CASE 6611: CABOT CORP. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO

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CASE NO.

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APPlication,
Transcripts,
Small Exhibits,



ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR LARRY KEHDE SECRETARY

October 8, 1980

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

Cabot Exploration Corporation P. O. Box 5001 Pampa, Texas 79065

Case 6611

Re: Order No. R-6101

Injection Pressure Increase

J. L. Reed No. 1 SWD

Gentlemen:

After reviewing additional tests run on your Reed Well No. 1, you are hereby allowed to increase the surface injection pressure to 2250 psi. Higher injection pressure may be granted if a stabilized step rate test demonstrates a higher fracture pressure.

Please call Jerry Sexton in our Hobbs office if you have further inquiries.

Yours very truly,

JOE D. RAMEY Director

JDR/MH/fd

Memo

Grom

R. L. STAMETS
Technical
Support Chief

Jo 10-6-80

true pressure

Discussions with ferry

Sexton, Capect pressure

dissopation in reservoir

before reaching Lowe C #1

well. Plso this is produced

water and oil Lepletion

in the reservoir should

keep things in balance.

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2250 psi . Higher pressure

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oil conservation division santa FE

steprate dimonstrates a higher

CABOT CORPORATION

P. O. BOX SOCI, PAMPA, TEXAS, 79065

Cable adoress "Cablak" Pampa Phone 869 — 25°1 (Area code 806)

September 29, 1980

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



Attention: Mr. Richard L. Stamets

Gentlemen:

Order R-6101

Reference is made to our recent conversation in which you pointed out to me that subject order limited our Reed No. 1 to 1200 psi injection pressure because of concern over the plugged well H. L. Lowe "C" No. 1.

Attached is additional information about the Lowe "C" No. 1 and also recent injection rate test of our Reed No. 1 that was conducted by Well Test Engineering of New Mexico of Hobbs, New Mexico on September 22, 1980.

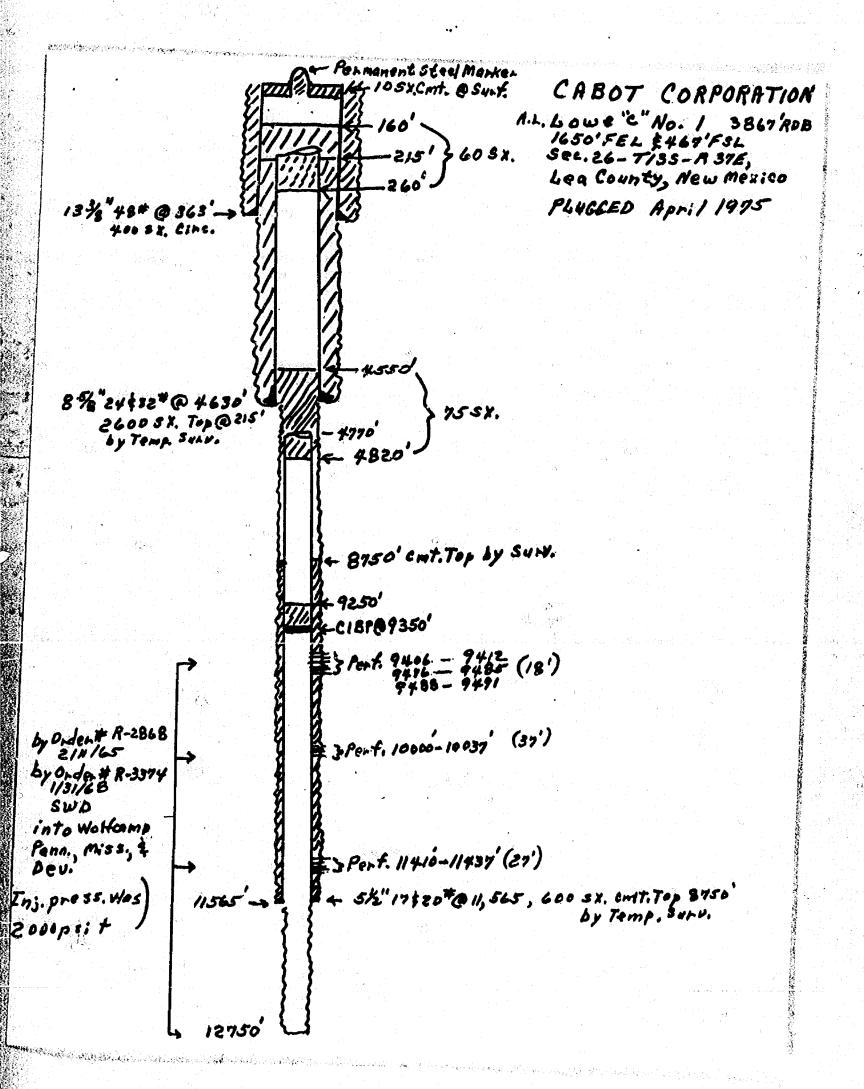
No attempt was made to complete Lowe "C" No. 1 in Devonian. The interval 11,410 - 11,437 was extremely tight and nonproductive. It was completed 10,000 - 10,037 and shortly produced by pump. An attempt was then made to complete in 18' of 9,406 - 9,491. This zone also was tight and nonproductive. The well was temporarily abandoned for a while then it was converted to water injection. The injection pressure was also 2,000 psi. (Ref. Cabot's letter dated 11/21/67 to New Mexico 011 Conservation Commission, Hobbs, Attention: Mr. Erich Engbrecht)

This well is almost exactly one-half mile from our Reed No. 1 injection well. Water from the Reed No. 1 will not reach the Lowe "C" because of the very low permeabilities and the size of the Devonian formation. Reference attached test on our Reed No. 1 which proves no creation of a formation fracture up to injection rate of 2700 BPD at 2700 psi tubing pressure. Since injection is down 2-3/8" tubing, the pressure required to overcome friction is 850 psi. Therefore, the formation only "sees" 1850 psi adjusted plus 5654 psi hydrostatic head of the 8.8#/gal. salt water. This total (7504 BHP) results in a calculated 0.6 psi/ft. gradient; this is less than it normally takes to frac the Devonian in that area.

State of New Mexico September 29, 1980 The attached sketch on the Lowe "C" No. 1 shows you that there is plenty of cement and bridge plug inside and cement outside of the casing to prevent any migration upward. Water was injected with all zones open for several years. Therefore, there is no pressure differential except difference in head to cause any flow from one zone to another. The permeability is so low that there will not be any counter flow. Therefore, we respectfully request that our pressure 1 mit on Order R-6101 be administratively raised to 2500 psi. Please advise. Sincerely, George A. Forrest Regional Production Engineer GAF:1p Enc. New Mexico Conservation Commission P. O. Box 1980 Hobbs, New Mexico Attn: Jerry Sexton, District Director

