DOCKET MAILED

Date 5/28/82

Florence -
notify Gulf WE
need Form C-108 w/
all attachments
before the hearing
(suppose to come in
w/ application)

CASE NO.

7600

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JUNE 2, 1982 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
Jeff Edmiston	NMOCD	Aztec
Kevin Dantzler	MESA	Midland
William F. Carr	Campbell, Byrd and Black	Santa Fe
Tom Bluchyer	Campbell, Byrd & Black	Santa Fe
R.R. Frederick	El Paso Natural Gas	El Paso
JOHN F. NANCE	EL PASO NATURAL GAS CO.	EL PASO
DANA L. CRANEY	EL PASO EXPLORATION CO.	FARMINGTON
NESTOR MALDONADO	EL PASO NATURAL GAS CO	EL PASO, TX.
ALAN W. BOHLING	GULF OIL CORPORATION	MIDLAND, TX
Charles F. Kalteyer	" " "	"
Wm V. KASTLER	" " "	HOUSTON, TX
WILLIAM F STEWART	" " "	MIDLAND, TX.
Ernest Padilla	Riqueza, Inc Turner Production Co	Santa Fe
Bob Huber	Byram	Santa Fe
Don Butterbaugh	Northwest Pipeline	Salt Lake City
Richard Tully	Oxoco Production Corp	Farmington, NM
Paul Campbell	OXOCO Production Corp	Houston TX

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JUNE 9, 1982 Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
William F. Speer	Exxon Prod. Corp.	Farmington, N.M.
Robert J. Gibb	Tenneco	Denver
Dean Liley	"	"
T. R. Kelley	"	"
M. Kovich	"	Houston
Mike Williams	Arteisa OCD	Artesia
Larry Brooks	" "	"
Paul Wiegmann	Phillips Pet	Denver
Marion Malinowski	Minerals Management Service	Albuq NM
Kevin J. McCord	Self	Farmington, NM
Curtis Little	"	"
Joe Eldridge	"	" "
Jim Hall	Curtis Little	" "
Paul M. Benckell	El Paso Natural Gas Co	El Paso, Tx
Michael L. Davis	Southern Union Exp.	Farmington, NM
Betty J. McMahon	Southern Union Exp	Dallas TX

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
9-7 June 1982

EXAMINER HEARING

IN THE MATTER OF:

Application of Gulf Oil Corporation for salt water disposal, Lea County, New Mexico. CASE 7600

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William V. Kastler, Esq.
Gulf Oil Corp.
Houston, Texas

I N D E X

E X H I B I T S

MR. STAMETS: We will then call Case 7600.

MR. PEARCE: That is the application of Gulf Oil Corporation for salt water disposal, Lea County, New Mexico.

MR. KASTLER: If the Examiner please, my name is Bill Kastler and I'm Gulf's attorney in Houston, and our witness in this case will be Mr. Al Bohling.

MR. STAMETS: Mr. Kastler, you may proceed.

MR. KASTLER: Thank you. May the witness be sworn, please?

(Witness sworn.)

ALAN W. BOHLING

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state your name, where you reside, by whom you're employed, and in what position?

A My name is Alan Bohling. I reside at

1331 Brittany Lane, Odessa, Texas. I'm employed by Gulf Oil Corporation as a petroleum engineer. My current position is in the proration unit, District Proration Unit in Midland, Texas.

Q. Are you familiar with Gulf's application in Case Number 7600?

A. Yes, sir, I am.

Q. Have you previously appeared and qualified as an expert witness before the New Mexico Oil Conservation Division?

A. Yes, sir, I have.

Q. Will you please state what Gulf's application consists of and why it's necessary to have this hearing?

A. Gulf is seeking authority to dispose of produced salt water into the selectively perforated interval from 3338 feet to 3448 feet of the Seven Rivers and Queen formations in our Arnott-Ramsey NCT-B Well No. 4. This well is located 330 from the north line and 330 feet from the west line in Unit D of Section 32, Township 25 South, Range 37 East, Lea County, New Mexico.

Q. Mr. Bohling, do you have a plat depicting the Arnott-Ramsey State NCT-B Lease and the surface location of Well No. 4?

A. Yes, sir, Exhibit Number One is a plat of the area. The Arnott-Ramsey NCT-B Lease, which is a State lease, is outlined with a dashed line, while the Well No. 4 is circled in red.

Also, in compliance with Item 5 of the OCD Form C-108, a one-half mile radius circle around Well No. 4 has been drawn on the plat. This circle represents the well's area of review for purposes of this application.

Q. Do you have exhibits depicting downhole particulars of all wells of public record within the area of review which penetrate the proposed injection interval?

A. Yes, sir, Exhibit Number Two is a tabular summary listing available information on the present condition of all wellbores within the area of review.

There are eleven wells in the area of review besides our Well No. 4, two of which are plugged and abandoned. These are shown on our Exhibits Three-A and Three-B.

Exhibit Three-A, Amerada Petroleum Corporation Ima Hays No. 1, located in Unit N of Section 29, Township 25 South, Range 37 East, was drilled to a depth -- total depth of 8576 feet, has a 13-3/8ths inch casing set at 619 feet with 600 sacks of cement circulated, and has an 8-5/8ths inch casing set at 3700 feet with 100 sacks of

cement, top of cement calculated at 30 -- to be at 3180 feet. And that has a -- now has a 35 sack cement plug set from 8236 feet to 8350 feet; another 35 sack cement plug set from 7536 to 7650 feet; another 35 sack cement plug set from 3644 to 3757 feet.

The 8-5/8ths inch casing was then cut and pulled from 8035 feet and then another 35 sack cement plug was set from 596 to 642 feet, followed by a surface plug from 15 to 28 feet.

Our Exhibit Number Three-B is a wellbore diagram of Sun Exploration and Production Company's Jenkins No. 4 Well, located in Unit L, Section 29, Township 25 South, Range 37 East.

It was drilled to total depth of 3430 feet; has a surface casing of 10-3/4 inch casing set at 300 feet with 200 sacks of cement circulated, and then a 7-inch casing set at 3425 feet with 200 sacks of cement, followed by 200 sacks of cement through a DV tool at 1283 feet, cement circulated. There is a cast iron bridge plug set at 2875 feet with 15 sacks of cement on top of it, and then a surface plug from 58 feet to surface of 10 sacks of cement.

Q All of these facts you've testified to are apparent on Exhibits Three-A and Three-B, is that correct?

A Yes, sir, that is.

Q. Now do you have an exhibit showing the downhole particulars of the proposed injection well?

A. Yes, sir, our Exhibit Number Four is a schematic diagram along with a tabular summary depicting the present wellbore condition and the proposed wellbore condition for injection of fluids after approval to inject has been granted.

The Arnott-Ramsey NCT-B Well No. 4 was originally drilled as a producer in December of 1978. It has 8-5/8ths inch OD 24-pound K-55 surface casing set at 352 feet with 275 sacks of cement; top of cement circulated.

It has a 4-1/2 inch production string, a 9.5 pound K-55 casing set at 3600 feet with 675 sacks of cement; top of cement at 1000 feet, determined by temperature survey.

Other perforated intervals consist of perfs selectively perforated from 3301 to 3471 feet on January 24th, 1979. These set of perfs IP'ed originally at 48 barrels of oil and 241 barrels of water per day.

Perforations were aqueezed with 400 sacks of cement on March 31st, 1979, after producing excessive water.

On April 3rd of 1979 another set of perforations was shot over the interval of 3338 feet to 3448

feet. These perforations were squeezed with 125 sacks of cement on April 23rd, 1979, due to 100 percent water production.

The interval from 3016 feet to 3246 feet from the Jalmat Pool was then perforated on April 25th, 1979, and yielded only water. They were squeezed with 200 sacks of cement on May 4th, 1979.

Another set of perforations were shot from 2732 feet to 2795 feet in the Upper Yates. This interval proved to be dry and thus the well was plugged and abandoned on July 10th, 1979. No casing was pulled at the time of plug and abandonment.

Our proposed injection interval will be from 3338 feet to 3448 feet, to be selectively perforated after we have completed a successful squeeze on the Upper Yates perfs.

Injection interval will be comprised of Seven Rivers and Queen formations in the Langlie-Mattix Pool. We propose to set a nickel-plated Baker Model AD-1 packer, or equivalent, at 3275 feet on a 2 3/8ths inch intervally plastic-coated tubing.

Q Will you please tell the Examiner of Gulf's plans for operating the well and what you understand will be the stimulation program for the zones within the injection interval?

A. Yes, sir. Exhibit Number Five covers the proposed operation of the injection well and our Exhibit Number Six gives the proposed stimulation program for the well.

In Exhibit Number Five we propose to have an average daily rate in volume of fluid to be injected of 150 barrels of water per day, with the maximum daily rate of 700 barrels of water per day. The system is closed. The proposed average injection pressure will be approximately 400 psi with the maximum injection pressure of 650 psi.

The source of injection fluids will be from Gulf Oil Corporation's Arnott-Ramsey State NCT-B Lease, and the zone of disposal is productive of oil and gas within one mile of the proposed disposal well.

Our Exhibit Number Five-A is a water analysis of the water that we plan to inject, with a total dissolved solids of 38,548 milligrams per liter, and a total chlorides of 17,600 milligrams per liter.

Our Exhibit Number Six is the proposed stimulation program where we plan to open the selectively perforated interval from 3338 to 3448 feet by acidizing with 20 percent HCLS the volume of acid required, so this will be determined at the time of the work.

