it is concluded that no harm can result

Union Producing Company et al  
Page 2  
March 29, 1968

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letter in the space provided below and returning same to  
this office.

Your cooperation will be sincerely appreciated.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

*Fred N. Millsap, Jr.*

Fred N. Millsap, Jr.  
Land Department

FTM/dlm  
Attachments

AGREED AND ACCEPTED THIS  
3 DAY OF Apr. 1, 1968.

GETTY OIL COMPANY

By: *R.H. Coe*  
R.H. Coe, Dist. Prod. Manager



ATLANTIC RICHFIELD COMPANY  
LAND DEPT.

APR 4 1968

RECEIVED

RECEIVED

APR -2 1968

GETTY OIL COMPANY  
Exploration Dept.-Land Section  
Midland, Texas 79701

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 7, 1968 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
<i>P. Sims</i>	<i>Self</i>	<i>Emire</i>
<i>W. J. Le Gore</i>	<i>John L. Honer</i>	<i>Dallas</i>
<i>Jim MASSEY</i>	<i>John L. Honer</i>	<i>Dallas</i>
<i>Sam Wagner</i>	<i>Amerada Petr. Corp.</i>	<i>Hobbs</i>
<i>Nma D. Dardanne</i>	<i>RW Bryan</i>	<i>SF - Austin</i>
<i>Richard S. Morris</i>	<i>Montgomery et al</i>	<i>Santa Fe</i>
<i>Stanley J. Krut</i>	<i>Getty Oil Co</i>	<i>Midland</i>
<i>C. H. Beerman</i>	<i>Getty Oil Co.</i>	<i>Midland, Tex.</i>
<i>John A. Coon</i>	<i>Getty Oil Co.</i>	<i>Midland, Texas</i>
<i>Joe Whitaker</i>	<i>Pan American</i>	<i>Ft Worth</i>
<i>GUY BUELL</i>	✓ ✓	✓ ✓
<i>GEORGE H. FORD</i>	✓ ✓	✓ ✓
<i>STANTON M. BALL</i>	✓ ✓	✓ ✓
<i>RW. Graham</i>	<i>Kewanee Oil Co.</i>	<i>Tulsa, Okla</i>
<i>R. S. Allison</i>	✓ ✓	✓ ✓
<i>A. J. Jones</i>	<i>Atlantic Rich.</i>	<i>Princeton, N.J.</i>
<i>James E. Hinkle</i>	" "	" "

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date AUGUST 7, 1963 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Bill Kaskler	Gulf Oil Co. - U.S.	Roswell,
Jason Kellahi	Kellahi & Fox	Santa Fe
Phil. <del>Taukinn</del>	Atlantic Richfield	Roswell
Tom L. Ingram	Tom L. Ingram	Roswell
O. Lopez	Tri Service	Artesia
WALTER D. JENKINS	TRI-SERVICE	MIDLAND, TEX
Booker Kelly	unsub. bldg. bldg. Kelly	S.F.
M. H. McConnell	Phillips Pet. Co.	Odessa, Tex.
C. A. McClain	Sinclair Oil & Gas Co.	Midland, Texas
J. W. Hodges	Sinclair Oil & Gas Co.	Midland, Texas
Jack M. Campbell	Pet. Co. of Texas	Santa Fe
Thomas A. Ford	✓ - ✓	Breckenridge, Tex.

MR. UTZ: The Hearing will come to order, please.  
The first case on the docket will be 3778.

MR. HATCH: Case 3778, continued from the June 5th, 1968 Examiner Hearing. Application of Atlantic Richfield Company for a dual completion and salt water disposal, Lea County, New Mexico.

MR. HINKLE: Mr. Examiner, Clarence Hinkle of Hinkle, Bondurant and Christy, Roswell, appearing on behalf of Atlantic Richfield. This case was originally set down for June 5th, 1968 and it was continued at our request due to an objection of Charles Reid, an operator of Roswell, and he still is not satisfied and has asked Atlantic Richfield to continue it until the last of September to give him an opportunity to make up his mind whether or not he wants to go ahead and object to it. At that time, I think we will be either prepared to go ahead with it or dismiss it, so I'd like to move that it be continued until the last hearing in September.

MR. UTZ: Case 3778 will be continued until the last Examiner Hearing in September.

STATE OF NEW MEXICO )  
 ) SS  
 COUNTY OF BERNALILLO)

I, CHARLOTTE J. MACIAS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 30<sup>th</sup> day of August, 1968.

Charlotte Macias  
 Notary Public

My Commission Expires:

Feb 10, 1971

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3228, heard by me on Aug 3, 1968.  
Walter J. [Signature] Examiner  
 New Mexico Oil Conservation Commission

dearnley-meier reporting service, inc.