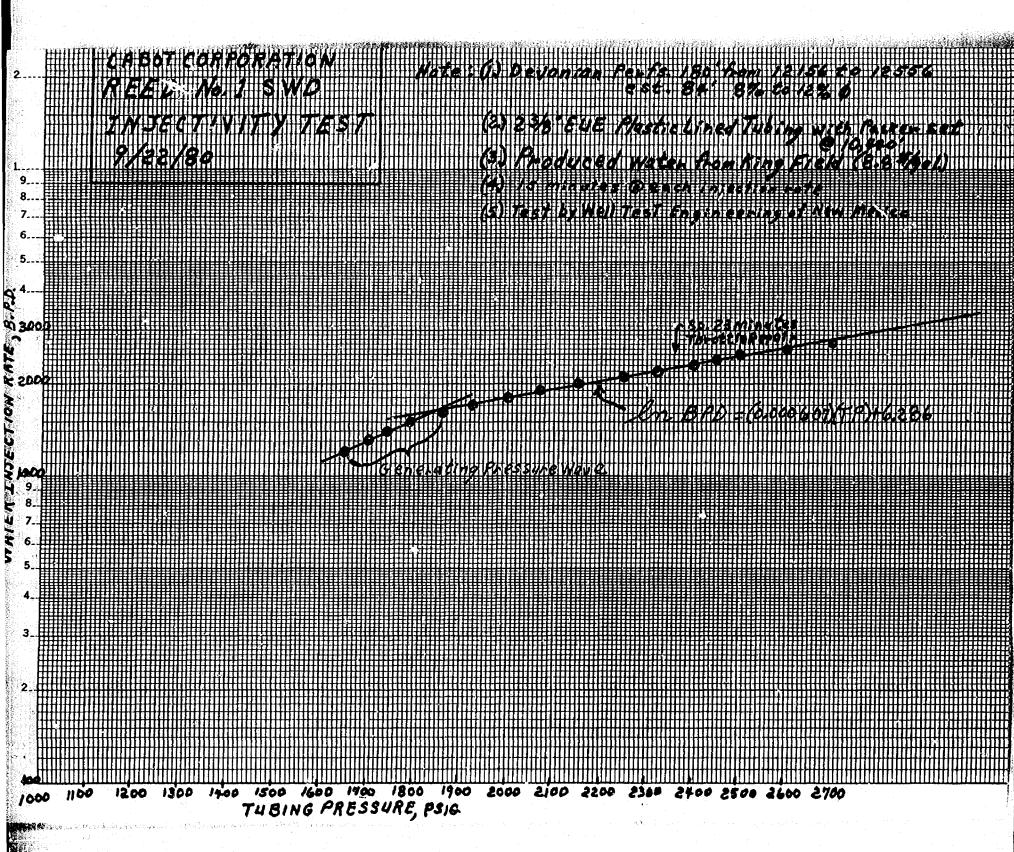
H. L. LOWE "C" NO. 1

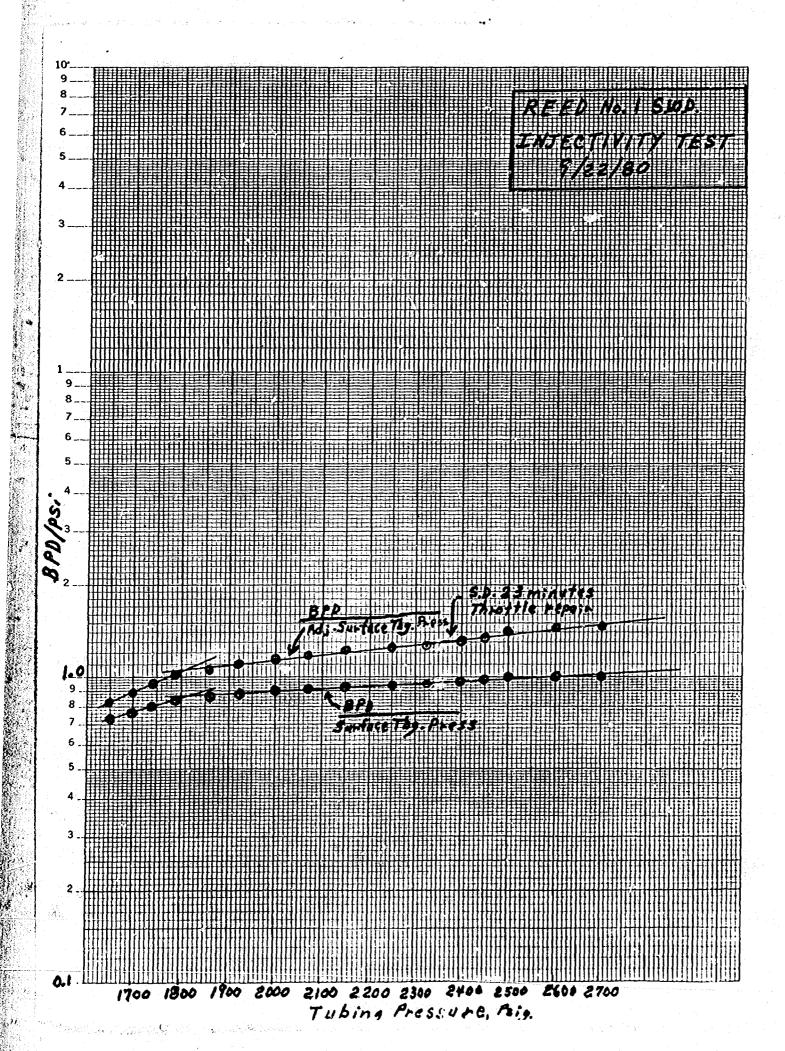
3/27/58	11,412 - 11,437 swb dry. Ac. & Frac to 7,300 psi tbg. press. @ 2 BPM, then swb dry. Set CIBP @ 10,300'.
4/1/58	10,000 - 10,037 Ac. w/1500 gal M.A. 5600 psi @ 1.9 BPM. Potentialed 528 BOPD thru 22/64" ck FTP 500#.
4/4/58	BHP test 10,113 was 3897 psi.
10/16/58	BHP test was 3637 psi.
6/22/59	Installed pumping unit, sucker rods, pump.
1/20/62	Pump test 9 BOPD, 90 BWPD, 15.5 MCFD.
1/21/63	Pump Test 6 BOPD, 102 BWPD, 12.3 MCFD.
1/28/64	Pump Test 5 BOPD, 105 BWPD, 9.6 MCFD.
7/64	Cumulative oil from 10,000 - 10,037 interval approx. 90,000 barrels. CIBP set @ 9550', perforated 9406 - 9412, 9476 - 9485, and 9488 - 9491 on 6/29/64. Ac. 1000 gal max. press. 4000 psi, then on 7/14/64 ac. 3000 gal max. press. 4800 avg. ress. 4100 @ 2.2 BPM. Swab tested 30 BFFD with 85% water cut. Temporarily abandoned.
8/65	Permission was received to convert to S.W.D. (Order No. R-2868 dated 2/11/65) so CIBP was drilled out at 9550 and water was disposed into perforations from 9406 - 10,037.
11/67	Refer to Cabot's letter dated 11/21/67 to New Mexico Oil Conservation Commission, Hobbs (Attn: Mr. Erich Engbrecht) stating injection pressure into Wolfcamp Zone was 2000 psi.
1/31/68	Commission Order #R-3374 allowed Cabot to drill out plugs and inject water in Wolfcamp, Pennsylvanian, Mississippian, and Devonian formations in the overall intervals from 9406 - 12,690'.
2/13/68 to	
3/15/68	Drilled out to 12,750', Ac. with 3000 gal. Max. press. 3000 psi and commenced injection. (See Form C-103 approved 3/15/68)
4/75	Well was plugged and abandoned.
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REED No. 1 S.W.D. INJECTIVITY TEST 9/22/80

Surface 2-3/8" Tbg.	P friction in 10,440'	Adj. Surf. Tbg. Press. (Tbg. Press.	8.8#/gal - Inject	nute Steps - Salt Water ion Rate	Hyd. Head = 8.8#/Gal x .052 x 12356' - 5654 p Calc. BPH = Adj. Surf. T		psi Acj. Surf. Tbg.
Press., psig	of Tubing	P friction	BPD	BPM	Press. + Hyd. Head	Tbg. Press.	Press.
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generating	pressure wave.	Exact 15-mi	nute steps w	ere used duri	ng test.		
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1650	210	1440	1200	0.8328	7094	0.727	0.833
1700	245	1455	1300	0.9022	7109	0.765	0.893
1740	276	1464	1400	0.9716	7118	0.805	0.956
1790	303	1487	1500	1.0410	7141	0.838	1.009
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1925	386	1539	1700	1.1798	7193	0.883	1.105
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2150	512	1638	2000	1.3880	7292	0.930	1.221
2250	553	1697	2100	1.4574	7351	0.933	1.237
2325	590	1735	2200	1.5268	7389	0.946	1.268
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	st 100# pressu						
2400	642	1758	2300	1.5962	7412	0.958	1.308
2450	679	1771	2400	1.6656	7425	0.980	1.355
2500	730	1770	2500	1.736v	7424	1.000	1.412
2600	783	1817	2600	1.8044	7471	1.000	1.431
2700	850	1850	2700	1.8738	7504	1.000	1.459
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	injected = 340) barrels			And the second s		and the second





COPY CABOT CORPORATION BOX 4395

MIDLAND, TEXAS

November 21, 1967

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

Attention: Mr. Erich Engbrecht

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Dear Sir:

At the present time Cabot operates the Lowe "C" No. 1, a salt water disposal well located in the King Field, Lea County, New Mexico. This well is disposing of produced water into the Wolfcamp zone at 2000 PSI pump pressure.

We are currently considering converting this well to a Devonian zone salt water disposal well. If this is done, would you please notify us what forms and plats must be filed. Please send copies of the necessary forms.

Will it be necessary to have a hearing on this or will it be given administrative approval?

Your attention to this matter is greatly appreciated.

Jim McPeters

Dist. Engineer

FORI, DICK FROM: JEREY STEP RATIES ON THE STATE OF THE Messy nes have been Adjusted for Paidien 10,470' 276" tog Plastic lined Well Test Engineering Step Rate test Gobot Corp. J.L. Reed #1 swd

O To " OUV

1200 psi limitation placed on well because plugging below 6000 Feet in some of the wells within 1/2 mile is not thoursugh.

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. 6611 Order No. R-6101

APPLICATION OF CABOT CORP. 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 August 8, 1979, at Santa Fe, New Mexico, before Examiner R. L. Stamets.

NOW, on this 10th day of September, 1979, 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, Cabot Corporation, is the owner and operator of the Reed Well No. 1, located in Unit H of Section 35, Township 13 South, Range 37 East, NMPM, King Field, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 12,156 feet to 12,574 feet.
- (4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 10,600 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 device which will limit the wellhead pressure on the injection well to no more than 1200 psi.
 - (6) That the Director of the Division should be

Case No. 6611 Order No. R-6101

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 Devonian formation.

- (7) That the operator should notify the supervisor of the Hobba 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 wasts and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Cabot Corporation, is hereby authorized to utilize its Reed Well No. 1 located in Unit H of Section 35, Township 13 South, Range 37 East, NMPM, King Field, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 10,600 feet, with injection into the perforated interval from approximately 12,156 feet to 12,574 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 device which will limit the well-head pressure on the injection well to no more than 1200 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 Devonian formation.
- (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

Case No. 6611 Order No. R-6101

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 submit monthly reports of its disposal operations in accordance with Rules 704 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 OLL CONSERVATION DIVISION

JOE D. RAMEY Director

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STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION State Land Office Building Santa Fe, New Mexico 25 July 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Cabot Corp. for salt water) CASE disposal, Lea County, New Mexico.

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel for the Division State Land Office Bldg. Santa Fe, New Mexico 87503

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MR. NUTTER: We'll call next Case Number

MR. PADILLA: Application of Cabot Corporation for salt water disposal, Lea County, New Mexico.

MR. NUTTER: Applicant has requested the continuance of this case.

It will be continued to the Examiner
Hearing scheduled to be held at this same place at 9:00
o'clock a. m. August 8th, 1979.

(Hearing concluded.)

SALLY WALTON BOY!
REFIFED SHORTMAND REPORTS
618 Plant Banca (866) 413-44
Senta Fe, New Mexico 573-6

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Court Reporter, DO HEREBY

CERTIFY that the foregoing and attached Transcript of

Hearing before the Oil Conservation Division was reported

by me; that said transcript is a full, true, and correct

record of the hearing, prepared by me to the best of my

ability, knowledge, and skill, from my notes taken at the

time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 19.79, heard by me on 19.79,

Oil Conservation Division

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION State Land Office Building Santa Fe, New Mexico 25 July 1979 3 EXAMINER HEARING b Application of Cabot Corp. for salt water) CASE IN THE MATTER OF: disposal, Lea County, New Mexico. 7 Û 9 BEFORE: Daniel S. Nutter SALLY WALTON BOYD
CERTIFED SHORTHAND REPORTER
SERVED SHORTHAND REPORTER
1918 Place Blanca (101) 411-415
Santa Pa. New Marico 57701 10 TRANSCRIPT OF HEARING 11 12 APPEARANCES 13 Ernest L. Padilla, Esq. 14 Legal Counsel for the Division State Land Office Bldg. For the Oil Conservation 15 Santa Fe, New Mexico 87503 Division: 16 17 18 19 20 21 22 23 24 26

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FA. Now Maxico 57761

MR. NUTTER: We'll call next Case Number

MR. PADILLA: Application of Cabot Corporation for salt water disposal, Lea County, New Mexico.

MR. NUTTER: Applicant has requested the continuance of this case.

It will be continued to the Examiner Hearing scheduled to be held at this same place at 9:00 o'clock a.m. August 8th, 1979.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete retord of the proceedings in the Examiner hearing of Case No. 661 heard by me on___

=, Examiner Oll Conservation Division

J. O. SETH (1883-1963)

A. K. MONTGOMERY
FRANK ANDREWS
SETH O. MONTGOMERY
FRANK ANDREWS III
OWEN M. LOPEZ
VICTOR R. ORTEGA
JEFFREY R. BRANNEN
JOHN BENNETT POUND
GARY R. KILPATRIC
THOMAS W. OLSON
WALTER J. MELENDRES
BRUGE L. HERR
MICHAEL W. BRENNAN
ROBERT R. WORCESTER
JOHN B. DRAPER
NANCY M. ANDERSON
JOHN K. SILVER
RUDOLPH B. SACKS, JR.