Also, it should be noted that there are

four other salt water disposal wells in the area, as depicted by the yellow triangles on Exhibit Number One. The closest of these wells to the Arnott-Ramsey NCT-B Well No. 4 is the Burleson, Incorporated, Guthmann No. 2 Water Disposal Well, located approximately 1 mile to the northeast in Unit J of Section 29, Township 25 South, Range 37 East. Injection into this well began in approximately January of 1969.

For the month of January, 1982, approximately 6346 barrels of water were injected at approximately 25 psi over the interval of 2964 feet to 3068 feet of the Langlie Mattix Pool.

Other salt water disposal wells shown on Exhibit Number One are Sun Oil Company Farnsworth 4 Well No. 7, located in Unit F of Section 4, Township 26 South, Range 37 East, injecting into the Langlie Mattix Pool; Maralo Incorporated Humble State No. 1 Well, located in Unit G of Section 36, Township 25 South, Range 36 East, injecting into the Jalmat Pool; Conoco Schultz B-25 Well No. 5, located in Unit G of Section 25, Township 25 South, Range 36 East, injecting into the Scarborough Tansill,Yates, and Seven Rivers.

Q. Mr. Bohling, do you have an exhibit giving geological data on the formation in the proposed injection interval?

A. Yes, sir, Exhibit Number Seven lists each

of the formations by their geological names, along with depths, thicknesses and lithologic detail.

Also, Exhibit Number Seven-A is a compensated density neutron log of the Arnott-Ramsey NCT-B Well No. 4, depicting the lithological information on each of the formations in the injection interval, as well as others above the interval.

Q. Do you have an exhibit giving the geological data on all underground fresh water aquifers which overlie or underlie the proposed injection interval in the area of review?

A. Yes, sir, our Exhibit Number Seven also describes the fresh water aquifers in the area of the Arnott-Ramsey NCT-B Well No. 4.

Our Well No. 4 is located approximately one-half mile south of the Town of Jal, and in this area there is a division between aquifers of differing geological age. The subject well is located in the area of the Chin Lake (sic) and Santa Rosa Triassic age aquifers.

To the northeast aquifers produce from the Ogalalla formation, Tertiary age, or Quatanary Age rocks.

The base of fresh water sands in the top of the Redbeds is at 322 feet by gamma ray log measurement in the subject well.

Q. In compliance with Item Roman Number Eleven of the OCD Form C-108, does Gulf have an exhibit giving the chemical analysis of the fresh water being produced within the one mile of the proposed injection well?

A. Yes, sir, our Exhibit Number Eight has a chemical analysis of two known fresh water sources within one mile of the Arnott-Ramsey NCT-B Well No. 4. These fresh water wells are depicted with solid blue triangles on Exhibit Number One.

The Cooper Ranch water supply well in Unit H of Section 32, Township 25 South, Range 37 East, was sampled in April of '82 and had 1600 milligrams per liter of chlorides, 3855 milligrams per liter, total dissolved solids.

The Texas-New Mexico water supply well in Unit B of Section 32, Township 25 South, Range 37 East, was also sampled in April of '82. It also had 1600 milligrams per liter chlorides and 3844 milligrams per liter total dissolved solids.

Copies --

Q. Now, are these -- excuse me, go ahead.

A. Copies of these reports for each of these wells are attached, pages two and three of this exhibit.

Q. Of Exhibit Eight?

A. Yes, sir.

Q. Why is it necessary for Gulf to have this well converted to a salt water disposal well at this time?

A. The recent drilling and completing of several wells in the Arnott-Ramsey NCT-B Lease has increased the current amount of water being produced to approximately 150 barrels per day. There is a potential for an increase in the amount of water production as the lease is further produced.

The conversion of this well would eliminate current water hauling expense of some $3500 per month and will facilitate future increases in produced water, thereby greatly reducing the production costs and extending the time of production on this State lease.

Q. Do you have in your application an affirmative statement that Gulf has examined all available geological and engineering data and finds no evidence of any hydrological connection between the disposal zone and the underground source of drinking water?

A. Yes, sir, Exhibit Number Nine is such a statement.

Q. In compliance with Item Roman Number Thirteen of the OCD Form C-108, do you have proof that Notice of this application has been furnished to the surface land owner on which the well is located, and on the leasehold oper-

ators within one-half mile of the well location?

A. Yes, sir, Exhibit Number Ten, a copy of our notification letter, dated 5-25-82 to the surface owner, Commissioner of Public Lands, and the three outside leasehold operators within the area of review.

There is another outside leasehold operator, ARCO, was notified by letter dated -- same letter, dated 5-28-82.

Q. Has Gulf had any negative response from any of these owners?

A. No, sir, they have not.

Q. Were these exhibits prepared by you or under your direction?

A. Yes, sir, they were.

MR. KASTLER: This completes our direct examination and at this time I'd like to move that Exhibits One through Ten be admitted into evidence in this case.

MR. STAMETS: These exhibits will be admitted.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Bohling, referring back to Exhibit Number Two, I see several wells on that exhibit which may not

have penetrated the injection interval itself. Is there any particular reason that you included these wells on this tabulation?

A. I was just including all the wells within the one-half mile area of review on that.

Q. I see, okay. Well, it's only necessary to put on those that penetrated the injection interval, the formation itself.

Of course, that's subject to interpretation. If you are injecting in the Lower San Andres should you put in something in the Upper San Andres, so it doesn't represent a problem. I just wondered if you were telling me something by putting those in.

A. No, sir, I just wanted to cover all the wells in the area.

Q. Okay. Referring to Exhibit Number Three-A, that is the P&A Amerada Petroleum R. Olsen-Ima Hays Well. You show the 8-5/8ths being set at 3700 feet with 100 sacks, and a calculated top of cement at 3180.

At what rate of fill was that calculating done?

A. I don't have that information, so I don't know.

Q. Do you have any --

A. I did not calculate that myself.

Q. All right. What I would like to have is that determination plus any others that you may have that that is an appropriate rate of fill in this area.

A. Yes, sir.

MR. STAMETS: Are there any other questions of this witness?

MR. KASTLER: I do.

REDIRECT EXAMINATION

BY MR. KASTLER:

Q. One other question that's basic. Mr. Bohling, in your opinion is this application in the nature of the prevention of waste?

A. Yes, sir, it was.

MR. KASTLER: That's all.

MR. STAMETS: If there is nothing further, the witness may be excused and the case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7604 heard by me on 6-9, 1982.

Richard L. Stamets, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

July 16, 1982

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Mr. William Kastler, Attorney
Gulf Oil Corporation
P. O. Drawer 1150
Midland, Texas 79702

Re: CASE NO. 7600
ORDER NO. R-7024

Applicant:

Gulf Oil Corporation

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7600
Order No. R-7024

APPLICATION OF GULF OIL CORPORATION
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 9, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 15th day of July, 1982, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Gulf Oil Corporation, is the owner and operator of the Arnott-Ramsay (NCT-B) Well No. 4, located in Unit D of Section 32, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Seven Rivers and Queen formations, with injection into the perforated interval from approximately 3338 feet to 3448 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 3275 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) That the injection well or system should be equipped with a pressure limiting switch or other acceptable device

which will limit the wellhead pressure on the injection well to no more than 670 psi.

(6) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the approved injection zone.

(7) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(8) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to utilize its Arnott-Ramsay (NCT-B) Well No. 4, located in Unit D of Section 32, Township 25 South, Range 37 East, NMPM, Langlie Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers and Queen formations, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3275 feet, with injection into the perforated interval from approximately 3338 feet to 3448 feet;

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

(2) That the injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result

in migration of the injected fluid from the Seven Rivers and Queen formations.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) That the applicant shall operate and report on its disposal operations in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E

Gulf Oil Exploration and Production Company

J. M. Thacker
GENERAL MANAGER, PRODUCTION
SOUTHWEST DISTRICT

P. O. Drawer 1150
Midland, TX. 79702

June 15, 1982

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Richard L. Stamets

Re: Case 7600, June 9, 1982, Application for Authorization to Inject into Arnott-Ramsay (NCT-B) Well No. 4, Lea County, New Mexico.

Gentlemen:

In response to your request made during the hearing of Case 7600 on June 9, 1982, we are enclosing a copy of Form C-103 and a corrected copy of Exhibit No.3A of Amerada Petroleum and R. Olsen Ima Hays Well No. 1. Please note that the 8-5/8" casing string was set at 3700' with 1000 sacks of cement instead of 100 sacks as shown on the original Exhibit No. 3A.

Further detailed information necessary for TOC calculations was unavailable. However, assuming a class A cement and that a 100% excess factor was used in figuring the volume of 1000 sacks of cement, a TOC at approximately 1379' can be calculated. But, as shown in Exhibit 3A, the 8-5/8" casing was cut and pulled from 835' indicating TOC at or near that point. This would imply that, in this example, an excess factor of approximately 62% to be more appropriate in determining cement volumes to allow for loss due to dehydration and borehole enlargements.

Should further assistance be required concerning this case, please contact the Proration Unit, Gulf Oil Corporation, at (915) 685-4723.

