

CASE 2789: Application of SAM BOREN
OIL for a salt water disposal dual
completion well

CASE No.
2789

Application,
TRANSCRIPTS,
SMALL Exhibits
ETC.

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

March 29, 1963

C
O
P
Y

Mr. R. O. Major
Major & Giebel
217 W. Wall
Midland, Texas

Dear Mr. Major:

Please find enclosed a copy of the docket for the April 10, 1963, Examiner Hearing.

It is my understanding that you will testify on behalf of the applicant in Case No. 2789. Please be advised that in accordance with a New Mexico Attorney General's opinion, it will be necessary for you to retain an attorney to present the case. If your attorney is not licensed to practice law in New Mexico, it also will be necessary to retain local counsel to enter an appearance on your behalf.

Very truly yours,

J. M. DURRETT, Jr.,
Attorney

JMD/esr
Enclosure

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 10, 1963

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, as alternate Examiner:

- CASE 2780: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Petroleum Consultants and all other interested parties to appear and show cause why the State Well No. 1 located 660 feet from the South and East lines of Section 2, Township 1 North, Range 20 East, De Baca County, New Mexico, should not be plugged in accordance with a Commission-approved plugging program.
- CASE 2781: Application of John H. Trigg Company for three water injection wells, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert its Federal Trigg Wells Nos. 17-9, 26-9, and 28-9, located in Units N, L, and D respectively, Section 9, Township 14 South, Range 31 East, Caprock-Queen Pool, Chaves County, New Mexico, to water injection off-setting Phillips Petroleum Company's West Caprock waterflood project.
- CASE 2782: Application of Texaco Inc., for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the E/2 SW/4, S/2 SE/4, NE/4 SE/4, E/2 NE/4, and NW/4 NE/4 of Section 12, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Roy Riddel Well No. 1 located in Unit N of Section 12.
- CASE 2783: Application of Pan American Petroleum Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Southland Royalty "A" Well No. 8, located in Unit W, Section 4, Township 21 South, Range 37 East, Lea County, New Mexico, as a triple completion (conventional) to produce oil from the Blinebry Oil Pool, Tubb Gas Pool, and Drinkard Pool through parallel strings of tubing.
- CASE 2784: Application of Continental Oil Company for authority to conduct interference tests, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to shut-in one Oil Center Blinebry well on its Meyer B-4 Lease, Section

4, Township 21 South, Range 36 East, Lea County, New Mexico, to observe pressure behavior and to transfer said well's allowable to other wells on said lease for a period not to exceed 90 days.

CASE 2785: Application of DOB Oil Properties, Inc., for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Northeast Anderson Ranch Unit Area, comprising 1680 acres of State land in Township 15 South, Range 32 East, Lea County, New Mexico.

CASE 2786: Application of Apache Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Maljamar North Unit Area, comprising 1600 acres of State land in Township 16 South, Ranges 32 and 33 East, Lea County, New Mexico.

CASE 2787: Application of Cabot Corporation for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the unorthodox location of its John R. Thompson Well No. 1 at a point 1980 feet from the South line and 330 feet from the West line of Section 23, Township 11 South, Range 33 East, North Bagley-Wolfcamp Pool, Lea County, New Mexico.

CASE 2788: Application of Ralph Lowe for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of his Indian Basin "A" Well No. 1, located in Unit J of Section 22, Township 21 South, Range 23 East, Eddy County, New Mexico, as a dual completion (conventional) to produce gas from the Indian Basin-Upper Pennsylvanian Gas Pool and the Indian Basin-Morrow Gas Pool through parallel strings of tubing.

CASE 2789: Application of Sam Boren Oil for a salt water disposal dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Robinson Well No. 1, located in Unit H, Section 23, Township 9 South, Range 33 East, Lea County, New Mexico, in such a manner as to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water through the intermediate casing annulus into the open-hole interval from 4184 feet to approximately 5700 feet.

iqg/

789
MAJOR AND GIEBEL
PETROLEUM CONSULTANTS
WESTERN BUILDING
MIDLAND, TEXAS
March 22, 1963
R. O. MAJOR, GEOLOGIST
A. F. GIEBEL, PETROLEUM ENGINEER
MUTUAL 3-3169

Mr. Dan Nutter, Chief Engineer
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Dear Mr. Nutter:

In accordance with your suggestion by telephone this day, we wish to request that the Commission place the following request on its docket at its earliest convenience:

Mr. Sam Boren requests that the Commission grant their approval for the conversion of his No. 1 Robinson well which is located in the SE/4 NE/4 Section 23, T-9-S, R-33-E, Lea County, New Mexico, from a Bough "C" producer to a dual Bough "C" producer and San Andres-Glorieta water disposal well. Inasmuch as the Bough "C" formation is presently producing approximately 35 Barrels of oil and 350 barrels of water daily, we are most anxious to present our proposal to the Commission at the earliest possible date.