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

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
June 5, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of Atlantic Richfield  
Company for a dual completion and  
salt water disposal, Lea County,  
New Mexico.

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

*Cont to  
Aug 7*

Case No. 3778

MR. NUTTER: We will call next Case 3778.

MR. HATCH: Application of Atlantic Richfield Company for a dual completion and salt water disposal, Lea County, New Mexico.

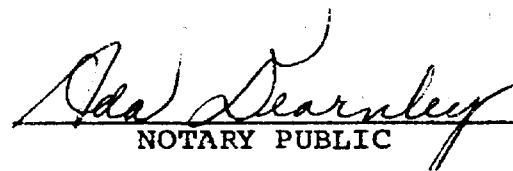
MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant and Christy appearing on behalf of Atlantic Richfield Company. I would like to move that this case be continued until the Examiner Hearing on August 7th.

MR. NUTTER: Case 3778 will be continued to the Examiner Hearing to be held at this same place at 9:00 o'clock A.M. on August 7, 1968.

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.


Witness my Hand and Seal this 8th day of July, 1968.

  
 NOTARY PUBLIC

My Commission Expires:

June 19, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5778, heard by me on 6/5, 1968.

 Examiner  
 New Mexico Oil Conservation Commission



dearnley-meier reporting service, inc.

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

1120 SIMAS BLVD. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
September 25, 1968

EXAMINER HEARING

-----  
IN THE MATTER OF: )

Application of Atlantic Richfield )  
Company for a dual completion and )  
salt water disposal, Lea County, )  
New Mexico. )  
-----

Case No. 3778

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date SEPTEMBER 25, 1968 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Dean H. Stoll	Stoller & Company	Midland
Jack Brown	" "	"
Bill Dastin	TENUECO	DENVER
Borka Kelly	and the Gilbert Rods & Kelly	S.F.
Dale McCarty	Texas Inc.	Holts
Jack Huff	Burleson & Huff	Midland
Law B. Burleson	Burleson & Huff	Midland
Kenn E. Merren	Merren and Montgomery	Midland

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date SEPTEMBER 25, 1968 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Guy T. Boell	PAN AMERICAN	FORT WORTH
J.W. Roberts	Pan American	Fort Worth
Jack Anderson	Pan American	Fort Worth
Charles E. Howard	Pubco Pds.	Albuquerque
James H. Smith	Atl. Richfield	Albuquerque
Jerry Lewis	Atlantic Richfield	Roswell
Nina Williams	RU Byrum	SF - Dallas
FL Hart	MOBIL	MIDLAND
C.R. Kreuz	Shell	Midland
B.P. Morris	Montgomery et al	Santa Fe
Richard S. Morris	Gulf Oil Corp	Roswell N.M.
J.H. Hoover		
W.V. Kastle	Southern Union Prod	DALLAS, TEXAS
Benny E. Bechtol	Continental Oil Co	Hobbs, NM
V.T. Lyon	Proctor & Gamble	Albuquerque
J.E. Sparling	Sparling	

MR. NUTTER: The hearing will come to order, please.  
The first case this morning will be number 3778.

MR. HATCH: Case 3778, continued from the August 7th, 1968 Examiner Hearing. Application of Atlantic Richfield Company for a dual completion and salt water disposal, Lea County, New Mexico.

MR. HINKLE: Mr. Examiner, Clarence Hinkle, Hinkle, Bondurant, and Christy, Roswell, appearing on behalf of Atlantic Richfield. We have one witness and four exhibits. I'd like to have the exhibits identified.

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

(Witness sworn.)

JERRY TWEED

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

DIRECT EXAMINATION

BY MR. HINKLE:

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

A I am Jerry Tweed. I am a resident of Roswell, and I am employed by Atlantic Richfield.

Q In what capacity are you employed?

A Petroleum engineer.

MR. NUTTER: How do you spell your last name?

THE WITNESS: T-w-e-e-d.

Q Have you previously testified before the Commission?

A Yes, I have.

Q Your qualifications as a petroleum engineer are a matter of record with the Commission?

A Yes.

Q Are you familiar with this case, Number 3778 in the application of Atlantic Richfield?

A Yes, I am.

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

A We are making application to dispose of produced water from the State BG No. 1 located in the southeast quarter of the northeast quarter of Section 14, Township 19 South, Range 36 East, and the produced water from the lower Queen formation of the State BH No. 1 located in the northwest quarter of the northwest quarter of Section 13, 19 South, 34 East, into the upper Queen formation of the State BH No. 1. Both wells are in the Queen pool of Lea County, New Mexico.