Yours very truly,

for F. H. Martin
Technical Manager

AWB/da
Attachments

Ref: Item VI of C-108

AMERADA PET. CORP. and R. OLSEN

IMA HAYS NO. 1

600' FSL & 1980' FWL
UNIT N, SECTION 29, T-25-S, R-37-E
LEA COUNTY, NEW MEXICO
P & A 1-31-57

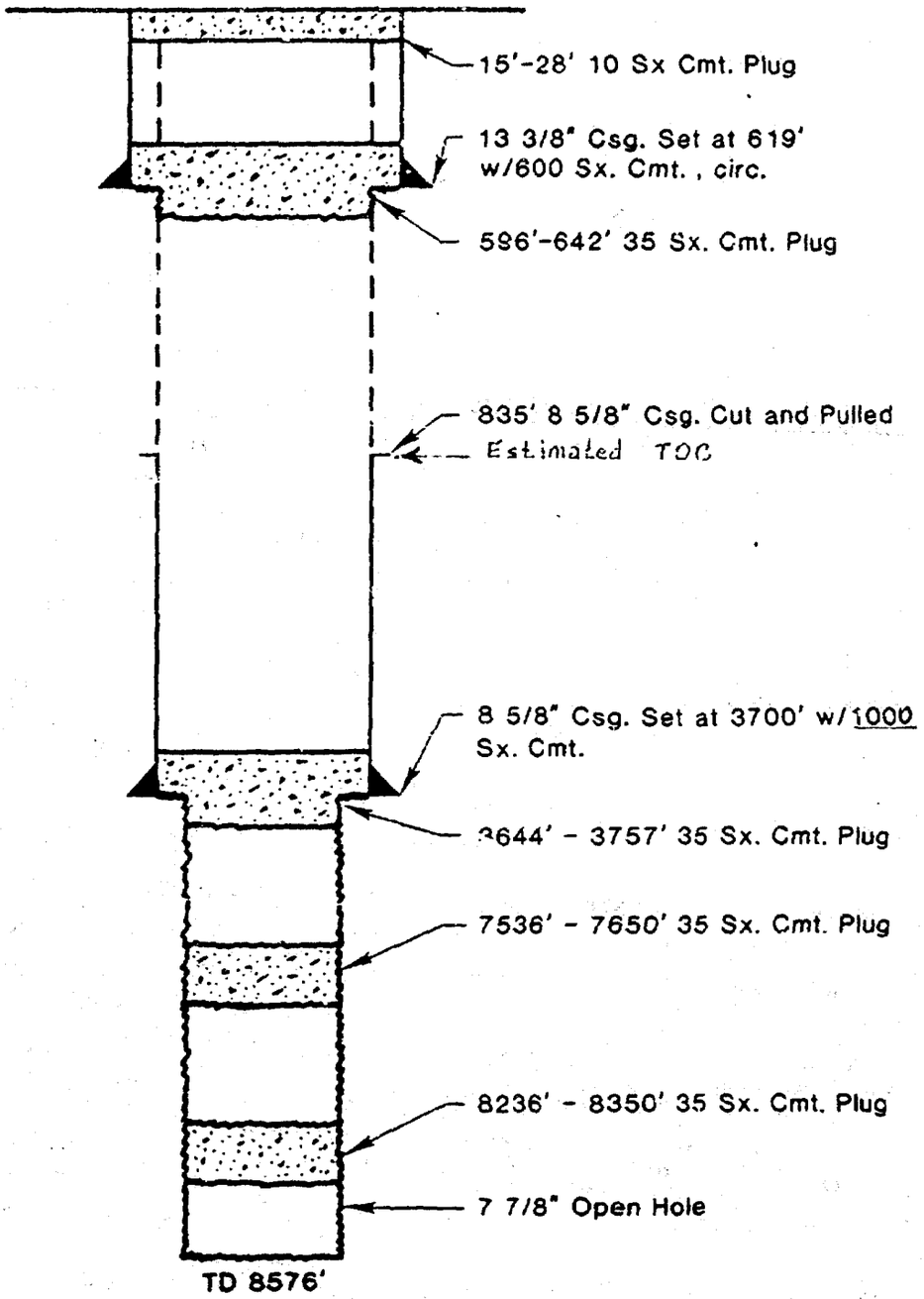


EXHIBIT NO. 3 A
CASE 7600
JUNE 9, 1982

ORIGINAL

JUN 18 1982

Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS

(Submit to appropriate District Office as per Commission Rule 1106)

R. Olsen Company - Oklahoma City, Okla.
COMPANY Amerada Petroleum Corporation - Box 706 - Eunice, New Mexico
(Address)

LEASE Ima Hays WELL NO. 1 UNIT N S 29 T 25-S R 37-E

DATE WORK PERFORMED 12-12-56 POOL Crosby Devonian

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [X] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other

Detailed account of work done, nature and quantity of materials used and results obtained.

3700' T.D. - Finished drilling 11" hole @ 7:30 A.M. 12-12-56 - Ran a total of 90 Jts. of 8-5/8" OD 32# SS Casing set @ 3700' w/1000 sacks cement. Pumped plug to 3655' @ 8:15 P.M. 12-12-56. Tested casing w/1000# & held OK. Drilled cement from 3655 to 3700'. Continued Drilling. Tested casing after drilling out w/1000# & held OK.

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____

Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____

Perf Interval (s) _____

Open Hole Interval _____ Producing Formation (s) _____

RESULTS OF WORKOVER:	BEFORE	AFTER
Date of Test		
Oil Production, bbls. per day		
Gas Production, Mcf per day		
Water Production, bbls. per day		
Gas-Oil Ratio, cu. ft. per bbl.		
Gas Well Potential, Mcf per day		

Witnessed by D.W. Gordon — Amerada Petroleum Corporation (Company)

OIL CONSERVATION COMMISSION

Name E.J. Fischer
Title Engineer District 1
Date DEC 21 1956

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

Name D.W. Gordon
Position Foreman
Company Amerada Petroleum Corporation

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no

II. Operator: Gulf Oil Corporation

Address: P.O. Box 1150 Midland, Texas 79702

Contact party: Mr. C.F. Kalteyer Phone: (915) 685-4750

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

* VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: C.F. Kalteyer Title Chief Proration Engineer

Signature: C.F. Kalteyer Date: May 25, 1982

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

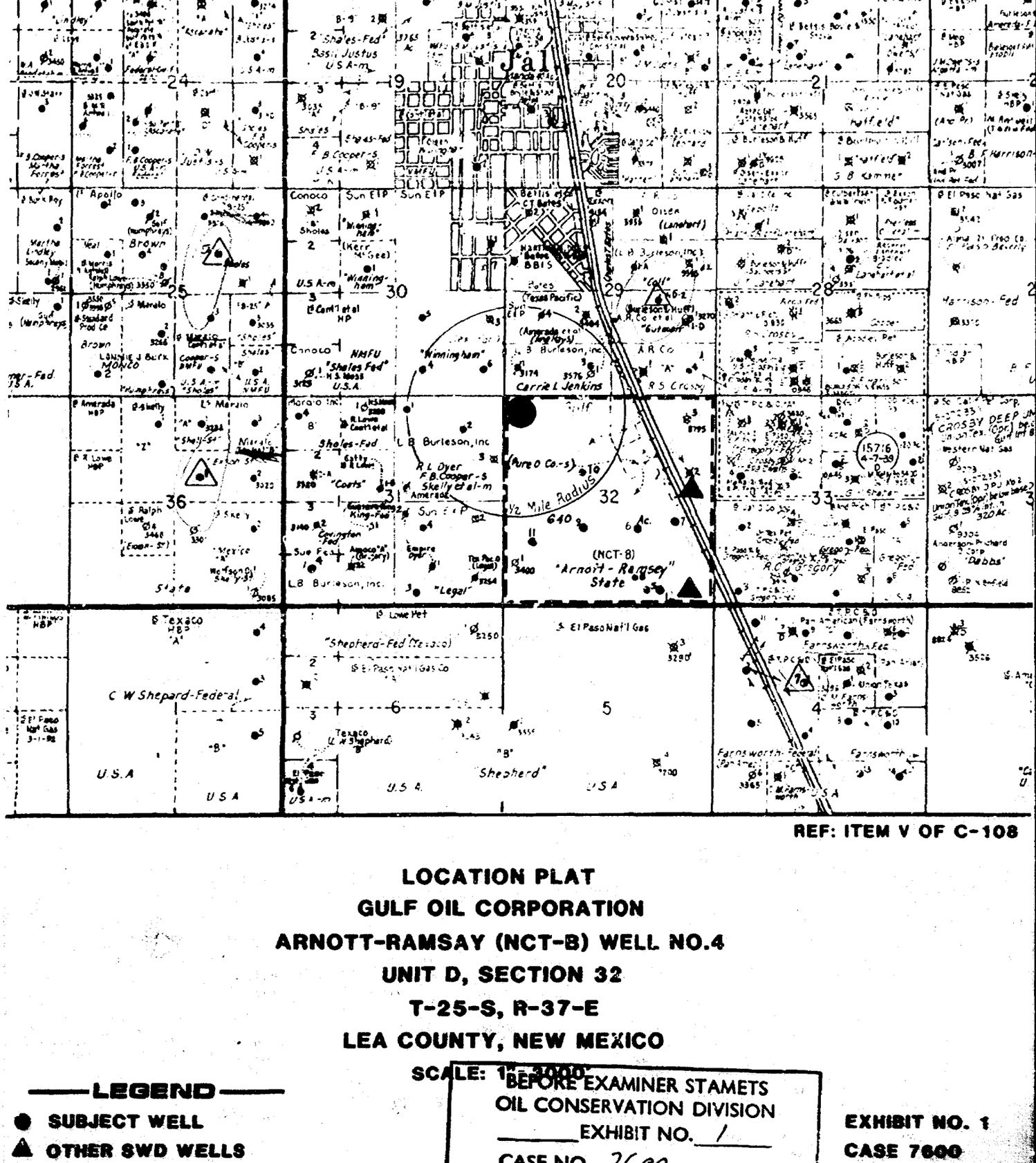
NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Gulf Oil Corporation
Application for Authorization
To Inject into Arnott-Ramsay (NCT-B)
Well No. 4
Lea County, New Mexico