MONTGOMERY, ANDREWS & HANNAHS

PROFESSIONAL ASSOCIATION ATTORNEYS AND COUNSELORS AT LAW 325 PASEO DE PERALTA POST OFFICE BOX 23Q7 SANTA FE, NEW MEXICO 87501

TELEPHONE 505-982-3873

TELECOPY 505-982-4289

August 3, 1979

Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico 87503

The second secon

NMOCC Case No. 6617 - No lication of El Paso Natural Gas Company for Downhole Commingling, Rio Arriba County, New Mexico.

Gentlemen:

Please be advised that David T. Burleson of the office of General Counsel of El Paso Natural Gas Company, El Paso, Texas, is associated with our firm for the presentation of evidence and argument in the above-referenced case.

When M. Lopez Lopez

OML: to

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT Oil Conservation Division State Land Office Building Santa Fe, New Mexico 8 August 1979

EXAMINER HEARING

IN THE MATTER OF:

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Application of Cabot Corp. for salt) water disposal, Lea County, New) Mexico.

CASE 6611

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 87503

For the Applicant:

Conrad Coffield, Esq. HINKLE, COX, EATON, COFFIELD & HENSLEY Midland, Texas

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MR. STAMETS: We'll call next Case 6611.

MR. PADILLA: Application of Cabon Corporation for salt water disposal, Lea County, New Mexico.

MR. COFFIELD: Conrad Coffield with the Hinkle Law Firm of Midland, Texas, appearing on behalf of Cabot Corporation.

I have one witness.

(Witness sworn.)

ROBERT N. JOHNSON

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

DIRECT EXAMINATION

BY MR. COFFIELD:

Q. Mr. Johnson, for the record, would you please state your name, address, occupation, and employer?

A. My name is Robert N. Johnson. I'm from Pampa, Texas, and my employer is Cabot Corporation.

- Q What do you do for Cabot Corporation?
- A. I'm a petroleum engineer.
- Q. Mr. Johnson, are you familiar with Cabot Corporation's application in this case?
 - A. Yes, I am.

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And have you previously testified before the Division as an engineer? No, I have not. For the Examiner, would you please briefly outline your educational background and work experience? Yes, sir. I graduated in 1955 from Texas A&M University; spent four years in the Air Force and was employed by Amoco, or then FanAmerican, for ten years, until 1970, and since 1970 I've been employed by Cabot Corporation as a petroleum engineer, in both cases.

And you are familiar with this particular property and the engineering aspects involved in this case?

Yes, I am.

MR. COFFIELD: Mr. Examiner, is the witness considered qualified?

MR. STAMETS: Mr. Johnson, what was your degree from A&M?

Petroleum engineering.

MR. STAMETS: And what fields of endeavor in petroleum engineering did you work in with Amoco? And your current employment?

I've worked for both Amoco and Cabot Corporation as a reservoir engineer and a production engineer.

MR. STAMETS: Okay, in what areas of the

country?

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SALLY WALTON BOYD CERTIFED SHORTHAND REPORTED 1918 Plaza Blanca (682), 471-446 Senta Pe. New March A. West Texas and New Mexico.

MR. STAMETS: The witness is considered qualified.

Q (Mr. Coffield continuing) Mr. Johnson, briefly what is it that Cabot seeks by its application in this case?

A. Cabot seeks in this application to dispose of Devonian water in the Reed No. 1 in the Devonian interval perforated 12156 to 12574 in the King Field, Lea County.

Q Is that in the Reed No. 1 Well?

A. Yes, Reed No. 1 Well.

Q Located in Unit H of Section 35?

A. Section 35, Township 13 South, Range 37 East, in, as I said, the King Field.

All right. Mr. Johnson, please refer to this packet which has been marked as Exhibits One to Seven and first referring to what's been marked as Exhibit One, would you explain that, please?

A Yes. Exhibit One is a property ownership map. Two circles shown on it, one with a 2-mile radius; the inner one with 1/2-mile radius.

The red shaded circles are indicative of the locations of all wells within a 2-mile radius that have penetrated the proposed Devonian disposal interval, and I've shown the proposed Reed No. 1 disposal well as a red shaded

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Q And what, what is the situation with respect to the circles that you show within the smaller circle?

A. The 1/2-mile radius -- the wells within the 1/2-mile radius, I have also prepared schematics of these wells, and they will appear as a later exhibit.

Q Is Cabot Corporation the operator of the property on which the injection -- proposed injection well is located?

- A. That is correct.
- Q Mr. Johnson, would you give a history, briefly, of this injection well?

A. Yes. The Reed No. 1 was completed in the Devonian formation in August of 1956 and potentialed for 600 barrels per day from open hole interval. The open hole interval is from approximately 12,590 feet to 12,670 feet.

In succeeding years it was plugged back progressively until it was perforated in the top of the Devonian at 12,156. And in January of 1978 it was producing 5 barrels of oil and 125 barrels of water per day from the Devonian.

The Pennsylvanian formation was tested and the Mississippian formation was tested, and it was recompleted in the Mississippian formation then and is now presently producing approximately 100 Mcf of gas a day.

Q Okay, Mr. Johnson, would you please refer to Exhibit Two in this packet and describe what that represents?

A. Exhibit Two is the well log of the Reed No. 1, which is our proposed Devonian disposal well. It's an electric log and it shows -- I'd like to point out the top of the Devonian is at 12,156; total depth is 12,670 feet The casing is set at 12,590 feet and the -- we'll get into this in a later exhibit, but the open hole interval is presently squeezed and it is now perforated in the Devonian in a gross interval from 12,156 to 12,574 feet.

The log shows, although it's not a porosity log, the lithology would indicate porosity from the top of the Devonian all the way down to the total depth of the hole.

Q To your knowledge is there a complete copy of a well log on this well on file with the Division?

A Yes, sir, there should be.

Q Mr. Johnson, are there other possible producing zones in this -- in this well?

A. Well, as I mentioned, we've already tested the Pennsylvanian zone and it was not commercial and we did recomplete in the Mississippian, which is barely commercial, 100 Mcf a day.

Q. Those are the only other possibilities?

A Only other possibilities.

Q Would you please go to what's been marked as Exhibit Three in this packet and discuss this exhibit; describe it.

A Exhibit Number Three is a wellbore schematic of the Reed No. 1 as we propose to complete it as a Devonian disposal well.

The present perforations in the Pennsylvanian at 10,755 to 794 have already been squeezed. The schematic shows the present completion interval in the well of 11,421 to 471 in the Mississippian. These perforations will be squeezed.

The sketch does not show the cement retainer at the casing shoe, and we are undecided at this time whether or not to drill that cement retainer out and expose additional Devonian formation in the open hole interval.

The proposed tubular arrangement in the disposal well, we would set 2-3/8ths inch plastic-lined tubing on a Baker Model "D" packer at approximately 10,600 feet and load the annulus with corrosion-inhibited fresh water and put a pressure gauge on the annulus to monitor the downhole condition of the well, and proceed to inject down the 2-3/8ths inch tubing into the Devonian zone.

Q All right, let's go to Exhibit Four, please, and explain what Exhibit Four represents.

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Exhibit Number Four is -- are schematics of all the plugged and abandoned wells within that 1/2-mile circle that I showed on Exhibit One.

The first one, the Cabot Fleet No. 1, is not -- technically doesn't belong in this section because it is our present San Andres salt water disposal well, but I have included it in here because it will -- it will be plugged and abandoned when we -- when we develop another salt water disposal interval.

I might mention here that this well does have mechanical difficulties and that's why we are applying for an alternate location to dispose of our salt water.

Now the zones below the San Andres in my opinion have already been plugged satisfactorily to preclude any danger to the overlying formation from a Devonian disposal.

The second one, the Cabot Fleet No. 4, was formerly a San Andres disposal well and was plugged and abandoned in 1975, in September of 1975.

MR. STAMETS: Is there an indicated top of cement on the 5-1/2 casing in that well?

- Which well is that, sir? Cabot Fleet 4? MR. STAMETS: Yes.
- Cabot Fleet No. 4 has a top of cement at approximately 9000 feet, and that's an estimate.

The Cabot Fleet No. 3 was a former Devonian well, and the records available to me indicate that it has been plugged and abandoned in a satisfactory manner.

Cabot Reed No. 4 was a former Devonian well, and I believe it has been plugged in an adequate manner.

Cabot Reed No. 3, former Devonian producer.

I believe it has been plugged adequately.

Cities Service State "AB" No. 1 was a deep test; however, I do -- in my opinion it did not penetrate the Devonian and was drilled and abandoned in 1952. The actual plugging records on this well were not available to me but if it has been -- if it has been plugged similar to the other wells that I show plugged, I believe it won't represent any danger to the overlying formation.

The Cabot Lowe No. 1 was similarly drilled to a formation over -- not penetrating the Devonian in 1952, and I believe, also, that if it had been plugged similar to the other wells, that it would not represent in danger to the overlying formation.

Cabot Lowe C No. 1 was a Devonian test;
plugged in 1975; plugging records are not available to me
on this well, but similarly, if it has been plugged similar
to the other wells, I believe that it also will not represent
any danger to the overlying formation.

I might point out to you also that this well was also formerly a Devonian salt water disposal well; however, it had approximately 1200 feet of open hole in the Devonian and it was not satisfactory for the reason that this large amount of open hole caved in on us.

test in the area; plugged in May of 1979. The plugging records were not available to me; however, the sccut -- geological scout ticket did show that several 100-sack cement plugs were placed in the hole from the TD of 12,675 up to the base of the 5-1/2 inch production string; that it was run for a test in the San Andres. So I believe that also represents adequate protection for the overlying formation.

The Cabot Lowe B No. 1, a deep test in the Devonian, plugged in 1967. The records were not available to -- plugging records were not available to me, but I also believe that if it had been plugged similar to the wells that I have shown on these schematics, that this will be adequate protection for the overlying formation.

Mr. Johnson, is it your opinion, then, and belief, that all of these wells that you've just discussed were plugged and abandoned in accordance with the appropriate Oil Conservation Division requirements and guidelines?

A It's my belief that they were, yes.

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ikwi.

Q. Okay, Mr. Johnson, refer to what has been marked as Exhibit Five and describe what it shows.

A. Exhibit Five is a tabular summary of all wells drilled within a 1/2-mile radius of the proposed No. 1 Reed salt water disposal well, and which also penetrated the disposal zone, the Devonian disposal zone.

The tabular summary is broken down into a summary of the well operator, lease, and its location, the surface casing, cement used, intermediate casing and cement used, production casing, cement used, and where the cement wasn't circulated, what the top of the cement was. It also shows the total depth and formation in which the well was originally completed and the remark section, I've shown whether the well has been plugged or is presently producing, and the intervals from which it's producing from.