Q Have you prepared certain exhibits, or were they prepared under your direction for this case?

A Yes.

Q Refer to Atlantic Richfield Exhibit Number 1, and explain what this shows.

A Exhibit number 1 is a plat map of the Quail-Queen pool in the surrounding area. Shown on the map are the well locations, status of wells, producing formations, lease ownership, and in red is shown a cross-section location. Cross-section location will be referred to as Exhibit Number 2.

It might be noted that our State BG No. 1 is presently making forty-four barrels of oil, and seventy-four barrels of water per day. State BH No. 1 is making seven barrels of oil and twenty-eight barrels of water per day so that we will have a hundred and two barrels of water per day to be disposed of.

Q Is there anything else with respect to this exhibit you'd like to bring out?

A No, not at this time.

Q Refer to exhibit number 2 and explain what it shows.

A Exhibit number 2 is a west to east cross-section of the area containing the State BH No. 1. Shown on the exhibit is the top of the Queen formation, the proposed disposal zone and the perforations in the State BG No. 1 and the State BH No. 1. It might be added that in the State BG No. 1, this proposed disposal zone was tested and tested six barrels of load oil and a hundred and eighty-five barrels of water in twenty-four hours.

Q That's in the disposal BG No. 1?

A Yes, sir.

MR. NUTTER: How much water?

THE WITNESS: Sir?

MR. NUTTER: How much water?

THE WITNESS: A hundred and eighty-five barrels of water per day. There are two other wells besides our State BG and State BH No. 1 in the pool. They are C.B. Read's. The first well is C.B. Read's Atlantic Richfield No. 1 and this well is located in the northwest quarter of the southwest quarter of Section 13, 19 South, Range 34 East.

Q Is that shown on Exhibit Number 1?

A Yes, sir, it is. His nearest perforations to our proposed disposal zone are fourteen feet above it and sixty-two feet below it. Also, besides those perforations, he has perforated in the general zones that are open in the State BH No. 1. This well is currently making sixty-nine barrels of water and sixty-nine barrels of oil per day. The other well that's been drilled in the pool is his Mobil State No. 1 located in the southwest quarter of the northwest quarter of Section 13, 19 South, Range 34 East. This well has not been perforated yet.

He cored fifty-one feet through the proposed disposal

zone in this well, and I looked at this core and there were no shows in this interval. Also, in talking with him, he indicates that he plans to perforate essentially the same zones that we are opening in the State BH No. 1. His Mobil Well is south offset to our State BH.

MR. NUTTER: Do you mean the zones that are open, the upper and the lower, or just the lower?

THE WITNESS: No, sir, the lower zone is open in the State BH, the producing zone.

Q Now, refer to your Exhibit Number 3 and explain what it is and what it shows.

A Exhibit Number 3 is a schematic drawing of our proposed completion of the State BG No. 1. We plan to inject water down the tubing casing annulus into proposed perforations of 4820 to 4830. We plan to continue to produce the well through tubing with a packer set at approximately five thousand and fifty feet. The packer will separate the two zones in the well bore.

Q Will this effectively keep the water in the upper zone, in your opinion?

A Yes, it will. Also, we plan, as stated before, we plan to inject approximately a hundred and two barrels of water per day through a closed system at an estimated surface pressure



of 500 psi.

Q Is this corrosive water?

A It hasn't proved to be corrosive in the producing well.

Q Do you have a water analysis?

A Yes, we do.

Q Refer to Exhibit Number 4.

A Entered in Exhibit Number 4 is a water analysis of the produced water from the State BG No. 1. It shows the total solids and the chloride content, among other chemical contents of the water.

Q In your opinion, is there any chance that this injection of water will eat out the casing or corrode it in any way?

A No. We plan, or we will put a pressure gauge on the braden head, and we'll keep track of this injection pressure to detect any casing leak, should it occur.

Q And as you say, it will be a closed system?

A Yes.

Q So it will not get oxygen in?

A Right. We don't anticipate any corrosion problems in the system.

Q In your opinion, where you have a closed system, it.

would not be corrosive?

A Yes.

Q In your opinion, will the injection of water into this well in the manner that you've testified to be in the interest of conservation and the prevention of waste?

A Yes, it will.

Q Have you furnished all the offset operators with copies of this application?

A We submitted waivers to Union Producing Company, Getty Oil, Gulf Oil Corporation, Mobil Oil Company, and Shell Oil Company. We have these waivers.

Q You obtained waivers from them?

A Yes.

MR. HINKLE: We would like to file these waivers as a part of the record, please.

MR. NUTTER: They will be entered into the record.