CASE 7600

June 9, 1982

INDEX



REF: ITEM V OF C-108

LOCATION PLAT
GULF OIL CORPORATION
ARNOTT-RAMSAY (NCT-B) WELL NO.4
UNIT D, SECTION 32
T-25-S, R-37-E
LEA COUNTY, NEW MEXICO

SCALE: 1" = 3000'

LEGEND

- ● SUBJECT WELL
- ▲ OTHER SWD WELLS
- ▲ FRESH WATER SUPPLY WELLS

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 1
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 1
CASE 7600
JUNE 9, 1982

Ref: Item VI of C-108

TABULAR SUMMARY
Wells Within One-Half Mile of
Gulf Oil Corporation Arnott-Ramsay (NCT-B)
Well No. 4

Amerada Petroleum and R. Olsen	Ima Hays #1	660' FSL & 1980' FNL, Sec. 29, T-25-S, R-37-E Total Depth: 8576' Spud Date: 11-29-56 Latest Completion: P&A 1-31-57 Open Hole: 3700' - 8576' Csg: 13-3/8" @619' w/600sx. cmt., TOC surface (calc.) 8-5/8" @3700' w/100sx. cmt., TOC 3180' (calc.). Cut and pulled from 835'.
Lewis B. Burleson, Inc.	Jenkins #1	660' FSL & 330' FWL, Sec. 29, T-25-S, R-37-E Total Depth: 3174' PBTD: 2775' Spud Date: 12-5-50 Re-entered 8-29-74 Latest Completion: TA 2-17-75 Last Produced: 5-71 Open Hole: 2693'-2775' Csg: 8-5/8" @ 295' w/200sx. cmt., TOC Circ. 5-1/2" @2693' w/200sx. cmt. & 200sx. cmt. thru DV tool @1152, TOC Circ.
	Jenkins #3	760' FSL & 1980' FWL, Sec. 29, T-25-S, R-37-E Total Depth: 3443' PBTD: 3120' Spud Date: 11-20-51 Latest Completion: 1-17-75 Perforated: 3070'-3102' (current); 2872'-2907' (open); 3284'-3335' (PBTD=3120') Csg: 10-3/4" @307' w/200sx. cmt., TOC Circ. 7" @3417' w/200sx. cmt. and 200sx. cmt. thru DV tool @1196', TOC 2430' and 200' (calc.)
	Dyer #1	330' FNL & 2310' FEL, Sec. 31, T-25-S, R-37-E Total Depth: 3251' PBTD: 3140' Spud Date: 9-16-50 Latest Completion: 10-2-50 Last Produced: 9-76 Perforated: 3110'-3125' Csg: 9-5/8" @295' w/200sx. cmt., TOC Circ. 7" @3154' w/200sx. cmt.& 200sx. cmt. thru DV tool @1207', TOC Circ.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 2
CASE 7600
June 9, 1982
Page 1 of 3

Lewis B. Burleson, Inc.	Dyer #2	735' FNL & 980' FEL, Sec. 31, T-25-S, R-37-E Total Dpeth: 3440' PBTD: 2883' Spud Date: 12-12-52 Re-entered: 7-16-75 (Deepened: 3171'-3440') Latest Completion: D&A 10-6-75 Last Produced: prior to 6-73 Perforated: 2857'-2867' (current); 2894'-2904' & 3203'-3233' (PBTD=2883') Csg: 9-5/8" @297' w/200sx. cmt., TOC Circ. 6-5/8" @3110' w/200sx. cmt. & 250sx cmt. thru DV tool @1110', TOC 2120', circ. 4-1/2" Liner 3050'-3440' w/85sx. cmt., TOC Circ.
	Dyer #3	1650' FNL & 330' FEL, Sec. 31, T-25-S, R-37-E Total Depth: 2977' Spud Date: 6-26-54 Latest Completion: 7-11-54 Open Hole: 2799'-2977' Csg: 9-5/8" @270' w/200sx. cmt., TOC Circ. 6-5/8" @2799' w/100sx. cmt. & 100sx. cmt. thru DV tool @1047', TOC 2305', 550' (calc.)
Gulf Oil Corporation	Arnott-Ramsay (NCT-B) #10	1980' FNL & 1980' FWL, Sec. 32, T-25-S, R-37-E Total Depth: 3400' PBTD: 3361' Spud Date: 9-5-80 Latest Completion: 10-10-80 Perforated: 3312'-3320' Csg: 8-5/8" @355' w/300sx. cmt., TOC Circ. 5-1/2" @3400' w/275sx. cmt. & 1070sx. cmt. thru DV tool @2606', TOC Circ.
Sun Exploration & Production	Jenkins #4	1980' FSL & 810' FWL, Sec. 29, T-27-S, R-37-E Total Depth: 3430' Spud Date: 12-1-51 Latest Completion: P&A 7-1-71 Perforated: 3300'-3350'; 3000'-3028'; 2905'-2937' Csg: 10-3/4" @300' w/200sx. cmt., TOC Circ. 7" @3425' w/200sx. cmt. & 200sx. cmt. thru DV tool @1283', TOC Circ.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 2
CASE 7600
June 6, 1982

Sun Exploration & Production	Winningham #3	330' FEL & 1930' FSL, Sec. 30, T-25-S, R-37-E Total Depth: 3114' PBTD: 3022' Spud Date: 4-4-50 Latest Completion: TA 11-75 Last Produced prior to 6-73 Perforated: 2730'-2979' Csg: 9-5/8" @295' w/250sx. cmt., TOC Circ. 7" @2664' w/300sx. cmt. & 75sx. cmt. thru DV tool @1317', TOC 950' (calc.) 5-1/2" Liner 2550'-3050' w/100sx. cmt., TOC Circ. (calc.)
	Winningham #4	660' FSL & 1980' FEL, Sec. 30, T-25-S, R-37-E Total Depth: 3206' Spud Date: 11-19-50 Latest Completion: TA 11-75 Last produced: prior to 6-73 Open Hole: 3135'-3206' Csg: 8-5/8" @311' w/150sx. cmt., TOC Circ. 5 1/2" @3135' w/200sx. cmt. & 200sx. cmt. thru DV tool @1195', TOC 2120', 200 (calc.)
	Winningham #6	660' FSL & 660' FEL, Sec. 30, T-25-S, R-37-E Total Depth: 3191' Spud Date: 4-6-51 Latest Completion: TA 11-75 Last produced: prior to 6-73 Preforated: 3125'-3130'; 3138'-3160' Csg: 8-5/8" @308' w/200sx. cmt., TOC Circ. 5-1/2" @3160' w/400sx. cmt., TOC 1130' (calc.)

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

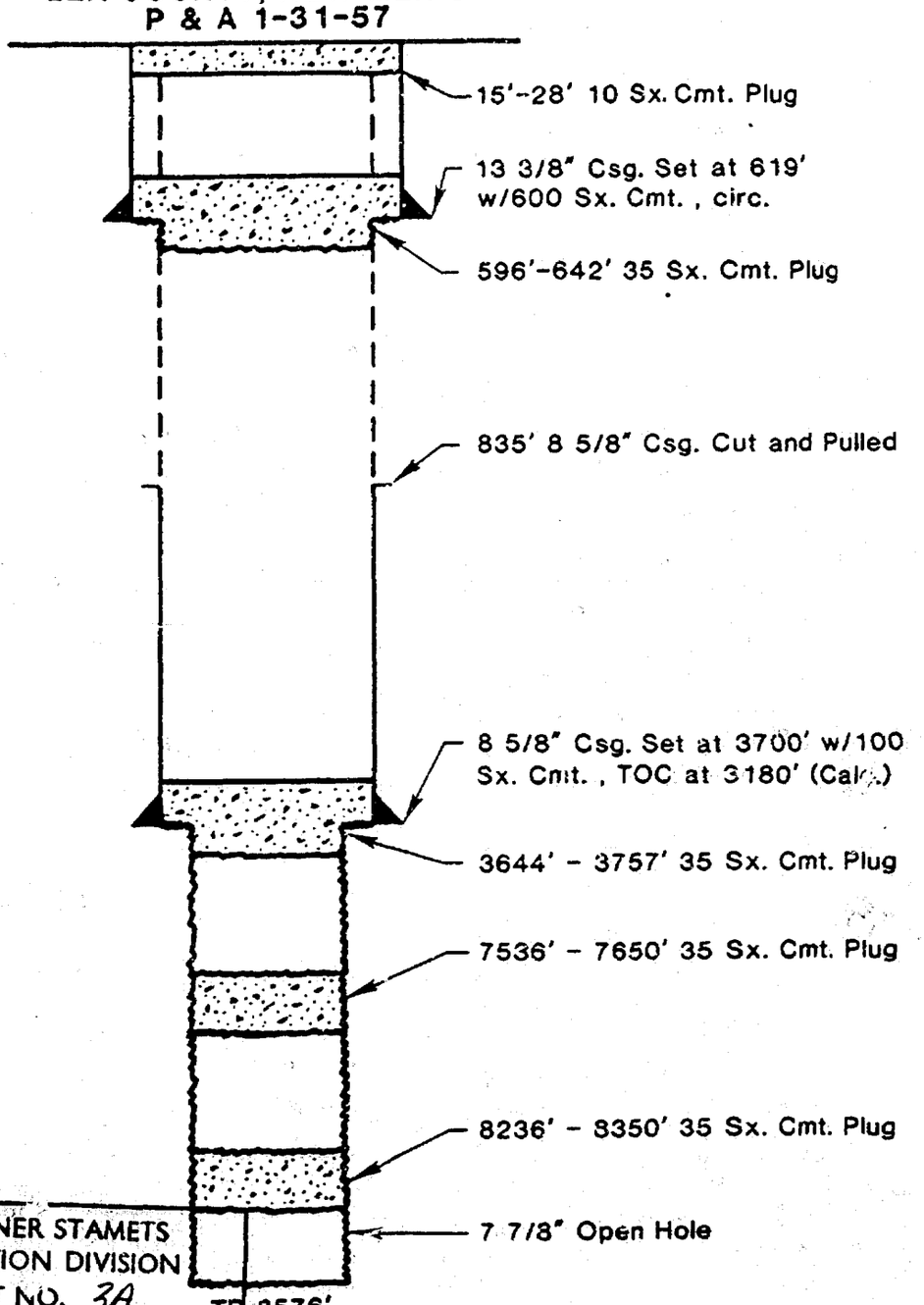
EXHIBIT NO. 2
CASE 7600
June 9, 1982
Page 3 of 3