I might point out that several of these wells, since the categories overlapped, are also shown in the sketches.

Okay, Mr. Johnson, what kind of fluid will you be injecting and what is the source of that fluid in this well?

The fluids that we'll be injecting into the Reed No. 1 is the Devonian water. It will be -- and the Wolfcamp water, a small amount of Wolfcamp water. It

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will be being obtained from the three wells, three producing wells I -- three or four producing wells I show here on the exhibit.

On Exhibit Five?

On Exhibit Five, yes. I'll point out to you the Reed No. 2 is one location north of the proposed disposal well and it presently is capable of 79 barrels of oil and 900 barrels of water a day.

The Cabot Fleet No. 2, two locations south of the proposed disposal well, is presently capable of 19 barrels of oil and 805 barrels of water per day from the

The Cabot State C No. 1, a Devonian Well, Devonian. presently capable of 44 barrels of oil and 890 barrels of water a day from the Devonian. It's a direct east offset to the proposed disposal well.

And the Cabot State C No. 2, which is a former Devonian well but is now producing from the Wolfcamp at a rate of 7 barrels of oil and 9 barrels of water per

Mr. Johnson, refer to what has been marked day. as Exhibit Six and discuss this and explain what this shows. Exhibit Number Six is a water analysis from

the -- for the waters that will be injected into the Reed The water shown here is representative of the Wolf-

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It comes from the only source " Wolfcamp water that will be disposed of, and that's the State Z No. 2, approximately 9 barrels of water a day.

And the column on the right shows typical Devonian water which is obtained from the Reed No. 2, and will represent the analysis for approximately 2600 barrels of water a day that we'll be injecting into the Reed No. 1.

- In the analysis of these waters involved, Mr. Johnson, does it appear that the fluids will be compatible?
- Yes. The second part of this exhibit shows the compatibility test that was run for us. It's been run at two temperatures, 60 degrees, and an approximation of the bottom hole temperature of 160 degrees.

Both these analyses show negative scaling tendencies for the worst kind of scale, which would be your calcium sulfate scale.

It shows a positive scaling tendency for calcium carbonate, which is -- which is soluble in acid and therefore I feel it's not -- not as great a threat as the other types of scale.

The calcium carbonate scale is -- will form depending on the pH maintained in the water, but I feel that since the Wolfcamp water only will constitute .4 of 1 percent of the total water put into the Reed No. 1,

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that in any case the scaling problem will not be of overriding concern.

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Q. Do you expect to inject the -- this pro-

A Yes. I expect that some pressure will be used, although the level of the pressure that we'll encounter, I can't definitely say at this time. I believe counter, that we are presently entit will be less, though, than what we are presently encountering in disposing of water into the San Andres.

All right, Mr. Johnson, I believe you've already noted, of course, that there are wells in the immediate area which are producing from the same formation into which you propose to inject this produced salt water.

Would you please briefly discuss for the Examiner the effect that you expect upon -- or might expect on the offset Devonian production?

A. Yes. When you're injecting water of the volumes we're considering into a producing zone, you can have three effects.

You could see a beneficial effect. You could see a harmful effect, or you could see no effect.

And in view of the thickness of the Devonian and its fractured nature, and the fact that it is an active water-drive tured nature, and the fact that it is an active water-drive formation, I believe that the probability is that we will see no effect in our offset producers, particularly in view see no effect in our offset producers, particularly in view

of the fact that the offset Devonian producers are producing such a great -- at such a high water cut already.

And is it your opinion that because of the thickness of the Devonian formation in this area that the effects, whatever they might be, if they were either beneficial or harmful, it would be slow to show up?

A. Yes, the thickness of the formation would tend to slow down any effect.

Q. Mr. Johnson, do you already have the equipment necessary in order to inject under pressure in this location?

A Yes, we do.

0 What is this -- where is it now?

A. Where is it physically located? It's --

My question to you is, are you going to be using the same equipment that you already are using in your disposal operations now?

A. Yes, we are.

And I believe you've already stated this, but let me ask you again in case I missed it, will the casing and tubing annulus be filled with an inert fluid?

A Yes, inhibited fresh water.

Q. And you did say that you will have a pressure gauge attached?

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A Yes, I did.

Q And, Mr. Johnson, are you aware of the requirements of the Division that there's to be no surface injection pressure on a project of this type which is greater than .2 psi per foot of depth to the top of the injection zone?

A. Yes, I am.

Q And will -- is it your opinion that your proposed project will be within these guidelines?

A. Yes, that guideline works out to 2430 pounds surface injection pressure, and I believe we will adequately dispose of our water with pressure below that -- that level.

Q. All right. Please go to what has been marked as Exhibit Seven in this packet and describe this to the Examiner.

A. Exhibit Seven is consent agreements by the offset operator, which is Kerr-McGee Corporation. They have attested here that they have no objection to our disposal of water into the Reed No. 1.

And the second is the okay by the surface owner on the Reed lease, Mr. McCrory. I might point out here that Mr. McCrory said that he has no -- no objection to off-lease disposal, or disposal of off-lease water, from the State C and Lowe wells, located nearby.

The Lowe lease no longer produces and I'm

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sure that Mr. McCrory meant to include the Fleet lease, and

Can you obtain a clarification of --

If the Commission desires, I can obtain A. a cleaner okay from Mr. McCrory.

Mr. Johnson, in your opinion is the proposed injection well cased and cemented in such a fashion that there's no danger, prospective danger, to oil, gas, or fresh water formations or reservoirs which might be encountered?

Yes, I do.

Were these Exhibits One through Seven prepared by you or under your supervision?

Yes, sir, they were.

Will Cabot notify the Oil Conservation Division of the date of commencement of this injection operation and keep accurate records and report monthly to the Division the volume of fluids injected and the injection pressures?

Yes, they will.

In your opinion will the approval of this application be in the interest of conservation, prevention of waste, and protection of correlative rights?

Yes, I do.

MR. COFFIELD: Mr. Examiner, I move the

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Santa Po, New Monton 87501

admission of Exhibits One through Seven.

MR. STAMETS: These exhibits will be admitted.

MR. COFFIELD: And I have no other questions of Mr. Johnson at this time.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Johnson, Exhibit Number Three indicates the Mississippian is yet to be squeezed. Is that the situation there?

A. Yes. The Mississippian is presently producing approximately 100 Mcf a day of gas, and we will squeeze the Mississippian.

Q. I notice the packer is going to be set at 10,600 feet, which is a couple thousand feet above the injection interval. Will this present any problem when this well is to be plugged and abandoned finally, due to scale buildup between that point and the top of the injection interval?

A. Well, the Baker Model D is a permanent packer, so any buildup of scale below a permanent packer would not be of as great concern as if it were a removable packer.

Q How would you -- well, let me rephrase it.

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Normally, we require a bridge plug be set immediately above the injection interval with some cement on top of that. Do you feel like you'll be able to get into this well at the conclusion of injection and plug it in such a manner?

A. Under this setup, if I were contemplating abandonment, I would pump cement down the tubing and into the disposal interval. Would that be satisfactory?

Q That sounds like a satisfactory alternative.

Now, on several of the pages of Exhibit

Four you indicated that there were no records available.

Did you check the records of the Oil Conservation Division
either in Hobbs or here in Santa Fe?

A. No, sir, I didn't have the opportunity, but we'd be glad to do that if you so require.

Q All right, I would suggest that you do that before you leave today, if you have time.

A Okay.

Q. We do have identical records here in our record section. You can probably take care of this in a matter of minutes.

A. Okay. Would you like me to revise the schematics?

Q. Yes, if you would, that would be fine.

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Q Let us give you one set of these back and you may do that on this set.

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

MR. PADILLA: I have one question.

MR. STAMETS: Mr. Padilla.

CROSS EXAMINATION

BY MR. PADILLA:

Q On the waiver from Kerr-McGee, where is Mr. C. Allen Roberts located?

A. I believe he's in the Amarillo office; could be in -- could be in Oklahoma City.

I did not get that waiver; that's why I'm a little hazy on his location.

MR. PADILIA: Okay, thank you.

RECROSS EXAMINATION

BY MR. STAMETS:

Q One other question, Mr. Johnson. I presume that this well would be under more or less constant supervision. How often do you have a pumper in this area? To inspect the wells?

A. Our pumper is in this area daily and this

is his major responsibility, so he does spend most of that day in the King Field.

Ckay, and Cabot would notify the District office of the Division of any failure of the packer, tubing casing in this injection well?

A. Yes, sir.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case?

MR. COFFIELD: No, sir.

MR, STAMETS: The case will be taken under

advisement.

(Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY CERTIFY that the foregoing and attached 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, from notes taken by me at the time of the hearing.

Soly W. Boyd C.S.R.

I do hereby certify that the foregoing in a complete record of the proceedings in the Examiner hearing of Case No. 66/1 heard by me on 8-8 19 7 Examiner

Oll Conservation Division

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico
8 August 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Cabot Corp. for salt) water disposal, Lea County, New) Mexico.

CASE 6611

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant:

Conrad Coffield, Esq: HINKLE, COX, EATON, COFFIELD & HENSLEY Midland, Texas

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MR. STAMETS: We'll call next Case 6611.

MR. PADILLA: Application of Cabon Corporation for salt water disposal, Lea County, New Mexico.

MR. COFFIELD: Conrad Coffield with the Hinkle Law Firm of Midland, Texas, appearing on behalf of Cabot Corporation.

I have one witness.

(Witness sworn.)

ROBERT N. JOHNSON

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

DIRECT EXAMINATION

BY MR. COFFIELD:

- Q Mr. Johnson, for the record, would you please state your name, address, occupation, and employer?
- A. My name is Robert N. Johnson. I'm from Pampa, Texas, and my employer is Cabot Corporation.
 - Q What do you do for Cabot Corporation?
 - A. I'm a petroleum engineer.
- Q. Mr. Johnson, are you familiar with Cabot Corporation's application in this case?
 - A. Yes, I am.

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SALLY WALTON	CERTIFIED SHORTHAND REPORTER	1034 Plaza Blanca (595) 471-2462	1	

country?

your current employment?

And have you previously testified before
the Division as an engineer?
A. No, I have not.
Q For the Examiner, would you please briefly
outline your educational background and work experience?
A. Yes, sir. I graduated in 1955 from Texas
A&M University; spent four years in the Air Force and was
employed by Amoco, or then PanAmerican, for ten years, until
1970, and since 1970 I've been employed by Cabot Corporation
as a petroleum engineer, in both cases.
Q And you are familiar with this particular
property and the engineering aspects involved in this case?
A. Yes, I am.
MR. COFFIELD: Mr. Examiner, is the wit-
ness considered qualified?
MR. STAMETS: Mr. Johnson, what was your
degree from A&M?
A. Petroleum engineering.
MR. STAMETS: And what fields of endeavor
in petroleum engineering did you work in with Amoco? And

I've worked for both Amoco and Cabot Cor-

MR. STAMETS: Okay, in what areas of the

poration as a reservoir engineer and a production engineer.