Yours very truly,

DOCKET MAILED

Date 3-29-63

ROM:ms

R. O. Major
R. O. Major
for Sam Boren Oil

Case 2789

Application of Sam Boren
Oil For a Salt Water
Disposal Dual Completion,
Lea County New Mexico

Applicant in the above-styled cause,
~~seeks~~ authority to ^{drill} ~~complete~~ its
Robinson Well no. 1, located in
Unit H, Section 23~~7~~, Township 9
South, Range 33 East, Lea County,
New Mexico, in such a ~~most~~ manner
as to produce oil from the ^{Bangh "C" zone of the Permian} ~~Permian~~
~~formation~~ and to dispose of produced salt
water ~~through~~ through the intermediate
casing annulus into ~~the~~ the open hole
interval from 4184 feet to approximately
5700 feet. ~~and to produce~~
~~oil from the~~

send docket to:

R.O. Major
Major & Siebel
214 W. Wall
Midland Texas



1963 APR 22 PM 1:38

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

April 1, 1963

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

*John Reynolds
10/10/63 at Santa Fe*

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

It is noted on your Oil Conservation Commission docket for April 10, 1963 that Case 2789 pertains to a dual completion and that Sam Boren Oil proposes to dispose of salt water through this well. This office has not received an application from Boren Oil as provided by the third paragraph of Section C Rule 701 and therefore we are unable to determine what the effects on fresh water supplies might be. We find it necessary to object to the granting of this application until such time as we have received a copy of it, along with all necessary detailed information concerning the construction of the well and the plan injection methods and have had sufficient time in which to study the application.

Yours truly,

S. E. Reynolds
State Engineer

FEI/ma

By: *Frank E. Irby*
Frank E. Irby
Chief
Water Rights Division

No. 11-63

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 10, 1963

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, as alternate Examiner:

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CASE 2789:

Application of Sam Boren Oil for a salt water disposal dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Robinson Well No. 1, located in Unit H, Section 23, Township 9 South, Range 33 East, Lea County, New Mexico, in such a manner as to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water through the intermediate casing annulus into the open-hole interval from 4184 feet to approximately 5700 feet.

10-2-63

HUMBLE OIL & REFINING COMPANY

MIDLAND, TEXAS

MIDLAND AREA

March 27, 1963

POST OFFICE BOX 1800

PRODUCTION DEPARTMENT

R. R. MCCARTY
MANAGER
H. L. HENSLEY
J. M. SHEPHERD
OPERATIONS SUPERINTENDENTS
H. E. MEADOWS
ENGINEERING COORDINATOR

Sam Boren - Robinson No. 1
Salt Water Disposal Problem
(Humble Farmout)

Major & Giebel
Petroleum Consultants
106 Western Building
Midland, Texas

Gentlemen:

This letter is in reply to your request that Humble support your proposal to dispose of produced water down the annulus into the San Andres formation in your Robinson Well Number 1. Normally this would not be considered good practice due to the possibility of corrosion on the exterior of the oil string casing. However, since this is a new well and the production history to date indicates a short producing life, the casing should last without difficulty.

It is understood that disposal of the produced water is imperative as very shallow surface waters are present and contamination would be likely if the produced water was drained into surface pits. We also understand that there are no other wells available into which the water can be injected economically.

For the above mentioned reasons Humble does not object to your disposing of the produced water as requested. If you will advise us of the date when your hearing will be held, we will furnish the Oil Conservation Commission with a statement supporting your request.

Yours very truly,

HUMBLE OIL & REFINING CO.

R. R. McCarty

ALC:jb

H. L. Hensley

By: H. L. Hensley

RECEIVED
MAR 28 1963
MIDLAND, TEXAS

100-20-92-1

HUMBLE OIL & REFINING COMPANY

MIDLAND, TEXAS

MIDLAND AREA

March 27, 1963

POST OFFICE BOX 1600

PRODUCTION DEPARTMENT

R. R. MCCARTY
MANAGER

H. L. HENSLEY
J. M. SHEPHERD
OPERATIONS SUPERINTENDENTS

H. E. MEADOWS
ENGINEERING COORDINATOR

Sam Boren - Robinson No. 1
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HUMBLE OIL & REFINING CO.

R. R. McCarty

ALC:jb

H. L. Hensley

By: H. L. Hensley

RECEIVED
MAR 28 1963
MIDLAND, TEXAS

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 4/15/63

CASE 2789

Hearing Date 9am 4/10/63

DEN @ SF

My recommendations for an order in the above numbered cases are as follows:

Enter an order authorizing Sam Boren to complete his Robinson Well no. 1 located in 1980 'FNL & 660' FEL Sec 23 T9S, R33E, Lea Co., N.Mex. in such a manner as to produce oil from the Bangh C zone of the Permian-Vernian formation and to dispose of produced salt water down the annulus between the 4 1/2 inch production casing and the 7 5/8 inch intermediate casing. Disposal is to ^{into the San Andres and upper 14250 formations} be in the open hole interval between the 7 5/8 inch casing shoe at 4183 1/2 feet and the top of the cement at approximately 5781 feet. Provide that the power oil used to lift the Bangh "C" production shall be treated with an adequate corrosion inhibitor. Further, that coupon tests shall be run on the disposal water to ensure that down-hole corrosion will not result which might cause waste. *Xander*

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

April 22, 1963

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1713
Santa Fe, New Mexico

Re: Case No. 2789
Order No. R-2472
Applicant:
Sam Boren Oil

Dear Sir:

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

Very truly yours,

A handwritten signature in cursive script, reading "A. L. Porter, Jr.", is written over the typed name.

A. L. PORTER, JR.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Astec OCC

OTHER Mr. Frank Irby

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. B. JOHNNY WALKER
MEMBER

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

P. O. BOX 871
SANTA FE

April 22, 1963

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1713
Santa Fe, New Mexico

Re: Case No. 2789
Order No. R-2472
Applicant:
Sam Boren Oil

Dear Sir:

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

Very truly yours,

A handwritten signature in cursive script that reads "A. L. Porter, Jr.".