Ref: Item VI of C-108

AMERADA PET. CORP. and R. OLSEN

IMA HAYS NO. 1

600' FSL & 1980' FWL
UNIT N, SECTION 29, T-25-S, R-37-E
LEA COUNTY, NEW MEXICO
P & A 1-31-57



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 3A
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

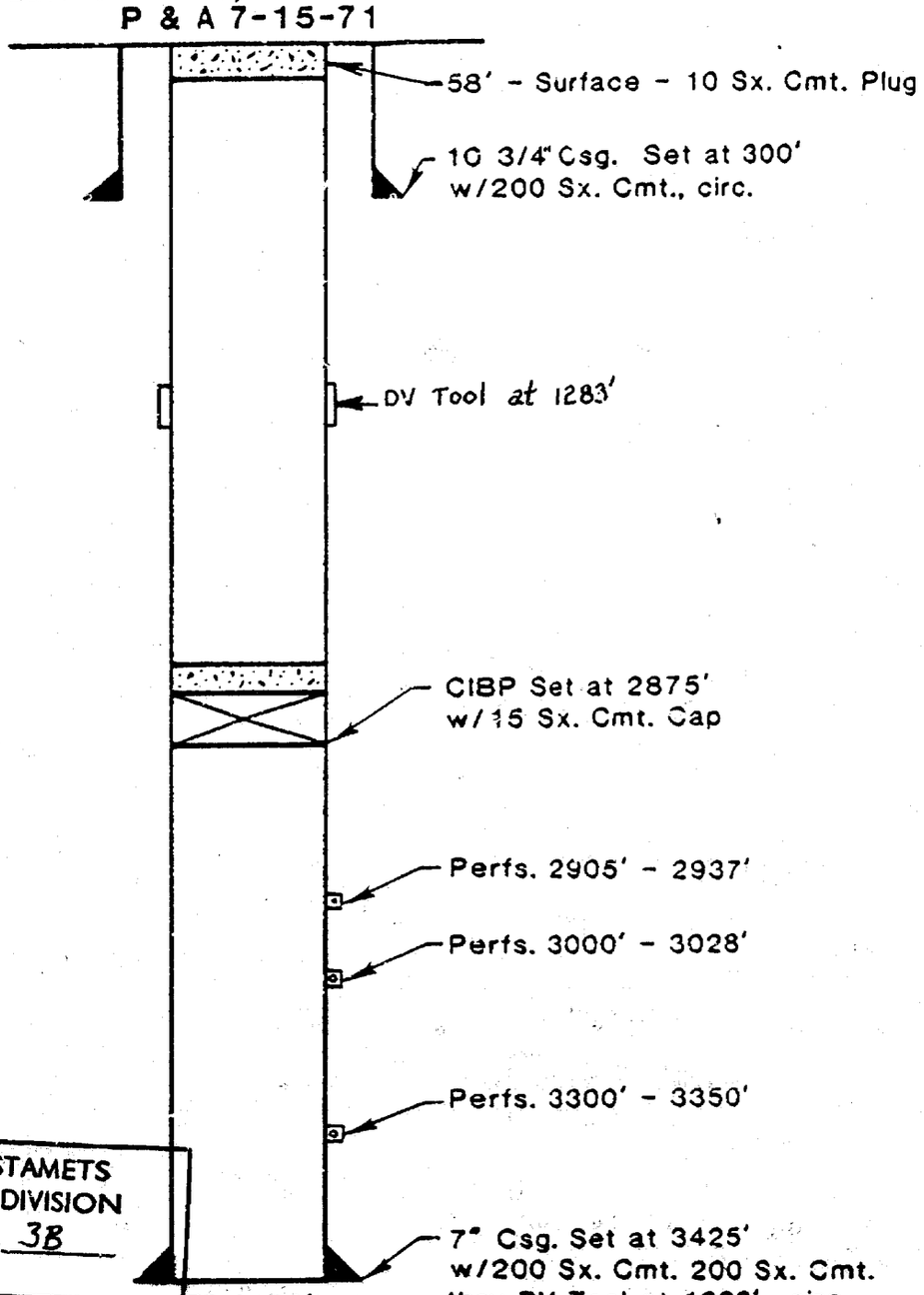
EXHIBIT NO. 3 A
CASE 7600
JUNE 9, 1982

Ref: Item VI of C-108

SUN EXPLORATION & PRODUCTION CO.
(ORIGINALLY R. OLSEN & BLOUNT)

JENKINS NO. 4

1980' FSL and 810' FWL
UNIT L, SECTION 29, T-25-S, R-37-E
LEA COUNTY, NEW MEXICO
P & A 7-15-71



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 3B
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 3 B
CASE 7600
JUNE 9, 1982

Ref. Item III of C-108

Diagrammatic Sketch Showing

PRESENT & PROPOSED INSTALLATION

ARNOTT RAMSAY (NCT-8) WELL NO. 4 SWD
UNIT D, SEC. 32, T-25-S, R-37-E
LEA COUNTY, NEW MEXICO
GULF OIL CORPORATION

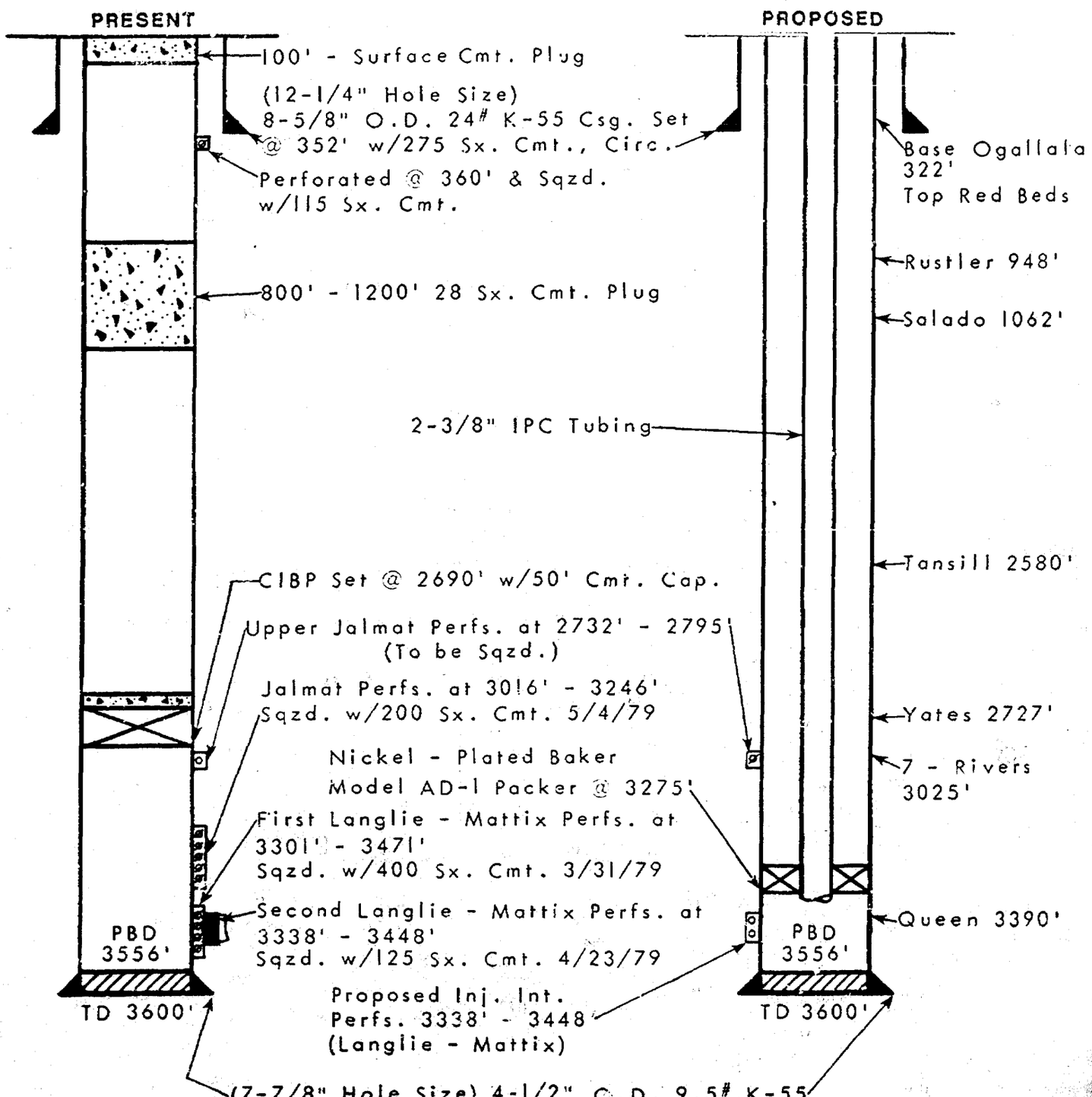


EXHIBIT NO. 4
CASE 7600
JUNE 9, 1982

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 4
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