A West Texas and New Mexico.

MR. STAMETS: The witness is considered qualified.

Q (Mr. Coffield continuing) Mr. Johnson, briefly what is it that Cabot seeks by its application in this case?

A Cabot seeks in this application to dispose of Devonian water in the Reed No. 1 in the Devonian interval perforated 12156 to 12574 in the King Field, Lea County.

- Q Is that in the Reed No. 1 Well?
- A. Yes, Reed No. 1 Well.
- Q Located in Unit H of Section 35?
- A Section 35, Township 13 South, Range 37 East, in, as I said, the King Field.

All right. Mr. Johnson, please refer to this packet which has been marked as Exhibits One to Seven and first referring to what's been marked as Exhibit One, would you explain that, please?

A Yes. Exhibit One is a property ownership map. Two circles shown on it, one with a 2-mile radius; the inner one with 1/2-mile radius.

The red shaded circles are indicative of the locations of all wells within a 2-mile radius that have penetrated the proposed Devonian disposal interval, and I've shown the proposed Reed No. 1 disposal well as a red shaded

triangle.

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And what, what is the situation with respect to the circles that you show within the smaller circle?

The 1/2-mile radius -- the wells within the 1/2-mile radius, I have also prepared schematics of these wells, and they will appear as a later exhibit.

Is Cabot Corporation the operator of the property on which the injection -- proposed injection well is located?

That is correct.

Mr. Johnson, would you give a history, briefly, of this injection well?

Yes. The Reed No. 1 was completed in the Devonian formation in August of 1956 and potentialed for 600 barrels per day from open hole interval. The open hole interval is from approximately 12,590 feet to 12,670 feet.

In succeeding years it was plugged back progressively until It was perforated in the top of the Devonian at 12,156. And in January of 1978 it was producing 5 barrels of oil and 125 barrels of water per day from the Devonian.

The Pennsylvanian formation was tested and the Mississippian formation was tested, and it was recompleted in the Mississippian formation then and is now presently producing approximately 100 Mcf of gas a day.

Q Okay, Mr. Johnson, would you please refer to Exhibit Two in this packet and describe what that represents?

A. Exhibit Two is the well log of the Reed No. 1, which is our proposed Devonian disposal well. It's an electric log and it shows — I'd like to point out the top of the Devonian is at 12,156; total depth is 12,670 feet. The casing is set at 12,590 feet and the — we'll get into this in a later exhibit, but the open hole interval is presently squeezed and it is now perforated in the Devonian in a gross interval from 12,156 to 12,574 feet.

The log shows, although it's not a porosity log, the lithology would indicate porosity from the top of the Devonian all the way down to the total depth of the hole.

- To your knowledge is there a complete copy of a well log on this well on file with the Division?
 - A. Yes, sir, there should be.
- Mr. Johnson, are there other post ble producing zones in this in this well?
- A. Well, as I mentioned, we've already tested the Pennsylvanian zone and it was not commercial and we did recomplete in the Mississippian, which is barely commercial, 100 Mcf a day.
 - Q Those are the only other possibilities?

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Only other possibilities.

Would you please go to what's been marked A. as Exhibit Three in this packet and discuss this exhibit;

Exhibit Number Three is a wellbore schematic describe it. of the Reed No. 1 as we propose to complete it as a Devonian

The present perforations in the Pennsyldisposal well. vanian at 10,755 to 794 have already been squeezed. The schematic shows the present completion interval in the well of 11,421 to 471 in the Mississippian. These perforations

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I might mention here that this well does have mechanical difficulties and that's why we are applying for an alternate location to dispose of our salt water.

Now the zones below the San Andres in my opinion have already been plugged satisfactorily to preclude any danger to the overlying formation from a Devonian disposal.

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- Which well is that, sir? Cabot Fleet 4? MR. STAMETS: Yes.
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will be being obtained from the three wells, three producing wells I -- three or four producing wells I show here on the exhibit.

Q On Exhibit Five?

A On Exhibit Five, yes. I'll point out to you the Reed No. 2 is one location north of the proposed disposal well and it presently is capable of 79 barrels of oil and 900 barrels of water a day.

The Cabot Fleet No. 2, two locations south of the proposed disposal well, is presently capable of 19 barrels of oil and 805 barrels of water per day from the Devonian.

The Cabot State C No. 1, a Devonian well, presently capable of 44 barrels of oil and 890 barrels of water a day from the Devonian. It's a direct east offset to the proposed disposal well.

And the Cabot State C No. 2, which is a former Devonian well but is now producing from the Wolfcamp at a rate of 7 barrels of oil and 9 barrels of water per day.

Q Mr. Johnson, refer to what has been marked as Exhibit Six and discuss this and explain what this shows.

A Exhibit Number Six is a water analysis from the -- for the waters that will be injected into the Reed No. 1. The water shown here is representative of the Wolf-

SALLY WALTON BOYD
ERIFED SHORTHAND REPORTER
310Plaza Blanca (865) 471-5443
Santa Pa. Now Marked 57101

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camp. It comes from the only source of Wolfcamp water that will be disposed of, and that's the State Z No. 2, approximately 9 barrels of water a day.

And the column on the right shows typical Devonian water which is obtained from the Reed No. 2, and will represent the analysis for approximately 2600 barrels of water a day that we'll be injecting into the Reed No. 1.

Q In the analysis of these waters involved, Mr. Johnson, does it appear that the fluids will be compatible?

A. Yes. The second part of this exhibit shows the compatibility test that was run for us. It's been run at two temperatures, 60 degrees, and an approximation of the bottom hole temperature of 160 degrees.

Both these analyses show negative scaling tendencies for the worst kind of scale, which would be your calcium sulfate scale.

It shows a positive scaling tendency for calcium carbonate, which is -- which is soluble in acid and therefore I feel it's not -- not as great a threat as the other types of scale.

The calcium carbonate scale is -- will form depending on the pH maintained in the water, but I feel that since the Wolfcamp water only will constitute

.4 of 1 percent of the total water put into the Reed No. 1,

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SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER

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that in any case the scaling problem will not be of overriding concern.

Do you expect to inject the -- this pro-Q duced salt water under pressure?

Yes. I expect that some pressure will be used, although the level of the pressure that we'll encounter, I can't definitely say at this time. I believe it will be less, though, than what we are presently encountering in disposing of water into the San Andres.

Q All right, Mr. Johnson, I believe you've already noted, of course, that there are wells in the immediate area which are producing from the same formation into which you propose to inject this produced salt water.

Would you please briefly discuss for the Examiner the effect that you expect upon -- or might expect on the offset Devonian production?

A Yes. When you're injecting water of the volumes we're considering into a producing zone, you can have three effects.

You could see a beneficial effect. You could see a harmful effect, or you could see no effect. And in view of the thickness of the Devonian and its fractured nature, and the fact that it is an active water-drive formation, I believe that the probability is that we will see no effect in our offset producers, particularly in view SALLY WALTON BOYD
CENTIFED SHORTHAND REPORTER
1918 Plans Blance (645) 411-3462
Sente Pc. Now Mexico 311-3462

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of the fact that the offset Devonian producers are producing such a great -- at such a high water cut already.

And is it your opinion that because of the thickness of the Devonian formation in this area that the effects, whatever they might be, if they were either beneficial or harmful, it would be slow to show up?

A Yes, the thickness of the formation would tend to slow down any effect.

Mr. Johnson, do you already have the equipment necessary in order to inject under pressure in this location?

- A Yes, we do.
- Q What is this -- where is it now?
- A. Where is it physically located? It's --
- A My question to you is, are you going to be using the same equipment that you already are using in your disposal operations now?
 - A Yes, we are.
- And I believe you've already stated this, but let me ask you again in case I missed it, will the casing and tubing annulus be filled with an inert fluid?
 - A Yes, inhibited fresh water.
- And you did say that you will have a pressure gauge attached?
 - A Yes, I did.

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And, Mr. Johnson, are you aware of the requirements of the Division that there's to be no surface injection pressure on a project of this type which is greater than .2 psi per foot of depth to the top of the injection zone?

- A. Yes, I am.
- Q And will -- is it your opinion that your proposed project will be within these guidelines?
- A. Yes, that guideline works out to 2430 pounds surface injection pressure, and I believe we will adequately dispose of our water with pressure below that --- that level.
- All right. Please go to what has been marked as Exhibit Seven in this packet and describe this to the Examiner.
- A. Exhibit Seven is consent agreements by the offset operator, which is Kerr-McGee Corporation. They have attested here that they have no objection to our disposal of water into the Reed No. 1.

And the second is the okay by the surface owner on the Reed lease, Mr. McCrory. I might point out here that Mr. McCrory said that he has no -- no objection to off-lease disposal, or disposal of off-lease water, from the State C and Lowe wells, located nearby.

The Lowe lease no longer produces and I'm

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sure that Mr. McCrory meant to include the Fleet lease, and if --

- Q Can you obtain a clarification of --
- A If the Commission desires, I can obtain a cleaner okay from Mr. McCrory.
- Mr. Johnson, in your opinion is the proposed injection well cased and cemented in such a fashion that there's no danger, prospective danger, to oil, gas, or fresh water formations or reservoirs which might be encountered?
 - A Yes, I do.
- Q Were these Exhibits One through Seven prepared by you or under your supervision?
 - A. Yes, sir, they were.
- Q Will Cabet notify the Oil Conservation

 Division of the date of commencement of this injection

 operation and keep accurate records and report monthly to

 the Division the volume of fluids injected and the injection

 pressures?
 - A. Yes, they will.
- Q In your opinion will the approval of this application be in the interest of conservation, prevention of waste, and protection of correlative rights?
 - A Yes, I do.

MR. COFFIELD: Mr. Examiner, I move the

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admission of Exhibits One through Seven.

MR. STAMETS: These exhibits will be ad-

MR. COFFIELD: And I have no other questions of Mr. Johnson at this time.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Johnson, Exhibit Number Three indicates the Mississippian is yet to be squeezed. Is that the situation there?

A. Yes. The Mississippian is presently producing approximately 100 Mcf a day of gas, and we will squeeze the Mississippian.

I notice the packer is going to be set at 10,600 feet, which is a couple thousand feet above the injection interval. Will this present any problem when this well is to be plugged and abandoned finally, due to scale buildup between that point and the top of the injection interval?