THE WITNESS: We did not furnish Mr. Read a waiver, but he verbally waived objection to this.

Q Now, this case was originally filed, I think, in July or August, was it not?

A Yes.

Q And has been continued twice, and that continuation was due to the fact that Mr. Read was drilling the wells which

you have testified to and wanted to wait to see if there was any possibility that injection of water might interfere with his wells, is that right?

A That's right.

Q And he has now indicated to you, in his opinion, that it will not?

A That is right.

MR. HINKLE: That's all we have on direct examination.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Tweed, now, as I understand it, Atlantic has the two wells in this pool.

A Yes, sir.

Q The BG No. 1 and the BH No. 1?

A Yes, sir.

Q And the BG No. 1 is completed in the lower zone only?

A Yes, sir.

Q And on completion of this well, it tested in the upper zone --

A Yes.

Q -- three barrels of load oil and a hundred and eighty-five barrels of water?

A Yes, sir, that's right. We squeezed those upper-zone

perforations after that test.

Q And the BH No. 1 at the present time is not open in the upper zone at all?

A No, sir. It's the lower zone only.

Q Did you test the upper zone in it?

A No, sir, we have not. We did not see any shows in the sample in the upper zone.

Q Now, there's one well of Mr. Read's which is down in the southwest corner, the northwest of the southwest of 13. It is completed in the upper zone, is that correct?

A It is not completed in the disposal zone. It was perforated fourteen feet above the zone that we plan to dispose in and sixty-two feet below it.

Q Well, now, that interval was fourteen feet. It would probably be the equivalent of the disposal zone, would it not?

A Yes. It's in the vicinity of the disposal zone, yes.

Q And then also sixty feet down below, which would be the equivalent of your lower producing zone?

A No, sir, then besides these two perforations, he's also on down in the lower zone, which is open in the BH and the BG.

Q Because, actually, from your disposal zone and your

BH No. 1 in the lowermost perforation there, which is at 4830 down to your uppermost perforation and the producing zone is approximately a hundred and fifty feet?

A Yes, sir.

Q And his perforation is at sixty-two feet below your disposal zone?

A Yes, sir.

Q And he also has perforations down here?

A Yes, sir.

Q Approximately a hundred and fifty feet?

A Yes, sir, that's right. It was my conclusion, by looking at his, that probably most of his production was coming from the lower zones that were open.

Q That you're producing from?

A That we're producing from. There was some question in his mind whether they were or not, and that's why we continued the hearing. In his second well, he cored this fifty-one feet through the upper zone.

Q What was the core interval in that well, do you know?

A I have it here. It was approximately thirty feet above our zone to fifteen feet below where we were going to perforate in. The interval was 4824 to 4875. There were no

shows at all in this core. I went out and observed it when they pulled the core out.

Q Structurally, what position does his well occupy with relation to your BH No. 1?

A It's lower, structurally, approximately thirty feet.

Q So he cored 4824 to 75? You're going to be injecting from 4820 to 30?

A Yes, sir.

Q And he's approximately how much lower than you?

A Approximately thirty feet.

Q Now, when you cemented your long string, how many sacks did you use on this BH No. 1?

A We cemented it with two hundred and seventy-six sacks.

Q And where is the top of the cement?

A At 3900 feet.

Q So the cement comes from the casing shoe, well up above the disposal zone?

A Yes, sir.

Q And how much surface pipe has this well got on it?

A Four hundred and twenty-six feet. It was cemented with two hundred twenty sacks which circulated.

Q Are any fresh waters in this area below four hundred

and twenty-six feet?

A No, sir, not to my knowledge.

Q Is it your intent to treat this water prior to disposal?

A It is our intent to install corrosion coupons and measure the corrosive quality of the water; if the corrosion rate is higher than we deem feasible, then we will treat it.

Q You will run corrosion coupon tests on the well?

A We plan to, yes.

Q And then, in the event that corrosion is appearing, you can treat the water?

A Yes, sir, we will treat it in that case.

MR. NUTTER: Are there further questions of Mr. Tweed?

MR. HINKLE: I'd like to offer Exhibits 1 through 4.

MR. NUTTER: Applicant's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Numbers 1 through 4, inclusive, were admitted in evidence.)

MR. NUTTER: The witness may be excused. Do you have anything further, Mr. Hinkle?

MR. HINKLE: That is all.