Tabular Summary
Injection Well Data Sheet
Gulf Oil Corporation
Arnott-Ramsay (NCT-B) Well No. 4

A(1) Well Name and Location:
Gulf Oil Corporation
Arnott-Ramsay State (NCT-B) Lease
Arnott-Ramsay (NCT-B) Well No. 4
Unit D, Section 32, T-25-S, R-37-E,
330' FNL & 330' FWL of Section

A(2) Casing Strings:
(1) 8-5/8" O.D., 24#, K-55 casing set at 352' with 250 sacks of cement. TOC at surface determined by circulation.
(2) 4-1/2" O.D., 9.5#, K-55 casing set at 3600' with 600 sacks of cement. TOC at 1000 feet determined by Temperature Survey.

A(3) Tubing:
2-3/8" Internally Plastic Coated tubing set at 3275'.

A(4) Packer:
A nickel-plated Baker Model AD-1 packer (or equivalent) set at 3275'.

B(1) Injection Formations:
Comprised of the Seven Rivers and Queen Formations in the Langlie Mattix Pool.

B(2) Injection Interval:
A selectively perforated interval from 3338' to 3448'.

B(3) Original Purpose:
The well was originally drilled as a producer in December 1978.

B(4) Other Perforated Intervals:
The well was first selectively perforated from 3301' to 3471' on January 24, 1979. These perforations were squeezed with 400 sacks of cement on March 31, 1979 after producing excessive water. On April 3, 1979, another set of perforations were shot from 3338'-3448'. These perforations were squeezed with 125 sacks cement on April 23, 1979, again due to excessive water. The interval from 3016' to 3246' was then perforated on April 25, 1979 and yielded only water. They were squeezed with 200 sacks of cement on May 4, 1979. Another set of perforations were shot from 2732' to 2795'. This interval proved to be dry and thus the well was plugged and abandoned on July 10, 1979.

B(5) Other Producing Zones:
The next higher and next lower hydrocarbon producing zones in the area of the well are the Jalmat (Tansill Yates Seven Rivers) at 2727' and Penrose Skelly (Grayburg) approx. 3570', respectively.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 4
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 4
CASE 7600
June 9, 1982

Ref: Item VII of C-108

Data on Proposed Operation
of Gulf Oil Corporation's
Arnott-Ramsay (NCT-B) Well No. 4

1. Proposed average and maximum daily rate and volume of fluids to be injected:

   Average daily rate of 150 BWPD
   Maximum daily rate of 700 BWPD

2. System is closed.

3. Proposed average and maximum injection pressures:

   Average injection pressure of 400 psi
   Maximum injection pressure of 650 psi *

4. The source of injection fluids will be from Gulf Oil Corporation's Arnott-Ramsay State (NCT-B) Lease.

5. The zone of disposal is productive of oil and gas within one mile of the proposed disposal well.

* Until a fracture gradient is determined, maximum injection pressure will be based on a .2 psi/foot gradient.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 5
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 5
CASE 7600
June 9, 1982

PETROLITE CORPORATION

TRETOLITE DIVISION
169 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Gulf Oil Co. ADDRESS _____ DATE: 5-22-82

SOURCE Arrott Ramsey "B" Water Tank DATE SAMPLED 5-22-82 ANALYSIS NO. _____

Analysis	Mg/l		*Meq/l	
1. pH	8.3			
2. H_2S (Qualitative)	130			
3. Specific Gravity				
4. Dissolved Solids	38548			
5. Suspended Solids				
6. Phenolphthalein Alkalinity ($CaCO_3$)	1060			
7. Methyl Orange Alkalinity ($CaCO_3$)	-0-			
8. Bicarbonate (HCO_3)	4441	HCO_3 ÷61	73	HCO_3
9. Chlorides (Cl)	17600	Cl ÷35.5	496	Cl
10. Sulfates (SO_4)	5000	SO_4 ÷48	104	SO_4
11. Calcium (Ca)	2200	Ca ÷20	110	Ca
12. Magnesium (Mg)	4100	Mg ÷12.2	336	Mg
13. Total Hardness ($CaCO_3$)	9600			
14. Total Iron (Fe)	0.1			
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

110	Ca ← HCO_3	73
336	Mg → SO_4	104
227	Na ← Cl	496

Compound	Equiv. Wt.	X	Meq/l	=	Mg/l
$Ca(HCO_3)_2$	81.04		73		5916
$CaSO_4$	68.07		37		2519
$CaCl_2$	55.50				
$Mg(HCO_3)_2$	73.17				
$MgSO_4$	60.19		67		4033
$MgCl_2$	47.62		269		12810
$NaHCO_3$	84.00				
Na_2SO_4	71.03				
NaCl	58.46		227		13270

Saturation Values Distilled Water 20°C
$CaCO_3$ 13 Mg/l
$CaSO_4 \cdot 2H_2O$ 2,090 Mg/l
$MgCO_3$ 103 Mg/l

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 5A
CASE NO. 7600
REMARKS
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 5A
CASE 7600
June 9, 1982

Respectfully submitted
TRETOLITE COMPANY
Richard Morton

Ref: Item IX of C-108

Proposed Stimulation Program
Gulf Oil Corporation
Arnott-Ramsay (NCT-B) Well No. 4

It is proposed to open the selectively perforated interval from 3338' to 3448' by acidizing with 20% HCL acid. The volume of acid required will be determined at the time of the work.

EXHIBIT NO. 6
CASE 7600
June 9, 1982

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 6
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date JUNE 7, 1982

Ref: Item VIII of C -108

Geological Data
Injection Zones
for
Gulf Oil Corporation's
Arnott-Ramsay (NCT-B) Well No. 4

Seven Rivers (Jalmat Portion) 3025-3290' (265')

Dolomite, shaly dolomite with sand stringers. Porous sands at 3105-3116', 3130-3140', 3145-3198', 3218-3228' and 3236-3262'.

Seven Rivers (Bottom 100') 3290-3390'

Dolomite, with porous sand stringers at 3298-3304' and 3334-3346'.

Queen - 3390' - T.D.

Sands with alternating dolomite stringers. Porous sands at 3393-3420', 3428-32', 3444-3450' and 3468-3472'.

Geological Data
Fresh Water Aquifers
in the Area of
Gulf Oil Corporation's
Arnott-Ramsay (NCT-B) Well No. 4

The Arnott-Ramsay (NCT-B) Well No. 4 is located approximately one half mile south of the town of Jal. In this area, a division between aquifers of differing geological age exists.

The subject well is located in an area of Chinle and Santa Rosa (Triassic Age) aquifers. To the northeast, aquifers produce from the Ogallala formation (Tertiary Age) or Quaternary Age rocks.

The base of fresh water sands and the top of the Red Beds is at 322 feet by gamma-ray log measurement in the subject well.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 7
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 7
CASE 7600
June 9, 1982

Ref: Item XI of C-108

Chemical Analysis of Fresh Water
Within One-Mile of
Gulf Oil Corporation
Arnott-Ramsay (NCT-B) Well No. 4

Two known fresh water sources within approximately one-mile of the proposed injection well are:

	Name & Location	Date Sampled	Chlorides (mg/l)	Total Dissolved Solids (mg/l)
1.	Cooper Ranch W.S.W. in Unit H of Sec. 32, T-25-S, R-37-E.	4-18-82	1600	3855
2.	Texas-New Mexico W.S.W. in Unit P of Sec. 32, T-25-S, R-37-E.	4-08-82	1600	3844

Copies of The Analysis Reports for each well are attached as pages 2 and 3 of this Exhibit.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 8
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 8
CASE 7600
June 9, 1982

TRETOLITE DIVISION
369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Gulf Oil ADDRESS Jal, N.M. DATE: 4-19-82

SOURCE Cooper Ranch W.S.W. DATE SAMPLED 4-18-82 ANALYSIS NO.

Analysis		Mg/l		*Meq/l	
1. PH	7.6				
2. H_2S (Qualitative)	-0-				
3. Specific Gravity	1.000				
4. Dissolved Solids		3,855			
5. Suspended Solids					
6. Phenolphthalein Alkalinity ($CaCO_3$)		-0-			
7. Methyl Orange Alkalinity ($CaCO_3$)		450			
8. Bicarbonate (HCO_3)	HCO_3	549	÷61	9	HCO_3
9. Chlorides (Cl)	Cl	1,600	÷35.5	45	Cl
10. Sulfates (SO_4)	SO_4	400	÷48	8	SO_4
11. Calcium (Ca)	Ca	680	÷20	34	Ca
12. Magnesium (Mg)	Mg	-0-	÷12.2	-0-	Mg
13. Total Hardness ($CaCO_3$)		1,500			
14. Total Iron (Fe)		2.5			
15. Barium (Qualitative)					
16.					