A Well, the Baker Model D is a permanent packer, so any buildup of scale below a permanent packer would not be of as great concern as if it were a removable packer.

Q How would you -- well, let me rephrase it.

Normally, we require a bridge plug be set immediately above the injection interval with some cement on top of that. Do you feel like you'll be able to get into this well at the conclusion of injection and plug it in such a manner?

A Under this setup, if I were contemplating abandonment, I would pump cement down the tubing and into the disposal interval. Would that be satisfactory?

Q That sounds like a satisfactory alternative.

Now, on several of the pages of Exhibit

Four you indicated that there were no records available.

Did you check the records of the Oil Conservation Division
either in Hobbs or here in Santa Fe?

A. No, sir, I didn't have the opportunity, but we'd be glad to do that if you so require.

Q All right, I would suggest that you do that before you leave today, if you have time.

A. Okay.

Q We do have identical records here in our record section. You can probably take care of this in a matter of minutes.

A. Okay. Would you like me to revise the schematics?

Q Yes, if you would, that would be fine.

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Okay. I'll be glad to do it.

Let us give you one set of these back and you may do that on this set.

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

MR. PADILLA: I have one question.

MR. STAMETS: Mr. Padilla.

CROSS EXAMINATION

BY MR. PADILLA:

On the waiver from Kerr-McGee, where is Mr. C. Allen Roberts located?

A I believe he's in the Amarillo office; could be in -- could be in Oklahoma City.

I did not get that waiver; that's why I'm a little hazy on his location.

MR. PADILLA: Okay, thank you.

RECROSS EXAMINATION

BY MR. STAMETS:

One other question, Mr. Johnson. I presume that this well would be under more or less constant supervision. How often do you have a pumper in this area? To inspect the wells?

A Our pumper is in this area daily and this

is his major responsibility, so he does spend most of that day in the King Field.

Okay, and Cabot would notify the District office of the Division of any failure of the packer, tubing casing in this injection well?

A Yes, sir.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case?

MR. COFFIELD: No, sir.

MR. STAMETS: The case will be taken under

advisement.

(Hearing concluded.)

SALLY WALTON BO
EMPFED SHORTNAMD REPO

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY CERTIFY that the foregoing and attached 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, from notes taken by me at the time of the hearing.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing & a complete record of the proceedings in the Examiner hearing of Case No. heard by me on____

Oil Conservation Division

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OIL CONSERVATION DIVISION

LICENSED IN TEXAS

SANTA FE

October 10, 1979

Mr. Bob Johnson Cabot Corporation Post Office Box 1101 Pampa, Texas 79065

> Oil Conservation Division Case No. 6611/-- Order No. R-6101, Salt Water Disposal Well

Dear Bob:

A second second

PAUL W. EATON.JR

STUART D. SHANOR

PAUL J. KELLY, JR.

JAMES H. BOZARTH

J. DOUGLAS FOSTER

K.DOUGLAS PERRIN

JACQUELINE W ALLEN

T. CALDER EZZELL,JR. WILLIAM B. BURFORD JOHN S. NELSON RICHARD E.OLSON

C. RAY ALLEN

DOUGLAS L.LUNSFORD PAUL M. BOHANNON

CONRAD E.COFFIELD HAROLD L.HENSLEY, JR.

Yesterday I spoke by phone with Dick Stamets with the Oil Conservation Division in connection with the above referenced case. He discussed the fact that Order R-6101 dated September 10, 1979 provides that the wellhead pressure in the injection well is to be no more than 1200 psi. He indicated that you have directed his attention to the fact that this is 1/2 the pressure which Cabot had requested be authorized in connection with this particular well.

Mr. Stamets says that upon his review of the file, he notes that there are certain wells in the vicinity of the injection well which have not been plugged in a manner which is satisfactory to him. It is because of this unacceptable plugging program that the pressure limitation has been imposed as written in Order R-6101 as it now exists. Per my discussion with him, Mr. Stamets tells me that if Cabot is able to either correct the plugging deficiencies to his satisfaction or alternatively convince him that the wells with which he is concerned are not a problem, the Order could be amended to authorize an increased pressure on the injection well.

I made no attempt to identify precisely which wells he feels are not acceptably plugged. Instead, I told him that I would pass the information on to you and suggest that you

Mr. Bob Johnson

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October 10, 1979

contact him directly on the matter of which wells are involved. You can perhaps then go over with him possible remedial action which may be taken in connection with those wells or otherwise identify the type of data which he will require to show that the condition of the wells is, in fact, satisfactory without further work.

If I can be of any assistance in connection with any of this procedure, please do not hesitate to call.

With best regards.

Very truly yours,

HINKLE, COX, EATON, COFFIELD & HENSLEY

CEC:rh

Mr. Richard L. Stamets Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87501

Mr. Ed Nail xc: Cabot Corporation One Houston Center, Suite 1000 Houston, Texas 77002



CABOT CORPORATION P. O. BOX 1101, PAMPA, TEXAS 79065

的现在分词,我们就是一个人的,我们就是一个人的人的人,他们就是一个人的人的人。

CABLE ADDRESS "CABLAK" PAMPA PHONE 649 - 2581 (AREA CODE 806)

October 2, 1979

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

RE: Case No. 6611 Order No. R-6101

Dear Sirs:

In the above referenced case, testimony was heard to the effect that surface injection pressure was to be limited to a maximum of 0.2 psi per foot of depth to the top of the injection zone at 12,156 feet, or 2430 psi.

No opposition was heard to this pressure limitation, yet the above referenced order specifies a lower limit of 1200 psi.

If there has been no change in the pressure limit guideline, we would appreciate receiving a revised order specifying the original limit as 2430 psi.

Very truly yours,

R. N. Johnson

OCT 0 5 1979

OIL CONSERVATION DIVISION

SANTA FE

and the second section of the section of the second section of the section

Volked to Conrud Coffie de 10-9-29 explained there were some PRA wells I was concerned with and that was the reason for the lower pressure The will relay to Mar Johnson 1723



LARRY KEHOE

. STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501. (503) 827-2434

September 12, 1979

Mr. Conrad E. Coffield	Re:	CASE NO. ORDER NO.	6611 R-6101	
Hinkle, Cox, Eaton, Coffield & Hensley				
Attorneys at Law P. O. Box 3580		Applicant	•	
Midland, Texas 79702				•
		c	abot Corr	
ear Sir:				

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 CE VED
Artesia OCD x
Aztec OCD UCTO: 1979
Other OIL CONSEDVATION DIVISION

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OIL CONSERVATION DIVISION

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

CASE NO. 6611 Order No. R-6101

APPLICATION OF CABOT CORP. 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 August 8, 1979, at Santa Fe, New Mexico, before Examiner R. L. Stamets.

NOW, on this 10th day of September, 1979, 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, Cabot Corporation, is the owner and operator of the Reed Well No. 1, located in Unit H of Section 35, Township 13 South, Range 37 East, NMPM, King Field, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 12,156 feet to 12,574 feet.
- (4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 10,600 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 OCTO other annulus in order to determine leakage in the casing, tubing, or-packer.
- OIL CONSERVATION DIVISION

 SANTA FE (5) That the injection well or system should be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 1200 psi.
 - (6) That the Director of the Division should be

Case No. 6611 Order No. R-6101

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 Devonian 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:

(i) That the applicant, Cabot Corporation, is hereby authorized to utilize its Reed Well No. 1 located in Unit H of Section 35, Township 13 South, Range 37 East, NMPM, King Field, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 10,600 feet, with injection into the perforated interval from approximately 12,156 feet to 12,574 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 device which will limit the well-head pressure on the injection well to no more than 1200 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 Devonian formation.

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.

CIL CONCERNATION DIVISION

SANTAFE (5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the

tailure 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 submit monthly reports of its disposal operations in accordance with Rules 704 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

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STATE OF NEW MEXICO STATE OF NEW MEXICO DEPARTMENT AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION OIL CONSERVATION DIVISION

LARRY KEHOE

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
STATE LAND MEXICO 87501
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September 12, 1979 CASE NO. R-6101 ORDER NO. R-6101 Re: Mr. Conrad E. Coffield

Hinkle, Cox, Eaton, Coffield Applicant: Cabot Corp Attorneys at Law P. O. Box Texas Midland, & Hensley Enclosed herewith are two copies of the above-referenced in the subject case.

Division order recently entered in the subject case. 797 2 Dear Sir: Yours very truly JOE D. RAMEY Director Copy of order also sent to: JDR/fd Hobbs OCD X Artesia OCD X Aztec OCD_

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BEFORE EXAMINER STAMETS
OIL CONSELVATION DIVISION
EXHIBITION. 1707

CASE NO. 6611

Submitted by Cabot

Hearing Date 8/8/79

RNJ 8-8-79

CABOT REED NO. 1 3856 RDB 1980' FNL & GGO' FEL 35-13-37

TD 12,676

13 36" 48 # @ 335', 400 sx, circ. 8 % 2+ + 32 0 4530', 2400 5x, CIRC. 23/6" PLASTIC - LINEO TUBING. CASING - TUBING ANNULUS TO BE LOADED WITH CORRESION -THHIBITED FRESH-WATER T/PENNSYLVANIAN 10,420' BAKER MODEL I PACKER @ 10,600 10:755-794' SQUEE 200 W/100 5X T/MISSISSIPPIAN 11,360 11,421-471' TO BE SQUEEZED - T/DEVONIAN 12,145 12,156-574 51/2" 17,20,23 * @ 12,590', 700 5x, TOP @ 8770', SURV. EXHIBIT 4 - Wellbore schematics of all plugged and abandoned wells within 1/2 mile radius of Reed No. 1.

12

CAGOT FLEET NO. 1 3875 RDB

GGO' FEL & 1980' FSR 35-13-37

P. &A 1-70

REENTERED 1975 FOR SAN ANDRES SWD

TO BE PLUGGED AND ABANDONED

13 % " 48 # 0 366', 400 SX, CIRC. \$ \$ 18" 24 € 32 # € 4600', 2500 SX , CIRC. 2% PRASTIC-LINED TUBING ON PACKER & 5600' 41/2" 9.5# 4400'- 5708', 200 SX, CIRC. OPEN HOLE, SAN ANDRES 25 5x 6 5507 - T/WOLFCOMP 9531 - T/ DEVONIAN 12,315 12,328-525 51/2" 17,20,23# @ 12839; 500 SX, TOPE 10,115), SURV. TO 12,839 TEVONIAN

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!!