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Astec OCC

OTHER Mr. Frank Irby

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. 2789
Order No. R-2472

APPLICATION OF SAM BOREN OIL
FOR A SALT WATER DISPOSAL DUAL
COMPLETION, LEA COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 10, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 22nd day of April, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Sam Boren Oil, seeks authority to dually complete its Robinson Well No. 1, located 1980 feet from the North line and 660 feet from the East line of Section 23, Township 9 South, Range 33 East, NMEP, Lea County, New Mexico, to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water into the San Andres and Upper Yeso formations.

(3) That the applicant proposes to inject the produced salt water down the annulus between the 4 1/2-inch production casing and the 7 5/8-inch intermediate casing into the open hole interval between the 7 5/8-inch casing shoe at approximately 4184 feet and the top of the cement at approximately 5781 feet.

(4) That the applicant proposes to treat the power oil used to lift the Bough "C" production with a corrosion inhibitor and to conduct coupon tests to ensure that down-hole corrosion will not occur.

-2-

CASE No. 2789
Order No. R-2472

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(6) That approval of the subject application will not cause waste or impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sam Boren Oil, is hereby authorized to dually complete its Robinson Well No. 1, located 1980 feet from the North line and 660 feet from the East line of Section 23, Township 9 South, Range 33 East, NMPM, Lea County, New Mexico, to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water into the San Andres and Upper Yeso formations.

PROVIDED HOWEVER, That the produced salt water shall be injected down the annulus between the 4 1/2-inch production casing and the 7 5/8-inch intermediate casing into the open hole interval between the 7 5/8-inch casing shoe at approximately 4184 feet and the top of the cement at approximately 5781 feet; that the power oil used to lift the Bough "C" production shall be treated with a corrosion inhibitor; and that the applicant shall conduct coupon tests to ensure that down-hole corrosion will not occur.

PROVIDED FURTHER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

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

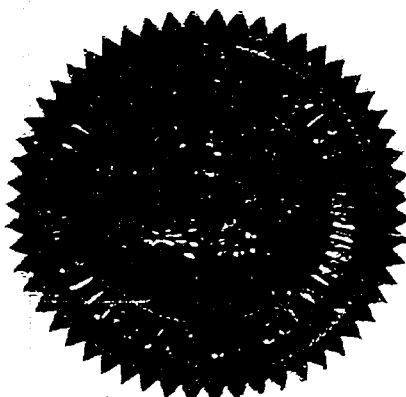
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

E. S. Walker
E. S. WALKER, Member

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



esr/

DRAFT

JMD/esr
April 17, 1963

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. 2789

Order No. R- 2472

APPLICATION OF SAM BOREN OIL ~~COMPANY~~
FOR A SALT WATER DISPOSAL DUAL COM-
PLETION, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 10, 1963, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this _____ day of April, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, Sam Boren Oil ~~Company~~, seeks authority to dually complete its Robinson Well No. 1, located 1980 feet from the North line and 660 feet from the East line of Section 23, Township 9 South, Range 33 East, NMPM, Lea County, New Mexico, to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water into the San Andres and Upper Yeso formations.
- (3) That the applicant proposes to inject the produced salt water down the annulus between the 4 1/2-inch production casing and the 7 5/8-inch intermediate casing into ~~an~~ ^{the} open hole interval between the 7 5/8-inch casing shoe at approximately 4134 feet

and the top of the cement at approximately 5781 feet.

(4) That the applicant proposes to treat the power oil used to lift the Bough "C" production with a corrosion inhibitor and to conduct coupon tests to ~~assure~~^{insure} that down-hole corrosion will not occur.

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(6) That approval of the subject application will not cause waste or impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sam Boren Oil ~~Company~~, is hereby authorized to dually complete its Robinson Well No. 1, located 1980 feet from the North line and 660 feet from the East line ~~xxxxxxx~~ of Section 23, Township 9 South, Range 33 East, NMFM, Lea County, New Mexico, to produce oil from the Bough "C" zone of the Pennsylvanian formation and to dispose of produced salt water into the San Andres and Upper Yeso formations.

PROVIDED HOWEVER, That the produced salt water shall be injected down the annulus between the 4 1/2-inch production casing and the 7 5/8-inch intermediate casing into the open hole interval between the 7 5/8-inch casing shoe at approximately 4184 feet and the top of the cement at approximately 5781 feet; that the power oil used to lift the Bough "C" production shall be treated with a corrosion inhibitor; and that the applicant shall conduct coupon tests to ~~assure~~^{insure} that down-hole corrosion will not occur.

PROVIDED FURTHER, That the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(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.

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 10, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Sam Boren Oil for a salt
water disposal dual completion, Lea
County, New Mexico. Applicant, in the
above-styled cause, seeks authority to
dually complete its Robinson Well No. 1,
located in Unit H, Section 23, Township
9 South, Range 33 East, Lea County, New
Mexico, in such a manner as to produce
oil from the Bough "C" zone of the Penn-
sylvanian formation and to dispose of pro-
duced salt water through the intermediate
casing annulus into the open-hole interval
from 4184 feet to approximately 5700 feet.

Case 2789

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call Case 2789.

MR. DURRETT: Application of Sam Boren Oil for a salt
water disposal dual completion, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, repre-
senting the applicant. We will have one witness I would like to
have sworn, please.

(Witness sworn.)



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 225-1182

SANTA FE, N. M.
PHONE 963-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

AARON F. GIEBEL

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q State your name, please.

A Aaron F. Giebel.

Q By whom are you employed, Mr. Giebel, or are you in business for yourself?

A We're in business for ourselves as consultants, but we are employed by Sam Boren for this particular hearing.

Q What connection have you had with the well involved in this particular hearing, Mr. Giebel?

A We have been responsible for the drilling and completion of this well.

Q Have you ever testified before the Oil Conservation Commission?

A No.