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

34	Ca ←	→ HCO_3
-0-	Mg →	→ SO_4
28	Na ←	→ Cl

9		
8		
45		

Compound	Equiv. Wt.	X Meq/l	= Mg/l
$Ca(HCO_3)_2$	81.04	9	729
$CaSO_4$	68.07	8	545
$CaCl_2$	55.50	17	944
$Mg(HCO_3)_2$	73.17		
$MgSO_4$	60.19		
$MgCl_2$	47.62		
$NaHCO_3$	84.00		
Na_2SO_4	71.03		
NaCl	58.46	28	1,637

Saturation Values Distilled Water 20°C
$CaCO_3$ 13 Mg/L
$CaSO_4 \cdot 2H_2O$ 2,090 Mg/L
$MgCO_3$ 103 Mg/L

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 8
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

REMARKS

EXHIBIT NO. 8
CASE 7600
June 9, 1982

Respectfully submitted
TRETOLITE COMPANY

TRETOLITE DIVISION
369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500 / TWX 910-760-1660 / Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Gulf Oil Co. ADDRESS Jal, N.M. DATE: 4-19-82

SOURCE Tex-New Mex. W.S.W. DATE SAMPLED 4-8-82 ANALYSIS NO.

Analysis		Mg/L		*Meq/L	
1. PH		7			
2. H_2S (Qualitative)		-0-			
3. Specific Gravity		1.000			
4. Dissolved Solids		3,844			
5. Suspended Solids					
6. Phenolphthalein Alkalinity ($CaCO_3$)		-0-			
7. Methyl Orange Alkalinity ($CaCO_3$)		400			
8. Bicarbonate (HCO_3)	HCO_3	488	÷61	8	HCO_3
9. Chlorides (Cl)	Cl	1,600	÷35.5	45	Cl
10. Sulfates (SO_4)	SO_4	400	÷48	8	SO_4
11. Calcium (Ca)	Ca	160	÷20	8	Ca
12. Magnesium (Mg)	Mg	243	÷12.2	20	Mg
13. Total Hardness ($CaCO_3$)		500			
14. Total Iron (Fe)					
15. Barium (Qualitative)					
16.					

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

8	Ca ←	HCO₃
20	Mg →	SO₄
33	Na →	Cl

8		
8		
45		

Compound	Equiv. Wt.	X Meq/L	= Mg/L
$Ca(HCO_3)_2$	81.04	8	648
$CaSO_4$	68.07	8	545
$CaCl_2$	55.50		
$Mg(HCO_3)_2$	73.17		
$MgSO_4$	60.19	12	722
$MgCl_2$	47.62		
$NaHCO_3$	84.00		
Na_2SO_4	71.03		
NaCl	58.46	33	1,929

Saturation Values Distilled Water 20°C

$CaCO_3$	13 Mg/L
$CaSO_4 \cdot 2H_2O$	2,090 Mg/L
$MgCO_3$	103 Mg/L

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 8
CASE NO. 7600
Submitted by GULF OIL CORP.
Hearing Date June 9, 1982

EXHIBIT NO. 8
CASE 7600
June 9, 1982

REMARKS

Respectfully submitted
TRETOLITE COMPANY

Ref: Item XII of C-108

Gulf Oil Corporation
Arnott-Ramsay (NCT-B) Well No. 4
Unit O of Section 32, T-25-S, R-37-E
Lea County, New Mexico

Affirmative Statement

Gulf Oil Corporation has examined available geological and engineering data and finds no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 9
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 9
CASE 7600
June 9, 1982

Gulf Oil Exploration and Production Company

J. M. Thacker
GENERAL MANAGER PRODUCTION
SOUTHWEST DISTRICT

P. O. Drawer 1150
Midland, TX 79702

May 25, 1982

Surface Owner and
Offset Operators

Re: Application for Authorization to Inject into Arnott-Ramsay (NCT-B) Well No. 4, Lea County, New Mexico.

Gentlemen:

Pursuant to Rule 701, Order No. R-6702, of the State of New Mexico OCD Rules and Regulations, Gulf Oil Corporation is furnishing the following information (see attached).

Gulf Oil Corporation proposes to convert its Arnott-Ramsay (NCT-B) Well No. 4 to a salt water disposal well. The entire application for authority to dispose of produced water into this well is scheduled to be presented at the New Mexico Oil Conservation Division Examiner Hearing Docket of June 9, 1982.

The location of our Arnott-Ramsay (NCT-B) Well No. 4 is 330' FNL & 330' FWL of Section 32, T-25-S, R-37-E, Langlie Mattix Pool, Lea County, New Mexico. We will be requesting for injection into this well over a selectively perforated interval from 3338' to 3448' in the Seven Rivers and Queen formations.

Should there be any objections to this application, they should be made at the Examiner Hearing in Santa Fe.

Yours very truly,

for F. H. Martin
Technical Manager

AWB/da
Attachments

cc: W. V. Kastler - Houston
R. C. Anderson - Hobbs

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 10
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 10
CASE 7600
June 9, 1982
Page 1 of 3

Gulf
A DIVISION OF GULF OIL CORPORATION

Surface Owner

Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87501

Attn: Mr. Ray Graham

Leasehold Operators Within One-Half Mile

Amerada Hess Corporation
P.O. Box 840
Seminole, Texas 79360

Lewis B. Burleson, Inc.
P.O. Box 2479
Midland, Texas 79702

Sun Exploration and Production Co.
P.O. Box 1861
Midland, Texas 79702

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
EXHIBIT NO. 10
CASE NO. 7600
Submitted by GULF OIL CORP
Hearing Date June 9, 1982

EXHIBIT NO. 10
CASE 7600
June 9, 1982

PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
- [X] Show to whom and date delivered. ____¢
- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Commissioner of Public Lands

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	27582	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
Joby Catanach SANTA

4. DATE OF DELIVERY: POSTMARK: JUN 1 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-362

PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
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- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Amerada Hess Corp

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	27583	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
C. H. Lee

4. DATE OF DELIVERY: 5-27-82 POSTMARK: 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-362

PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

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1. The following service is requested (check one).
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- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Louis B. Burleson, Inc

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	27584	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent
F. B. Burleson

4. DATE OF DELIVERY: 5-27-82 POSTMARK: MAY 28 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-362

PS Form 3811, Aug. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one).
- [X] Show to whom and date delivered. ____¢
- [ ] Show to whom, date, and address of delivery. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered. ____¢
- [ ] RESTRICTED DELIVERY
  Show to whom, date, and address of delivery. $____
  (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Sun Exploration and Production Co.

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	27585	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE [ ] Addressee [ ] Authorized agent

4. DATE OF DELIVERY: 5-27-82 POSTMARK: MAY 28 1982 TX

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

☆ GPO: 1978-272-362

BEFORE EXAMINER STAVERT
OIL CONSERVATION DIVISION
EXHIBIT NO. 5
CASE NO. EXHIBIT NO. 10
CASE 7600
Submitted by June 9, 1982 GULF OIL CORP
Hearing Date Page 3 of 3 June 9, 1982

Docket No. 16-82

Dockets Nos.19 -82 and 20 -82 are tentatively set for June 23 and July 7, 1982. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - WEDNESDAY - JUNE 2, 1932
OIL CONSERVATION COMMISSION - 9 A.M.
MORGAN HALL, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

CASE 7522: (DE NOVO - Continued from May 17, 1982, Commission Hearing)

Application of Santa Fe Exploration Co. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location 660 feet from the North and West lines of Section 14, Township 20 South, Range 25 East, Permo-Penn, Strawn, Atoka and Morrow formations, the N/2 of said Section 14 to be dedicated to the well.

Upon application of Chama Petroleum Company, this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 7521: (DE NOVO)

Application of William B. Barnhill for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location 660 feet from the South and West lines of Section 35, Township 19 South, Range 25 East, Permo-Penn, Strawn, Atoka and Morrow formations, the S/2 of said Section 35 to be dedicated to the well.

Upon application of Chama Petroleum Company and William B. Barnhill, this case will be heard De Novo pursuant to the provisions of Rule 1220.

****

Docket No. 17-82

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 9, 1982
9 A.M. MORGAN HALL, STATE LAND OFFICE
BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 7599: Application of Barber Oil Inc. for an Exception to Rule 705-A Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the provisions of Rule 705-A of the Division Rules and Regulations to permit 37 temporarily abandoned injection wells in its Russell Pool waterflood project to remain inactive for a period of up to three years without the required cement or bridge plugs being installed therein to isolate the injection zone.

CASE 7600: Application of Gulf Oil 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 Seven Rivers and Queen formations in the perforated interval from 3338 feet to 3448 feet in its Arnott-Ramsay (NCT-B) Well No. 4 located in Unit D of Section 32, Township 25 South, Range 37 East, Langlie Mattix Pool.

CASE 7548: (Continued from April 14, 1982, Examiner Hearing)

Application of Tahoe Oil & Cattle Co. for salt water disposal, Lea 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 4932 feet to 4992 feet in its Schwalbe Well No. 1, located in Unit P of Section 21, Township 9 South, Range 37 East, West Sawyer-San Andres Pool.