CABOT FLEET NO. 4 3860' TOBS
1650' FEL & 990' FSL 35-13-37
TA 11-58
CONVERTED TO SWD SAN ANDRES 6-60
PEA 9-75

10 ex 133/8" 48 C 351', 400 SE CIRC 25 5x @ 2159' 75 5K @ 2600' 85/8" 24 : 32 @ 4621', 2400 \$x, TOP@ 1010' SURV 100 SK @ 4600' 1 5850 - GOLO' (SAN ANDRES SUD) CIBO 200 9110' TUOLECAMP 9308' CIBP 9482' - 56 3' CIBP - 9600 -T/DEVONIAN 12,325 m,34G -385 51/2" 17, 20 + 23 # @ 12,385', 500 8X TO 12,411' DIEVONIAN

CAROT FLEET No. 3 38-68' RDB 1650' FEL & 1930' FSL 35-13-37 PAA 1-70

1370 48" @ 354', 400 Sx Clec

T/DEVONIAN 12,29+'

50 SX 12,294-395'

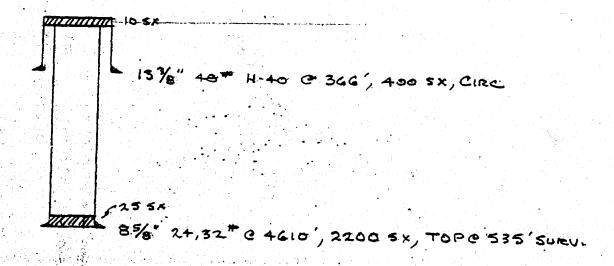
5/2"17,20,23# (? 12,410', GOD SX, TOP @ 8095' SURV

TD 12,513' DEVONIAN

to other the booking

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CABOT REED No. 4 3863' RDB 990'FNL+ 1650 FEL 35-13-37 P#A 12-69



77 DEVONIAN 12,178'

17,176-200'

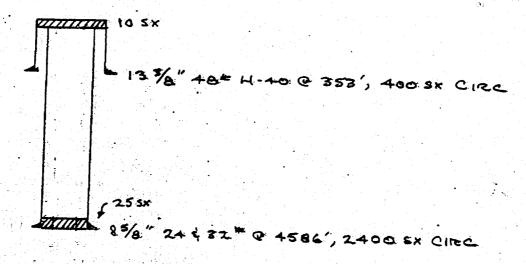
12,295-365'

12,514-538'

5½" 17,20,23**@ 12,538', 700 5x, Top @ 9255' Surv.

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CABOT REED NO. 3 3861 RDB 1980' FNL & 1650' FEL 35-13-37 P\$A 1-70



25 5X @ 5650'

T/WOLFCAMP 4530'

9345-872'

BY 9850

T/DEVONIAN 12,160'

12,140-304

51/2" 17,20,23# N-80 @ 12,300',700 3X,TOP @ 8035'SURV

TD 12,480' DEVONIAN

A BANGER CONTRACTOR

CITIES SERVICE STATE AB" No.1 3857 DF 660' FN & WL 36-13-37 P&A 7-52 (Records NOT AVAIL-)

> 25 5x @ 5000° 25 5x @ 5000° 25 5x @ 4644', 2395 5x 25 5x @ 11,000° TD 11,570°

> > Э

11

CABOT LOWE NO.] 3865' DF 810' FN & 2310' FWL 35-13-37 P&A 7-56 (RECOIDS NOT AVAIL.)

50 SX @ 300'

13 1/8" @ 377', 400 SX

8 5/8" PULLED FROM 550'

75 5X @ 4648', 2300 SX

75 5X @ 10,810'

75 5X @ 10,810'

75 5X @ 10,810'

75 5X @ 10,810'

CABOT LOWE "C" No.1 3847 'RDB 1650' FEL + 467' FSL 26-13-37 CONVERTED. TO SOUD WOLKCOMP 7-64 CONVERTED TO SUD WOLECAMP - DEVONION /2-68 PER 4-75 (RECORDS NOT AVAIL.) 777 10 5x - 60 SX @ 160' 13 1/8" 48 # @ 363", 400 SX CIRC 8 3/6" PULLED FROM 215' 85/8" 24 + 32# C 4630', 2600 SX , TOP @ 215' Suev. 5 /2" PULLED FIROM 4770" 7 15 5x @ 9250' CIBP 9350 9404 - 491 Hill (A) on the second of the tra 15,000 - 537 51/2" 17 £ 20 # @ 11,56 5', 600 Sx . TOP @ \$750' SURV. -T/DEVONIAN 12,665'

COTTON LOWE LAND NO. 2 3869 RDB 330' FSL \$ 500' FEL 26-13-37 P\$A 5-79 (RECORDO NOT AVAIL) & K

TINTENT (RECENT WELL,

RECORDS NOT YET ON FILE

VERBAL APPROVAL 3:6-79.)

1336" 54.5# @ 441', 420 sx CIRC

100 FT @ 4300'

25/8" 244 32# @ 4700', 1850 sx CIRC

100 FT @ 5502'

5571 402. San Anores

5/2" 15.5# @ 4351' - 5719', 220 ex CIRC

100 sx Plugs @ 12,475', 11,370', 10,150',

9340', 7930', 6040'.

TD 12,675

CABOT LOWE "B" No. 1 3868' RDB 467' FSL & 850' FEL 26-13-37 P * A 3-67 (RECORDS NOT AVAIL)

> 10 5x 1378" 48" @ 380', 400 Sx CIRE 25 5X 85% 244 32 CACIS', 2450 SX CIEC 25 5 X 5 1/2" PULLED FROM 6000" 1952-465 CIBP at 10000 10,172-220 × BPat 10206 W 15'cmt - T/DEVONIAN 12,154" 12,161-367 51/2" 17 = 20 # @ 12,320", 600 \$x, TOP @ 8995' SURV TO 12/487' DEVONIAN

> > ļi

EXHIBIT 5 - Tabular summary of all wells within 1/2 mile radius of Reed No. 1 which penetrate the proposed Devonian disposal zone. WELL DOERS AUD KOCAHION COTTON LOV CABOTELU AGT ESL 26:13:34

of all wells within 1/2 mile netrate the proposed Devonian 8. 12

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EXHIBIT 6 - Water analysis reports for Wolfcamp and Devonian Formations.

HALLIBURTON DIVISION LABORATORY HALLIBURTON SERVICES MIDLAND DIVISION HOBBS, NEW MEXICO 88240

To Cabot Corpor				en en 1980 Se en 1980	Date	No. <u>W79-</u> 7-31-79		
Pampa, Texas	79065			This report is the property of Halliburg				
ATIN: Mr. Bob				Of labo	ratory manageme	ont it may be	press written	
Submitted by				Compan	ployees thereof i	ent; it may howe to operations by a receiving such re	iny person of port from Ha	
Well No. As Marke	i De				_ Date Rec	7-31-79		
County		- 144 - 14 - 14 - 14 - 14 - 14 - 14 - 1				As Marke	d	
	State Fiel Wolfcamp	#2	J.L. Reed		_ Source			
Resistivity	0.055 @ 74	,° _F ,	Devonian					
Specific Gravity	1.118		0.112@	74°F.				
pH			1.063					
Calcium (Ca)			7.3					
Magnesium (Mg)			3,350					
Chlorides (CI)			300				*N	
Sulfates (SO ₄)			52,000		-			
Bicarbonates (HCO ₃)			360					
coluble Iron (Fe)		14	195					
			N11					
marks:								
					*)	Milligrams pe	ı litar	
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THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

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### GENERAL SCALE PROGRAM MIXING TWO WATERS

CABOT CORPORATION-#1=STATE "C" #2.#2=J.E.REED#2 TEMPERATURE (F) = 160 CONCENTRATION (MG/L) 

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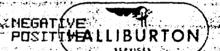
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NEGATIVE POSITIVE (HALLIBURTON) EXHIBIT 7 - Consents by offset operator and Reed Lease surface owner.

Kerr McGes has no objection to the disposal of water in the Devonian formation in the J. L. Reed No. 1 well located 1980' FNL and 660' FEL of Section 35, Township 13S, Range 37E, Lea County, New Mexico, operated by Cabot Corporation.

for Vore McGee

### JAMES R. MCCRORY

ATTORNEY AT LAW

SUITE 444 200 LOMAS NW ALBUQUERQUE, NEW MEXICO

TELEPHONE: 905 / 247-8883

August 3, 1979

MAILING ADDRESS: P. O. BOX 28764 ZIP 87128

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Bob Johnson Cabot Corporation Box 1101 Pampa, Texas 79065

Dear Mr. Johnson:

I represent Mary Ruth McCrory in regard to her interest described below.

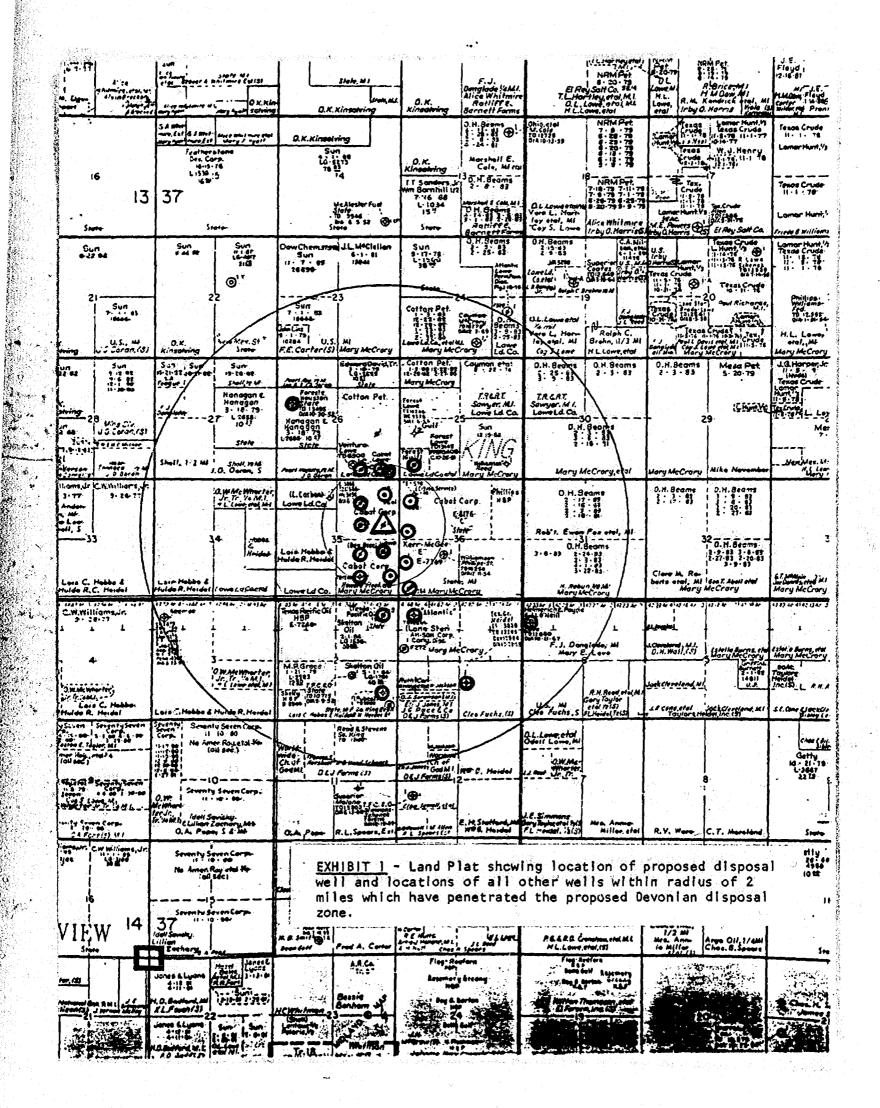
On behalf of Mary Ruth McCrory, I consent to the use of the J. L. Reed oil well located 1980' from the north and 660' from the east lines of Section 35, T 13 S, R 37 E, N.M.P.M., Lea County, New Mexico for the injections of salt water into the Devonian formation from the State C and Lowe wells located nearby.