Q Would you, for the benefit of the Examiner, outline your education and experience as a petroleum engineer?

A I was graduated in 1950 from Texas A. and M., B. S. in petroleum engineering, and employed for approximately four years by Amerada Petroleum Corporation. Thence to employment by



DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

Stewart and Sherman Hunt of Dallas for two years, and then into the partnership of Major and Giebel as petroleum consultants from that time up until the present.

Q Where are you located?

A We're located in Midland, Texas.

Q In connection with your work in Midland, do you handle consulting engineering work in the Permian Basin in New Mexico?

A Yes.

MR. KELLAHIN: If the Commission please, the application, I believe, was filed in the form of a letter and here is the application on the forms used by the Commission for a dual completion. I think the case has been advertised on the basis of a letter and we just submit that for the Commission's file.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Now, referring to what has been marked as Exhibit No. 1, Mr. Giebel, would you identify that exhibit and discuss briefly the information shown thereon?

A Yes, this exhibit shows the well and acreage, and the applicant is desirous of dually completing this well located 1980 from the North line and 660 from the East line of Section 23, Township 9 South, Range 33 East, Lea County, New Mexico, in such a manner as to produce the oil from the Bough "C" pay of the



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Pennsylvanian formation, and to dispose of the produced salt water through the intermediate casing annulus into the open-hole interval from 4184 to approximately 5700 feet.

This plat shows, in effect, the well itself as well as all the other dry holes that have been drilled previously, and shows the closest production, Lane Field to the south being from the Rough "C" as well as from the Wolfcamp formation; and then the closest San Andres production approximately four miles to the northeast, the CLR Field.

Q You mentioned another formation in connection with the salt water disposal area. That was the San Andres and the Jeso, wasn't it?

A That's correct.

Q Is there any Jeso production in this area?

A There is none.

Q Now, the exhibit shows a well located to the south as a dry hole, is that correct?

A It shows a well that was drilled by Monterey is located some 3350 feet to the southwest of the subject well.

(Whereupon, Applicant's Exhibit No. 2 was marked for identification.)

Q Referring to what has been marked as Exhibit No. 2, would you identify that exhibit and discuss the information



shown on it?

A Exhibit No. 2 shows, is a certified plat of the Boren well, Robinson No. 1, and shows its proximity to the Ainsworth drilled by Monterey as previously cited. The location known as the Ainsworth Boren No. 1 Well is an abandoned location and should not be considered.

Q That well was not drilled?

A No, it was not.

Q Why can't Boren utilize this abandoned well for salt water disposal rather than making the dual completion proposed here?

A That well was plugged and abandoned in keeping with Oil Conservation Commission rules, and in the process of the abandonment the operators attempted to pull the intermediate casing by shooting this with nitro in two different places. We feel that it would be impossible to go into the well and would not justify the cost to set this well up as a water injection well. The casing was finally pulled at 1100 feet.

Q It was shot twice then?

A It was shot twice.

Q Would you consider it a safe engineering procedure, from the point of view of protecting producing horizons or fresh water zones, to utilize that well under those circumstances?

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A I would not. Actually, I have more concern over getting into the well and setting it up as an injection well than I would whether it could be properly utilized as a disposal well, however. The cost could run anywhere from twenty to thirty thousand dollars just to get back into this well and recomplete it. It has been properly plugged, there are some six different plugs in that particular well, and it was witnessed by the Oil Conservation Commission.

Q Do you have a log of the subject well, the Robinson No. 1?

A Yes.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q What information have you marked on that log?

A We have marked all the tops of various formations and have shown also the calculated tops of the cement behind the various strings.

MR. KELLAHIN: The tops have only been marked on the one you have, Mr. Nutter. Here's another one.

Q You say that also shows the calculated tops of the cement?

A That's correct. We did not run any temperature surveys.

Q Do you have an exhibit showing the casing program and



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cementing used in this well?

A Yes, we do.

(Whereupon, Applicant's Exhibit No. 4 was marked for identification.)

Q I refer you to what has been marked as Exhibit No. 4 and ask you what that is designed to show.

A That's designed to show the tops of the formations, the casing strings, where they were set and cemented, and the weights of these various casing strings.

Q What is the condition of that casing, Mr. Giebel?

A All material used in this well was brand new.

Q No used casing involved here?

A No.

Q This shows also the volumes of cement that were used in each string.

A That's correct.

(Whereupon, Applicant's Exhibit No. 5 was marked for identification.)

Q Now, referring to what has been marked as Exhibit No. 5, would you discuss the information shown on that exhibit, please?

A This is a diagrammatic sketch of the well where the casing was set and cemented, and the annulus. It also shows in color what we propose to do and the manner in which we propose to



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produce the well. The red shows production from the Bough "C" pay from perforations from 9644 to 51, being produced by KOBE pump out the casing. The blue, or the blue arrow shows the injection of the water produced with the oil down the annulus. You will note that the intermediate string being 7-5/8" casing was set down in the San Andres at 4184, the San Andres was at 3908. The top of the cement is back into the surface casing. There's approximately 1600 feet of annulus in the San Andres and Jeso, between the top of the cement and the bottom of the intermediate casing. This is where we propose to inject and dispose of the water.

Q Does your log indicate any porous zones in there that you believe would take the water in the volume you are proposing to put in here?

A In both the San Andres, and especially the Yeso formation.

Q Was the San Andres and Yeso tested in this particular well?

A It was not drill-stem tested, but the reason it was not is because there were no shows in either the San Andres or the Jeso. I might point out at this time that in the Monterey Ainsworth to the southeast, there were no shows in the San Andres, and therefore no drill-stem tests were conducted in it, but in the



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Jeso a drill-stem test was conducted in that formation and recoveries were approximately a thousand feet of water, so it was construed as non-productive.