CASE 7601: Application of Claude Walker for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at its salt water disposal site in the NE/4 NE/4 of Section 11, Township 10 South, Range 35 East.

CASE 7602: Application of Riqueza, Inc. for an oil treating plant permit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil in the NE/4 of Section 26, Township 22 South, Range 29 East.

CASE 7603: Application of Riqueza, Inc. for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit the commercial disposal of produced brine into an unlined surface pit located near its proposed oil treating plant in the NE/4 of Section 26, Township 22 South, Range 29 East.

CASE 7519: (Continued from May 26, 1982, Examiner Hearing)

Application of S & J Oil Company for special pool rules, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Seven Lakes-Menafee Oil Pool to provide for wells to be located not nearer than 25 feet to the quarter-quarter section line nor nearer than 165 feet to lands owned by an offset operator.

CASE 7604: Application of Rio Pecos Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the surface to the base of the Pennsylvanian formation underlying the W/2 of Section 2, Township 19 South, Range 32 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7605: Application of Yates Petrolsum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the top of the Wolfcamp formation through the uppermost 100 feet of the Mississippian Chester Limestone underlying the W/2 of Section 35, Township 19 South, Range 24 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7606: Application of MTS Limited Partnership Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the surface through the base of the Abo formation underlying the NW/4 of Section 5, Township 7 South, Range 26 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7592: (Continued from May 26, 1982, Examiner Hearing)

Application of OXOCO for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the surface to the base of the Mesa Verde formation underlying the E/2 of Section 20, Township 32 North, Range 8 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7586: (Continued and Readvertised)

Application of Standard Resources Corp. for designation of a tight formation, Chaves and Eddy Counties, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Abo-Wolfcamp formation underlying all or portions of Township 15 South, Ranges 23 through 25 East, Township 19 South, Range 20 East, and Township 20 South, Range 20 East, all in Chaves County; in Eddy County: Township 16 South, Ranges 23 through 26 East, Township 17 South, Ranges 21, 23, 24, and 25 East, and Township 18 South, Ranges 21, 23, 24 and 25 East, Township 19 South, Ranges 21, 23 and 24 East, and Township 20 South, Ranges 21, 23 and 24 East, containing 460,800 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271. 701-705.

CASE 7607: Application of El Paso Natural Gas Company for the abolishment of the Blanco-Pictured Cliffs Pool and the expansion of the South Blanco-Pictured Cliffs Pool in Rio Arriba, Sandoval and San Juan Counties, New Mexico. Applicant, in the above-styled cause, seeks the abolishment of the Blanco-Pictured Cliffs Pool and the expansion of the horizontal limits of the South Blanco-Pictured Cliffs Pool to include the abolished acreage.

Also to be considered will be the appropriate method for institution of gas prorationing for wells effected by the change in pool designation.

CASE 7608: Application of Tenneco Oil Company for designation of a tight formation, San Juan County, New Mexico. Pursuant to Section 107 of the Natural Gas Policy Act of 1978 and 18 CFR Section 271. 701-705, applicant, in the above-styled cause, seeks the designation as a tight formation of the Dakota Producing Interval underlying the following described lands:

All of:

Sections 1 thru 6, Township 29 North, Range 8 West;

Sections 1 and 2, Township 29 North, Range 9 West;

Sections 1 thru 18 and Section 24, Township 30 North, Range 10 West;

Sections 7 thru 9, 16 thru 21 and 25 thru 36, Township 32 North, Range 7 West;

All sections, Township 32 North, Range 8 West; and

All sections, Township 32 North, Range 9 West;

Also:

All of Township 30 North, Range 8 West except Sections 3 thru 5 and Section 35;

All of Township 30 North, Range 9 West except Sections 31 thru 34;

All of Township 31 North, Range 8 West except Section 32; and

All of Township 31 North, Range 9 West except Sections 27 and 28

containing 149,760 acres, more or less.

CASE 7609: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating and extending certain pools in Chaves, Eddy, and Lea Counties, New Mexico.

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Middle Bell Canyon production and designated as the Brushy Draw-Middle Bell Canyon Gas Pool. The discovery well is the J. C. Williamson EP-USA Well No. 2 located in Unit O of Section 26, Township 26 South, Range 29 East, NMPM. Said Pool would comprise:

TOWNSHIP 26 SOUTH, RANGE 29 EAST, NMPM
Section 26: SE/4

(b) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Bone Spring production and designated as the Legg-Bone Spring Pool. The discovery well is the Amoco Production Company State LT Well No. 1 located in Unit K of Section 32, Township 21 South, Range 33 East, NMPM. Said Pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 33 EAST, NMPM
Section 32: SW/4

(c) CREATE a new pool in Chaves County, New Mexico, classified as a gas pool for Atoka production and designated as the White Ranch-Atoka Gas Pool. The discovery well is the Depco, Inc. White Ranch Unit Well No. 1 located in Unit F of Section 8, Township 13 South, Range 30 East, NMPM. Said Pool would comprise:

TOWNSHIP 13 SOUTH, RANGE 30 EAST, NMPM
Section 8: W/2

(d) EXTEND the Austin-Mississippian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 36 EAST, NMPM
Section 5: W/2 and SW/4

(e) EXTEND the Baum-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM
Section 18: NE/4

(f) EXTEND the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM
Section 8: S/2

(g) EXTEND the East Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM
Section 6: S/2

(h) EXTEND the Cedar Lake-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM
Section 34: N/2
Section 35: N/2

(i) EXTEND the Crooked Creek-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 24 EAST, NMPM
Section 3: S/2
Section 10: N/2

(j) EXTEND the EK Yates-Seven Rivers-Queen Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 9: SW/4

(k) EXTEND the Elkins-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 28 EAST, NMPM
Section 22: S/2 NW/4

(l) EXTEND the Empire-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 20: N/2

(m) EXTEND the East Grama Ridge-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 35 EAST, NMPM
Section 31: S/2

(n) EXTEND the Hoag Tank-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 24 EAST, NMPM
Section 34: N/2

(o) EXTEND the House-Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM
Section 35: SE/4

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM
Section 2: NE/4

EXAMINER HEARING-WEDNESDAY-JUNE(

(p) EXTEND the South Kemnitz Atoka-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 34 EAST, NMPM
Section 19: S/2

(q) EXTEND the EastLaRica-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 35: S/2

(r) EXTEND the North Loving-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 5: All

(s) EXTEND the North Loving-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 6: S/2

(t) EXTEND the Maljamar-Atoka Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM
Section 28: E/2

(u) EXTEND the South Salt Lake-Morrow Gas Pool in Lea County, New Mexico to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM
Section 6: Lots 1, 2, 3, 4, 5, 6, 7, and 8

(v) EXTEND the Sand Hills Grayburg-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 39 EAST, NMPM
Section 31: SE/4

(w) EXTEND the Shugart-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM
Section 4: N/2

(x) EXTEND the Tom-Tom San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 31 EAST, NMPM
Section 35: NE/4

(y) EXTEND the Travis-Upper Pennsylvanian Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM
Section 13: N/2 NW/4

(z) EXTEND the North Turkey Track-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 28 EAST, NMPM
Section 27: E/2

Docket 17-82

(aa) EXTEND the White City-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 26 EAST, NMPM
Section 13: All

(bb) EXTEND the North Young-Bone Spring Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM
Section 4: SE/4
Section 11: W/2

****

Docket No. 18-82

DOCKET: EXAMINER HEARING - THURSDAY- JUNE 17, 1982

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for July, 1982, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for July, 1982, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

Gulf Oil Exploration and Production Company

J. M. Thacker
GENERAL MANAGER PRODUCTION
SOUTHWEST DISTRICT

P. O. Drawer 1150
Midland, TX 79702

May 6, 1982

Case 7600

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey, Director

Re: Examiner Hearing
June 9, 1982

Gentlemen:

Gulf Oil Corporation requests the scheduling of the following on your Examiner Hearing Docket of June 9, 1982.

Disposal of produced saltwater through perforations at 3338-40', 3412-14' and 3446-48' in the 7-Rivers and Queen formations in the Arnott-Ramsay (NCT-B) #4 well located 330' FNL and 330' FWL, Section 32, T-25-S, R-37-E, Langlie Mattix Pool, Lea County, New Mexico.

Yours very truly,

F. H. Martin
Technical Manager

AWB/da

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

ORDERS

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7600

Order No. R-7024

APPLICATION OF GULF OIL CORPORATION
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 9, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this_____day of June, 1982, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Gulf Oil Corporation, is the owner and operator of the Arnott-Ramsay (NCT-B) Well No. 4, located in Unit D of Section 32, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Seven Rivers and Queen formations, with injection into the perforated interval from approximately 3338 feet to 3448 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 3275 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) That the injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(6) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the approved injection zone. ~~formation~~.

(7) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(8) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Gulf Oil Corporation, is hereby authorized to utilize its Arnott-Ramsay (NCT-B) Well No. 4, located in Unit D of Section 32, Township 25 South, Range 37 East, NMPM, Langlie Mattix Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers and Queen formations, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately ~~3250~~ 3275 feet, with injection into the perforated interval from approximately 3338 feet to 3448 feet;

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

(2) That the injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 670 psi.

(3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Seven Rivers and Queen formations.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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(6) That the applicant shall operate and report on ~~submit monthly reports of~~ its disposal operations in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

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

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