MR. NUTTER: Does anyone have anything they wish to offer in case 3778? We will take the case under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
JERRY TWEED	
Direct Examination by Mr. Hinkle	2
Cross Examination by Mr. Nutter	9

<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits 1 through 4	2	13



STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, CHARLOTTE MACIAS, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Charlotte Mauss  
Court Reporter

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Hines hearing of June 14, 1968  
heard by me on 9/25 1968

*Benjamin* *Benjamin* *Benjamin*  
New Mexico Oil Conservation Commission

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 5, 1968

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

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

CASE 3777: Application of Atlantic Richfield Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough "C" zone of the Pennsylvanian formation in its State AE Well No. 2 located in Unit L of Section 36, Township 8 South, Range 36 East, Allison-Pennsylvanian Pool, Roosevelt County, New Mexico, in the perforated interval from 9662 feet to 9672 feet.

CASE 3778: Application of Atlantic Richfield 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 State BH Well No. 1 located 660 feet from the North and West lines of Section 13, Township 19 South, Range 34 East, Quail-Queen Pool, Lea County, New Mexico, in such a manner as to permit production of oil from 5080 feet to 5136 feet in the lower Queen formation through tubing and the disposal of produced salt water into the upper Queen formation through the casing-tubing annulus in the perforated interval from 4820 feet to 4830 feet.

CASE 3779: Application of Shenandoah Oil Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Yates, Seven Rivers, Queen, and Grayburg formations through five wells located in units F and N of Section 29, and units A, G, and I of Section 30, all in Township 18 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.

CASE 3780: Application of Amerada Petroleum Corporation for an amendment to Order No. R-3407, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3407, which authorized the drilling of a water injection well in its Langlie-Mattix Woolworth unit waterflood project at an unorthodox location 75 feet from the North line and 2635 feet from the West line of Section 27, Township 24 South, Range 37 East, Lea County, New Mexico. Applicant now proposes to locate said well 75 feet from the North line and 2540 feet from the West line of said Section 27.

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Docket No. 17-68

June 5, 1968 Examiner Hearing

- CASE 3781: Application of Sinclair Oil & Gas Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water by injection into the Permo-Pennsylvanian formation in the interval 10,434 feet to 11,537 feet in the Cities Service State "AW" Well No. 4 located in Unit I of Section 35, Township 15 South, Range 36 East, Dean Field, Lea County, New Mexico.
- CASE 3782: Application of Pan American Petroleum Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Seven Rivers and Queen formations underlying its Cortland Myers unit area through three wells located in units F, J, and P of Section 22, Township 24 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3783: Application of Pan American Petroleum Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cortland Myers Unit Area comprising 240 acres, more or less, of Federal lands in Section 22, Township 24 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico.
- CASE 3784: Application of Pan American Petroleum Corporation for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the North King Camp Unit Area comprising 14,697 acres, more or less, of State, Federal, and fee lands in Township 13 South, Ranges 29 and 30 East, Chaves County, New Mexico.
- CASE 3785: Application of Pan American Petroleum Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill its Poitevent Gas "Com" Well No. 1 at an unorthodox gas well location 990 feet from the North line and 1650 feet from the East line of Section 11, Township 15 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, in exception to the pool rules which require wells in said pool to be located in the NW/4 or SE/4 of the section.

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Docket No. 17-68

June 5, 1968 Examiner Hearing

CASE 3786: Application of Texaco Inc. for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the North Paduca-Delaware Pool, Lea County, New Mexico, including a provision for classification of oil and gas wells in said pool, a limiting gas-oil ratio of 3000 to one, and 40-acre spacing for oil wells and 160-acre spacing for gas wells. Locations would be no nearer than 330 feet to a quarter-quarter section line.

CASE 3776: (Continued from the May 22, 1968 Examiner Hearing)

Application of J. M. Huber Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Union-State Unit Area comprising 1360 acres, more or less, of State lands in Township 15 South, Range 32 East, Lea County, New Mexico.

ir/

CLARENCE E. HINKLE  
W. E. BONDURANT, JR.  
S. B. CHRISTY IV  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. GOFFIELD  
HAROLD L. HENSLEY, JR.  
MICHAEL R. WALLER  
  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.

LAW OFFICES  
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521 MIDLAND TOWER  
(915) NU 3-4691  
OF COUNSEL: HIRAM M. DOW

May 7, 1968

TELEPHONE (505) 622-6510  
POST OFFICE BOX 10

*Case 3778*

New Mexico Oil Conservation Commission  
State Land Office  
Santa Fe, New Mexico

MAIN OFFICE

'68 MAY 10 PM 3 07

Gentlemen:

We enclose in triplicate two separate Applications of Atlantic-Richfield Company as follows:

1. Application for an order to permit the injection of produced water from State BG No. 1 located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$  Section 14, Township 19 South, Range 34 East, N.M.P.M. into State BH No. 1 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 13, Township 19 South, Range 34 East, N.M.P.M. said water to be injected into the Upper Queen zone of State BH No. 1, both of said wells being located in the Quail Queen Pool, Lea County, New Mexico.