Q Getting back to the casing and cementing program, in the surface string, was the cement circulated?

A It was.

Q What is the situation, then, as to the production string in the Bough "C" zone?

A Casing was set through the Bough "C" and shown at 9784 and cemented with 800 sacks of cement. A temperature survey was not conducted, but a calculated fill was estimated. We contacted Haliburton Engineers and they run research on wells in which so many sacks of cement had been utilized in cementing other production strings in the area and on which temperature surveys had been conducted. We have proper confirmation through letter from the Haliburton Engineers, and the calculation of the top of the cement was made from this information.

Q What percentage of fill did you use in your calculation?

A 62%.

Q Are there any fresh water zones in this area?

A There are fresh water zones in the area immediately below caliche.

Q At what depth, approximately, is that fresh water



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found?

A I would say approximately 60 feet.

Q Is the completion of this well adequate in your opinion to protect that zone from any possible contamination?

A It is.

Q Is the casing and cementing of the well such that it will protect any other possible producing horizons?

A Yes.

Q Or any fresh water zones that might exist below the one you mentioned?

A Yes, that's right. The surface casing, the 10-3/4" was set into the red bed.

Q Is there any irrigation carried on in this area?

A To my knowledge, I don't think that there is.

Q Just stock water?

A Stock water from windmills.

Q Is any of that close to this well?

A Yes, it is.

Q Do you think it is adequately protected by this completion?

A I do.

Q What are you doing with the water at the present time?

A We're disposing of it in an earthen pit adjacent to the



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well.

Q What volume of water will you anticipate disposing down the well bore?

A Some 350 to 375 barrels of water daily.

(Whereupon, Applicant's Exhibit No. 6 was marked for identification.)

Q Referring to what has been marked as Exhibit No. 6, what does that indicate as to the characteristics and nature of this water?

A We had this water tested by Dowell Chemical Company and their conclusion was that it is slightly corrosive. They say that the water can be treated and they have given their proposal here in writing, the correspondence you have there, whereby it's their thought to treat the water by injecting the chemical down it, poweroil supply into the KOBE pump and then from the KOBE, pump the water and oil being produced from the formation to the surface to be treated. They feel that would take care of any corrosive properties of the water.

Q Will periodic tests be run to determine whether corrosion is being experienced?

A Yes.

Q Would you use coupons in the annulus space to which the water is being injected?



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A We would use coupons just upstream from where the water was being injected. I would like to say at this time, too, that the system will be a closed system; at the time the water and oil is separated at the surface the water will be in a closed system and injected down the casing.

Q What is the economic situation as to production from this well?

A Well, it's presently producing 30 barrels of oil and 350 barrels of water daily. It is our thought that the economic limit of this well will be reached in less than three years at the present producing rate.

Q Would this installation be adequate to protect for that period of time?

A Yes. We feel very strongly that in view of the fact that we will be treating the water, in view of the fact that the material used in the well, namely the producing string and casing was new, and in view of the short economic life of the well, we do not feel that we will have any trouble with corrosion in the well.

Q Has there been any experience in this area from this particular zone where oil production has increased and water has declined as the productive life of the well continues?

A Very definitely, in the Lane Field to the south, which



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is shown in our Exhibit No. 1, many of these wells were completed initially as making almost a hundred percent water, and in a matter of six months to nine months the oil production increased, and most of the wells now are only making 20 to 30% water that initially came in making almost 100% water.

Q Is there any other practical means of disposing of this water to your knowledge?

A To our knowledge, no.

Q Do you think it is safe practice to continue disposing of it in pits?

A Definitely not. Right now the pits are handling the water, but we feel that it's expedient that we get a more feasible way of actually disposing of the water.

Q Has this type of salt water disposal dual completion been approved by the Commission in other areas?

A Yes, it has. In the matter of Case No. 2269, May 4th, 1961, there was a similar case that was approved.

Q In your opinion, as an engineer, is the approval of this application in the interest of conservation and the greater ultimate recovery of oil from the reservoir?

A Very definitely.

Q Were Exhibits 1 through 6 prepared by you or under your supervision?



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A Yes.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibits 1 through 6, inclusive.

MR. NUTTER: Applicant's Exhibits 1 through 6 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 6 were offered and admitted in evidence.)

MR. KELLAHIN: That's all the questions I have on direct examination.

MR. NUTTER: Are there any questions? Mr. Irby.

CROSS EXAMINATION

BY MR. IRBY:

Q Mr. Giebel, have you given me, you and your attorney both given me assurance that a copy of your application to the Commission and a copy of each of the exhibits entered in this case will be furnished the State Engineer?

A Yes, sir.

MR. IRBY: Mr. Examiner, may I see the letter that I dictated on this matter? I didn't bring a copy with me. In view of the information submitted in this hearing on this matter, the State Engineer withdraws his objection to the granting of this application.



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MR. NUTTER: This is the letter of April 1st, 1963?

MR. IRBY: That is correct.

MR. KELLAHIN: We apologize to the State Engineer for not furnishing him with copies of this in advance. It was inadvertent.

BY MR. NUTTER:

Q You stated, Mr. Giebel, that you had the calculation by Haliburton of the fill-up. What did they do? They used a calculated fill-ups versus actual fill-ups as determined by temperature survey for wells in this area with similar formation?

A Yes, sir, in the Lane Field.

Q Would you furnish the Commission with a copy of the correspondence that you received from Haliburton regarding this fill-up, please?

A Yes, sir, I have it with me.

MR. NUTTER: We would appreciate that being offered as one additional exhibit, Mr. Kellahin.

MR. KELLAHIN: Can we furnish you with a copy?

MR. NUTTER: A copy will be satisfactory.

MR. KELLAHIN: Referring to Exhibit marked No. 7, is that the letter you referred to from Haliburton?

A That is correct.

(Whereupon, Applicant's Exhibit No. 7 was marked for identification.)



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MR. KELLAMIN: We offer Exhibit No. 7 in evidence.

MR. NUTTER: Exhibit No. 7 will be admitted in evidence.

(Whereupon, Applicant's Exhibit No. 7 was offered and admitted in evidence.)

Q (By Mr. Nutter) Mr. Giebel, you stated that the Bough "C" is presently being produced by KOBE pump?

A That is correct.

Q Is the power oil run down the casing annulus and through the tubing or vice versa?

A Vice versa, power oil down the tubing to activate the KOBE and then the annulus is the producing string.

Q It is your proposal to treat the power oil in the manner as suggested by Dowell, that would be to treat the power oil with chemical prior to its injection into the well?

A Yes, that's right.

Q This, in turn, would treat the produced water that comes up with the production?

A That would be the purpose, yes, sir.

Q You will install coupons to determine the corrosion immediately upstream?

A That's correct. At that time, if it's not satisfying the conditions, we will treat the water just prior to its being injected so the condition of corrosion can be met.



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Q If there is corrosion into the 4-1/2" casing, would that be indicated by any change in production? That is if corrosion should result in a leak in the 4-1/2" casing, would that be indicated by any possible change in production characteristics in the well?

A We feel that it will. It, of course, would not be as good as pressuring up the casing behind the packer, but this, of course, without the installation we have, would be impossible. We do feel that in view of the fact that the annulus will be full of produced fluid at all times, that in case of a leak we will get a change in the fluid production at the surface and it will be immediately noticeable.

I would like to say at this time, too, that one of the purposes of injecting the chemical down the tubing and the power oil would be so that we would have the water treated as it comes back up the annulus to further discourage corrosion on the inside of the casing.

Q So theoretically you would have treatment of the 4-1/2" casing from both sides?

A Yes, that is correct.

MR. NUTTER: Any further questions of Mr. Giebel? He may be excused.

(Witness excused.)



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MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all I have.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2789?

MR. SARGENT: William M. Sargent for Cabot Corporation. Cabot, as offsetting lease holder to this well, approves the granting of the application as stated.

MR. KELLAHIN: If the Commission please, we do have one letter from Humble. Do you prefer to have this marked as an exhibit or just put it in the file? It is a letter from Humble Oil & Refining stating they have no objection to this proposed application.

MR. NUTTER: We'll just put it in the file.

MR. KELLAHIN: They are offsetting operators.

MR. NUTTER: If nothing further in Case 2789, we will take it under advisement, and the hearing is adjourned.



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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 23rd day of April, 1963.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:
June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2787 heard by me on 4/12, 1963.

[Signature], Examiner
New Mexico Oil Conservation Commission



NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name WILDCAT		County Lea		Date 4-5-63
Operator SAM BOREN		Lease ROBINSON		Well No. 1
Location of Well	Unit H	Section 23	Township 9-S	Range 33-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES _____ NO X
2. If answer is yes, identify one such instance: Order No. _____ ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	San Andres	Bough (Penn)
b. Top and Bottom of Pay Section (Open Hole) XXXXXXXXXX	4184-5781	9644 -51
c. Type of production (Oil or Gas)	Neither	Oil
d. Method of Production (Flowing or Artificial Lift)	Disposal	Artificial (Kobe)

4. The following are attached. (Please mark YES or NO)

- X a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- X b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- X c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
- X d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Humble Oil & Ref. Co., Box 1597, Roswell, N.M.

Kern County Land Co., V & J Tower, Midland, Tex.

Cabot Corporation, Wilco Bldg., Midland, Tex.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO ____ . If answer is yes, give date of such notification 4-8-63.

CERTIFICATE: I, the undersigned, state that I am the Agent of the Sam Boren (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

RC Meyer

Signature

- * Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard proration unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Doc. V. Cook