2. Application for an order to permit the injection of produced water from State AE No. 1 located in the center of the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 36, Township 8 South, Range 36 East, N.M.P.M. which is to be abandoned as a producing well, said water to be injected into the Bough "C" formation of the Allison Pennsylvanian Pool located in Townships 8 and 9 South, Ranges 36 and 37 East, N.M.P.M.

We would appreciate your setting these Applications for hearing at the first possible examiner's hearing that will allow for the proper publication.

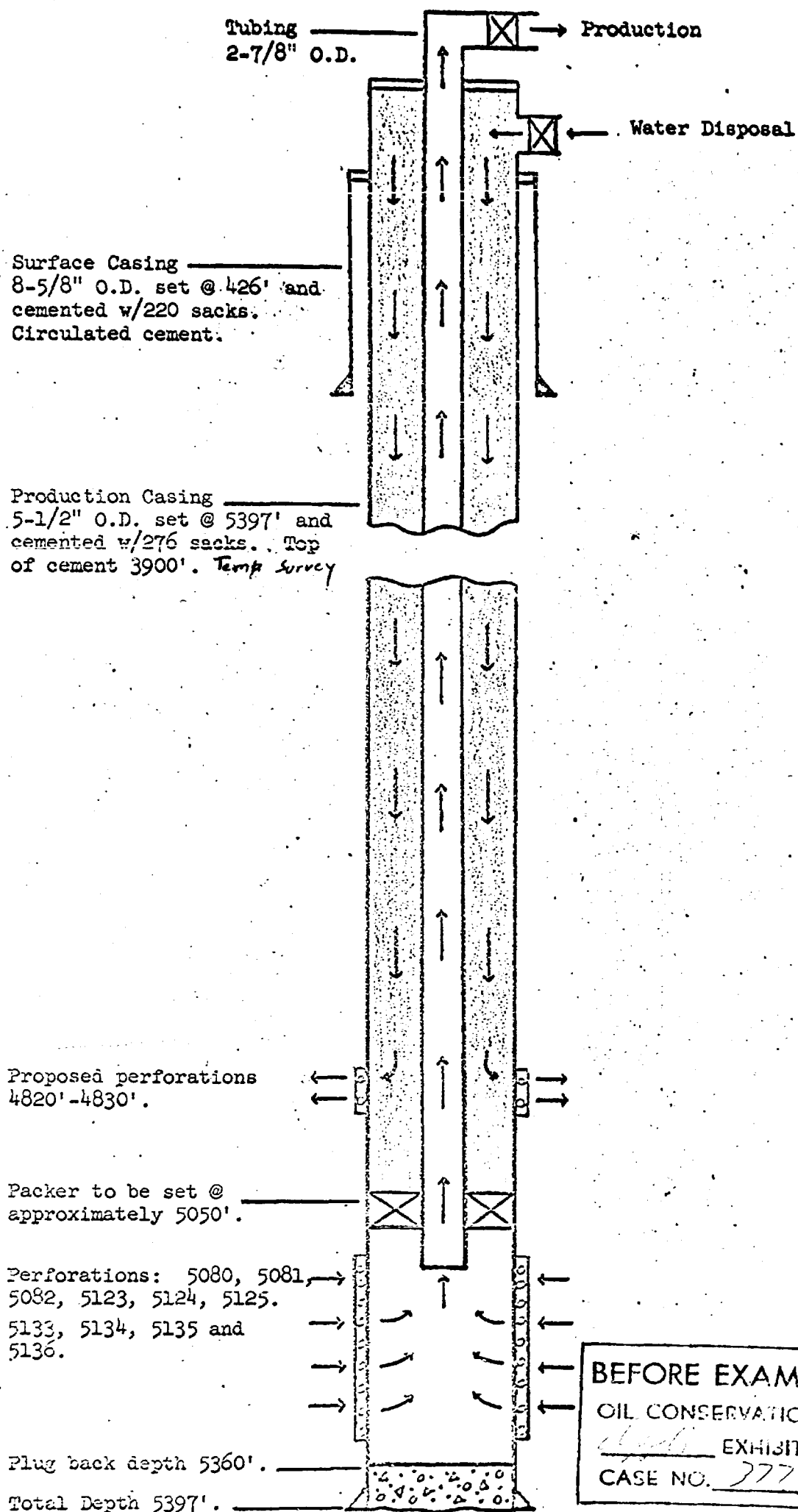
Very truly yours,

HINKLE, BONDURANT & CHRISTY

CEH:md  
encl.  
cc: Mr. Phil Tomlinson

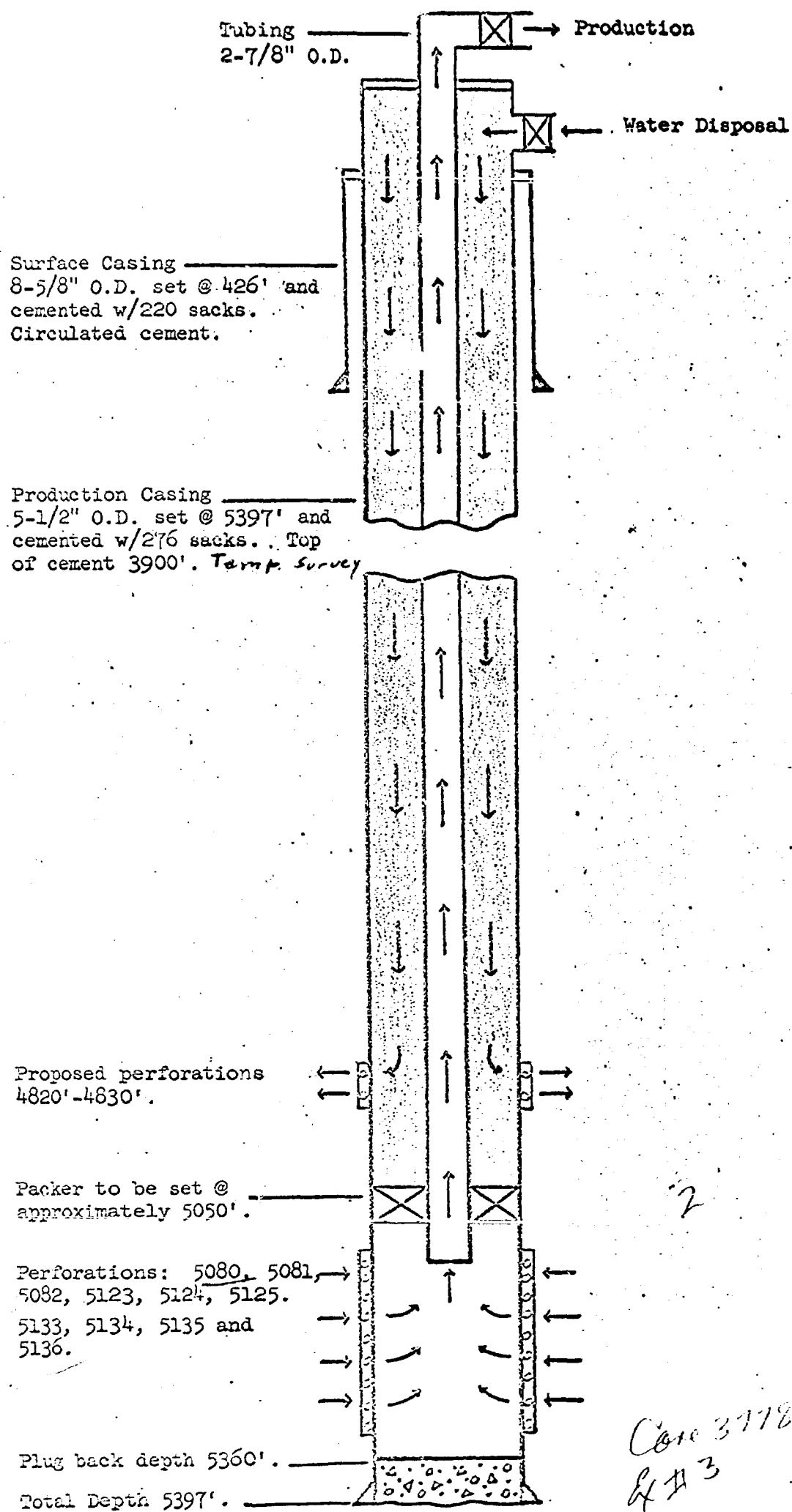
By *Clarence E. Hinkle*  
Clarence E. Hinkle *CS*

ATLANTIC RICHFIELD COMPANY  
 EXHIBIT NO. 3  
 SCHEMATIC DRAWING  
 STATE "BH" NO. 1  
 QUAIL QUEEN POOL  
 LEA COUNTY, NEW MEXICO



BEFORE EXAMINER NUTTEI  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 3  
 CASE NO. 7778

ATLANTIC RICHFIELD COMPANY  
 EXHIBIT NO. 3  
 SCHEMATIC DRAWING  
 STATE "BH" NO. 1  
 QUAIL QUEEN POOL  
 LEA COUNTY, NEW MEXICO