Lane Field³²

Wetcamp and Pennsylv

Geo. N. Cook

Ohio

1-20-72

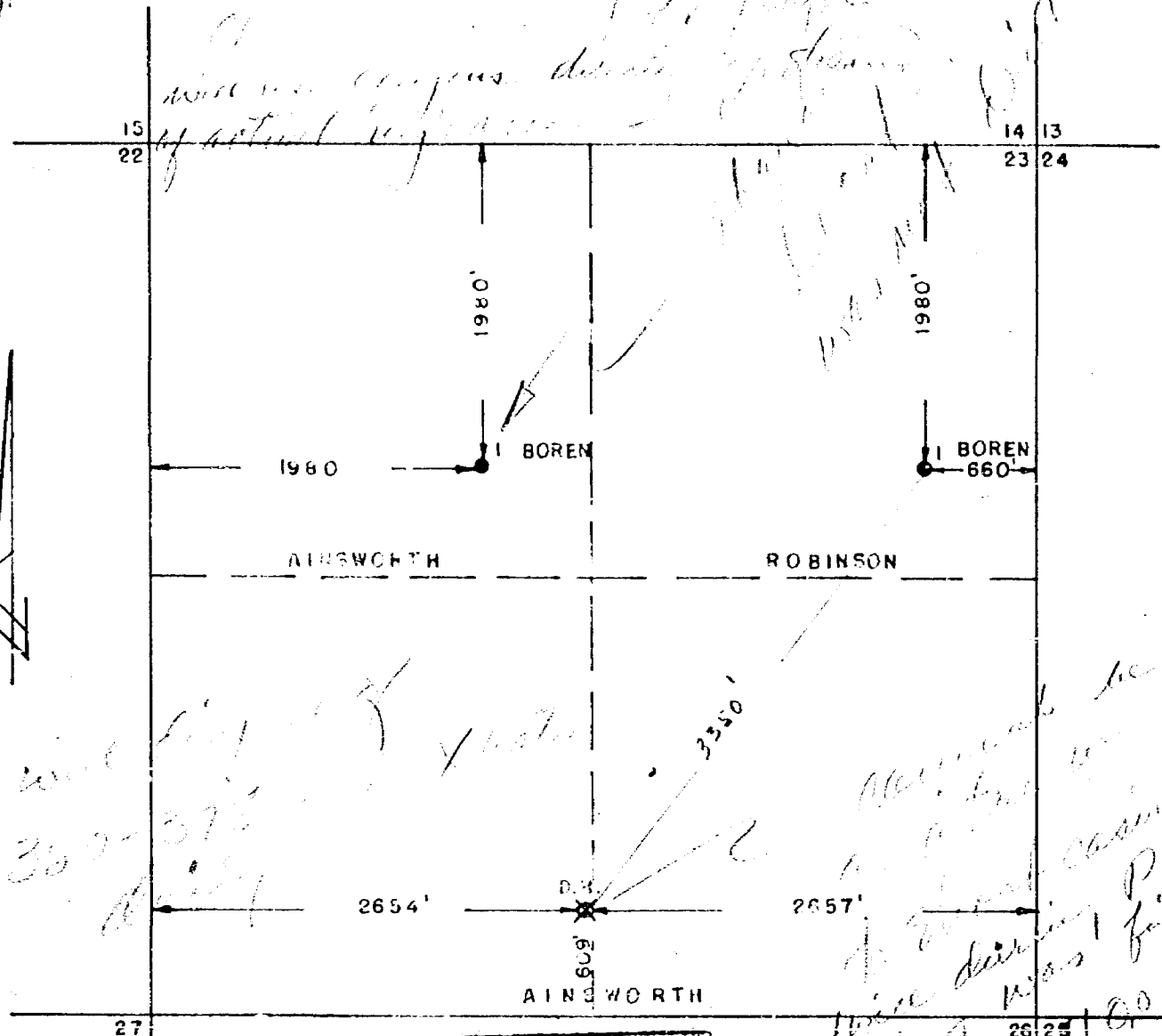
06 5803

structural members on
of Bough "C"

T-9-S R-33-E
LEA CO. NEW MEXICO

Exhibit No. 2

SAM BOREN
Robinson No. 1



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 2
CASE NO. 2789

Surveyed by: Merle Shows

CASING PROGRAM AND FORMATIONS

SAM BOREN--Robinson No. 1 well, located 1980' FNL and 660 FEL Section 23,
T-9-S, R-33-E, Lea County, New Mexico

	Rustler - 2095'	Cemented behind 7 5/8" casing
	Yates - 2690'	Cemented behind 7 5/8" casing
	San Andres - 3909'	Cemented behind 7 5/8" casing to 4184'
	San Andres - 4184'-5325'	Open hole
	Yeso - 5325	Open hole
	5781'	Top cement
	5781' T.D.	Cemented behind 4 1/2" casing
T.D.	9781'	

<u>Size</u>	<u>Weight</u>	<u>Depth</u>	<u>Cement (sacks)</u>
10 3/4"	32.75#	438'	400
7 5/8"	24# H-40	0-3055'	450
	26.40# J-55	3055-4184'	
4 1/2"	11.60# N-80	0-9781'	800

Exhibit No. 6



DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

April 8, 1963

BOX 1858
1601 WILCO BUILDING
MIDLAND, TEXAS

Major and Giebel
Grafa Building
Midland, Texas

Attention: Mr. Major

CORROSION CONTROL ON ROBINSON #1

1. The water analysis on the above well indicates that it is not scale prone; however, the iron count of 24 PPM does indicate that it is corrosive and should receive treatment to eliminate this problem.
2. The corrosion problem can be corrected by using Corban 21C WD. The corban should be injected into the power oil flow and displaced down the tubing. One gallon per day should be used for the first week and then reduced to one quart per day for the next week. At this time another water analysis should be run, and from the iron count, we can determine if this treatment is sufficient; and if so, it can possibly be reduced.
3. Water analysis should be run each month until the iron count shows we are getting the desired protection.

T. B. McKinney
T. B. McKinney
Products Engineer

TBM/jb

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
<i>Ex-1</i>	EXHIBIT NO. <u>6</u>
CASE NO.	<u>2789</u>



DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

FIELD LABORATORY REPORT

WATER ANALYSIS

TO: Norman Krey

DATE SAMPLE SUBMITTED

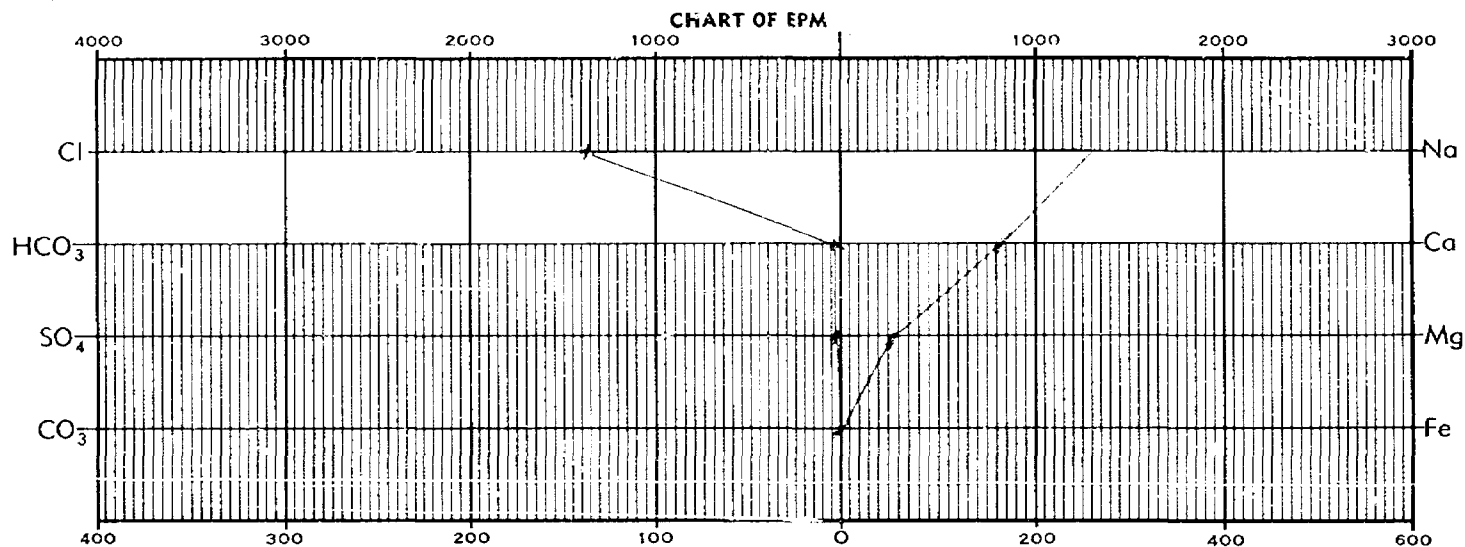
4-4-63

SAMPLE SOURCE

Separator

LABORATORY LOCATION	REPORT NUMBER
Midland, Texas	12612
COMPANY	WELL
Sam Boren	Robinson #1
POOL	LOCATION
Wildcat	
COUNTY	STATE
Rossevelt	Texas
FORMATION	DEPTH
Bough "C"	9644' - 9651'
SUBMITTED BY	TESTS DESIRED
Krey	Analysis

	PPM	EPM		PPM	EPM
CALCIUM	3,190	160	CHLORIDE	49,000	1,382
MAGNESIUM	628	52	SULFATE	150	3
SODIUM	27,000	1,176	BICARBONATE	229	4
IRON	24	1	CARBONATE	0	
HYDROGEN SULFIDE	0		HYDROXIDE	0	
SPECIFIC GRAVITY	% SALT SATURATION				
1.067	AT 65 °F	pH 5.7	CaCl ₂ /MgCl ₂		



REMARKS:

Corrosion tests showed this sample to be corrosive.

cc: Bill Coulter-Tulsa Lab
Krey
Horton
Greer

George N. Greer, Jr. 4-8-63 GNG/fg

CHEMIST

DATE



Halliburton

OIL WELL CEMENTING COMPANY

HOUSTON, TEXAS

Livingston, New Mexico
March 13, 1962

Major & Giebel
217 West Wall
Midland, Texas

Dear Sirs:

In reference to San Boren well Robinson #1 West of Crossroads, they ran 4 1/2 casing in 6 3/4 hole and mixed 800 sacks regular cement Pozmix 2 1/2 Halliburton-Gel. According to true fill up this amount of cement could have come back into the Intermediate String. Due to wash outs and etc. its possible the cement could have only come back from 9780' to about 5000', since this well was not cemented to my knowledge. There is no way of telling for sure, therefore according to some wells East of Milnesands where there were over 100% excess above true hole the cement only came back to about 6000' from about 9700'. So on this well its possible the cement could have only come back to about 5000' to 6000'.

Yours Very Truly,

R. V. Marshall
Fieldman
R.V. Marshall
C/O Mr. C. L. Elliott
File

BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

EXHIBIT NO. 999
CASE NO. 27897

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name WILDCAT		County Lea		Date 7-5-58
Operator SAM BOREN		Lease ROBINSON		Well No. 1
Location of Well	Unit H	Section 23	Township 9-S	Range 33-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or in the same zones within one mile of the subject well? YES NO X
2. If answer is yes, identify one such instance: Order No. ; Operator, Lease, and Well No.:

3. The following facts are submitted:	Upper Zone	Lower Zone
a. Name of reservoir	San Andres	Bough (Penn)
b. Top and Bottom of Pay Section (Open Hole) (Perforations)	418 - 5781	3641 - 51
c. Type of production (Oil or Gas)	Neither	Oil
d. Method of Production (Flowing or Artificial Lift)	Disposal	Artificial (Kobe)

4. The following are attached. (Please mark YES or NO)

- X a. Diagrammatic Sketch of the Dual Completion, showing all casing strings, including size and setting, top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- X b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- X c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
- X d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Humble Oil & Ref. Co., Box 1597, Roswell, N.M.

Kern County Land Co., V & J Tower, Midland, Tex.

Cabot Corporation, Wilco Bldg., Midland, Tex.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO . If answer is yes, give date of such notification 4-8-58 .

CERTIFICATE: I, the undersigned, state that I am the Agent of the Sam Boren (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

R. B. Major

Signature

- * Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.
- NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard perforation unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.