# EXHIBIT NO.4

## PRODUCTION PROFITS, INC.

Petroleum Service Laboratory

7101 CARPENTER FREEWAY

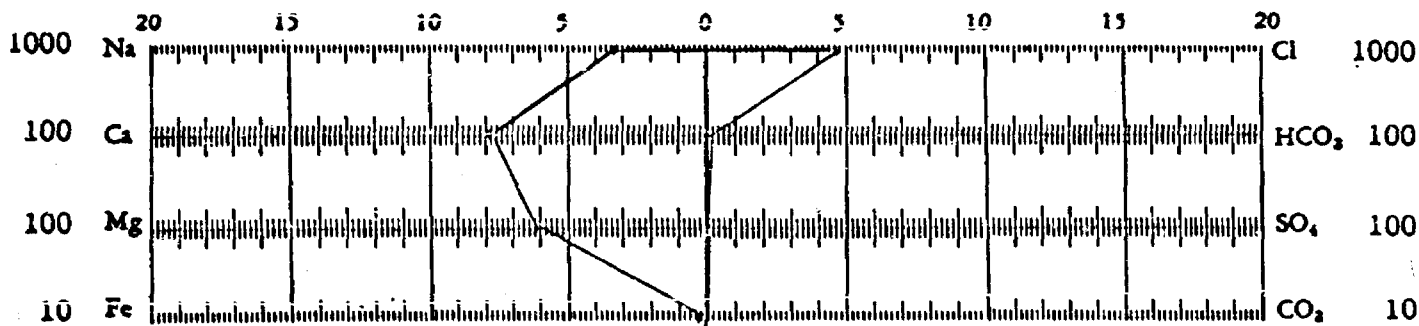
DALLAS, TEXAS

### REPORT OF WATER ANALYSIS

SAMPLE NO. A-1925  
TOTAL SOLIDS 268.629  
CLIENT Atlantic Richfield Company OPERATOR Atlantic Richfield Company  
FIELD Scharh (Queens) COUNTY Lea STATE New Mexico  
LEASE AND WELL NO. State BG No. 1 PROD. FORM. \_\_\_\_\_  
SOURCE OF SAMPLE Stock Tank DEPTH: TOTAL \_\_\_\_\_ PERP. \_\_\_\_\_  
SAMPLE OF: PRODUCED WATER ☐ INJECTION SYSTEM WATER ☐ OTHER ☐  
DATE COLLECTED 6-4-67 ANALYST \_\_\_\_\_

### MINERAL ANALYSIS PATTERN

(NUMBER BELOW ION NAME INDICATES MEQ./SCALE UNIT)



### PRECIPITATED AND SUSPENDED SOLIDS

CONSTITUENT	MG/L (PPM)
TOTAL UNDISSOLVED SOLIDS	_____
IRON OXIDE	_____
CALCIUM CARBONATE	_____
CALCIUM SULFATE	_____
MAGNESIUM CARBONATE	_____
BARIUM SULFATE	_____
SILICA	_____
ORGANIC	_____

### PHYSICAL PROPERTIES

SP. GRAVITY 1.177  
PH 5.1  
RESISTIVITY 0.049 OHMMETERS @ 68°  
STABILITY INDEX @ 41°F \_\_\_\_\_  
@ 86°F \_\_\_\_\_  
CASO<sub>4</sub> SOLUBILITY @ 41°F \_\_\_\_\_ MEQ/L  
@ 86°F \_\_\_\_\_ MEQ/L  
MAX. CASO<sub>4</sub> POSSIBLE \_\_\_\_\_ MEQ/L

### DISSOLVED SOLIDS

CONSTITUENT	MG/L (PPM)
TOTAL SOLIDS (CALC.)	<u>268.629</u>
SODIUM (CALC.)	<u>77.091</u>
IRON (TOTAL)	<u>67</u>
MANGANESE	<u>0</u>
BARIUM	<u>0</u>
CALCIUM	<u>15.751</u>
MAGNESIUM	<u>7.339</u>
CHLORIDE	<u>167.726</u>
BICARBONATE	<u>20</u>
CARBONATE	<u>0</u>
SULFATE	<u>635</u>

### DISSOLVED GASES

CONSTITUENT	MG/L (PPM)
HYDROGEN SULFIDE	_____
CARBON DIOXIDE	_____
OXYGEN	_____

REMARKS: One 1 qt. plastic bottle of red water.

BEFORE EXAMINER NUTTER  
OIL CONSERVATION C. A. B. C. N.  
EXHIBIT NO. 3778  
CASE NO. 3778