Meany

Yours truly,

James R. McCrory

JRM/ls



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WC/718" OIL /71 IST CWO	81 18" DST 18.600-6701  GAS/1195 REC 16001  WE 2001 NO. & 11001  OIL PP 750-10004 20"  S1 87856
PLND 32 80/11 HEY OUT FULL STRING OIL & NEC	31 67650 SI

BEFORE EXAMINER STAMETS OIL CONSERVATION DIVISION

EXHIBITINO. 1 157

CASE NO. 6611

Submitted by Oahot

Hearing Date \$18/79

### EXHIBIT 3 - Wellbore schematic, Reed No. 1, proposed disposal well.

CABOT REED NO. 1 3856 RDB 1980' FHL & GGO' FEL 35-13-37

TD 12,670'

The transfer of the contract o

```
13 36" 48 # @ 335', 400 SX, CLRC.
 8 % 2+ + 32 + 0 4530, 2400 5x, CIRC.
  23% PLASTIC - LINEO TURING!
   CASING - TUBING ANNULUS TO
   BE LOADED WITH CORRESION -
   THHIBITED FRESH-WATER.
 T/PENNEYLVANIAN 10,420
 BAKER MODEL I PACKER @ 10,600'
14:755-794" SQUEERED W/100 5X
T/MISSISSIPPIPM 11,360
11,421-471" TO BE SQUEEZED
- T/DEVONIAN 12,145'
12,156-574
51/2" 17,20,23 = @ 12,590', 700 5x, TOP @ 8770', SURV.
```

EXHIBIT 4 - Wellbore schematics of all plugged and abandoned wells within 1/2 mile radius of Reed No. 1.

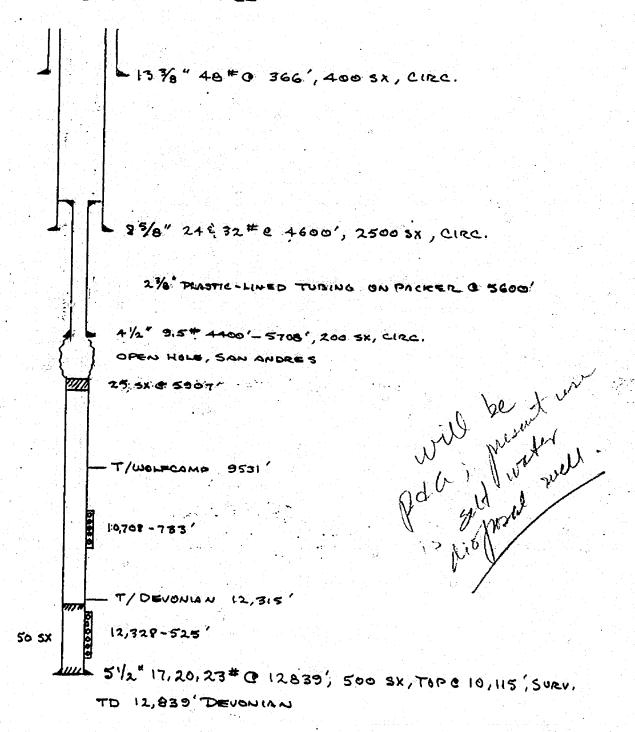
CAGOT FLEST No.1 3875' TOB

GGO' FEL & 1980' FSL 35-13-37

P: &A 1-70

REENTERED 1975 FOR SAN ANDRES SWD

TO THE PLUGGED AND AGANDONED



15

CABOT FLEET NO. 4 3860' TOB

1650' FEL & 990' FSL 35-13-37

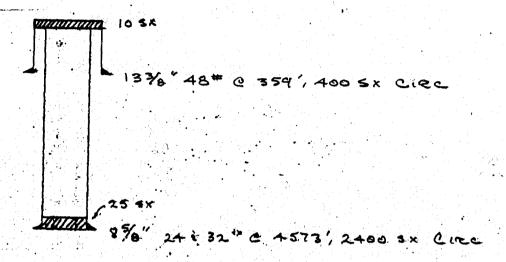
TA 11-58

CONVERTED TO SWD SAN ANDRES 6-60

PEA 9-75

1336" 46 + C 351', 400 98 CIRC 25 5x C 2159' 75 5x @ 2600 85/8" 24 1 32 # 4621', 2400 \$x, TOP @ 1010 SURV T100 5X C 4600 1 5850 - 6010' (SAN ANDRES SUE) 9110' T/WOLFERMA 9308' CIBP CIBP T/DEVONIAN 12,325' M,34G - 385 ---51/2" 17, 20 1 23 # @ 12,385', 500 8x TO 12,421' DOWNIAN

PAA 1-70



T/06000 IAN 12,2945 50 Sx 5/2" 17,20,23# @ 12,410", GOO SX, TOP @ 8095' SURV

CABOT REED No. 4 3863' RDB 990'FNL+ 1650 FEL 35-13-37 P\$A 12-69

15% 4e H-40 @ 346', 400 \$x, Circ

255x

85% 2+,32* @ 4610', 2200 \$x, TOP@ 535' SURV.

777 T/PEUDNIAN 12,173"

12,174-208"

12,514-308"

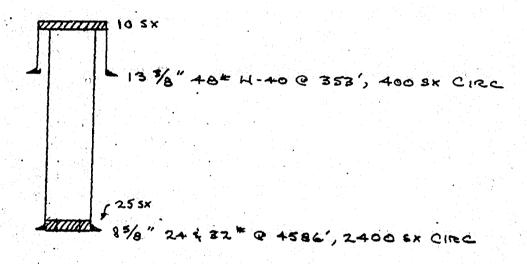
12,514-508"

5½" 17,20,23**@ 12,538',700 3x,700 @ 4255'SURV.

The second second is a few and the second second

9.6

CABOT REED NO. 3 3861 'RDB 1980' FNL & 1650' FEL 35-13-37 P\$A 1-70



26 5X @ 5650'

T/WOLLECOMP 9530'

9345-872'

12,190-309

512,190-309

512,17,20,23 * N-80 @ 12,300',700 3x,70P@ 8035'SURV

TD 12,480' DEVONIAN

CITIES SERVICE STATE AB" No. | 3857' DF GGO' FN & WL 3G-13-37
P&A 7-52 (RELORDS NOT AVAIL.)

95/6" • 4644', 2395 5X

CABOT LOWE No. | 3865' DF BIO' FN & 2310' FWL 35-13-37 P&A 7-56 (RECORDS NOT AVAIL.)

Vive Care

25/6" @ 4648', 2,500 SX

an in the same

47

a construct a March market of the March

CABOT LOWE "C" NO. 1 3867 RDB

1650' FEL + 467' FSL 26-13-37

CONVERTED TO SWD WOLFCAMP 7-64

CONVERTED TO SWD WOLFCAMP-DEVONION 2-68

PLA 4-75 (RECORDS NOT AVAIL!)

13 1/8" 48 = @ 363", 400 Sx CIRC

85/8" 24 + 32# @ 4630', 2600 SX , TOP @ 215' SURV.

-T/WOLFCAMP 9297 "

9404 - 491

11,400-457"

- 51/2" 17 \$ 20 " C 11,565", 600 St . TOP @ 8750' SURV.

T/DEVONIAN 12,645"

COTTON LOWE LAND NO. 2 3869 RDB 330' FSL \$ 500' FEL 26-1.3-37
P\$A 5-79 (RECORDS NOT AVAIL.)

13%" 54.5# @ 441', 420 SX CIEC 85/8" 24 4 32" @ 4700', 1850 SX CIRC 5591-602' SAW ANOTHE 51/2" 15,5" C 4351'-5719', 220 EX CIRC 100 SK PLUGS @ 12,675 , 11,370 , 10,150 , 9360', 7990', 6040', TO 12,675'

Territoria de la la Section de la Section de

CABOT LOWE "B" No. 1 467' FSL \$ 850' FEL 26-13-37 P * A 3-G7 (RECORDS NOT AVAIL!)

> 137 48# @ 380 , 400 SK CIRE 85%" 2++ 32" @ 4615", 2450 SX CIRC purole with but have been a server of the se

-T/WOLFERMP 9545'

T/DEVONIAN 12,154

51/2" 17 \$ 20 # @ 12,320", 600 8x, TOP @ 8995' SURV

TO 12,437' DEVONIAN

EXHIBIT 5 - Tabular summary of all wells within 1/2 mile	7 / / B   S   S   S   S   S   S   S   S   S	\$3010 x 3 11
radius of Reed No. 1 which penetrate the proposed Devonian disposal zone.		
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CATSOT STATE "C" No.2 33/6" 46 E 8 8/6" 24 \$ 32 F 5/2" 17/20,23 F 12/6/5  990' FNL & 440 FUL 353, 350 SM, C4586", 1720 SX C 12,545/ 700 SX DENDINA 36-13-37, LEACO., N.M. CIRC., TOF @ 1350', SURU. TOF @ 90.76/SURU.		ne (ne. ∤ 9 Bw
(ERR-MCGEE STATE"E" Jo. 1 336'C 255') None 5/2' @ 12/678' 12.680 1650' FSL & 330' FW 380 \$x CIRC 850\$x, TOA @ DEVONING 36-13-37 LEA Co., N.M.	(1) Use out (1) Use out	11 1 1 1 1

353 350 \$ 1720 \$ Circ 1350', Surv	5/2" 17/20,23# 17 C 2,545 ( 700 9K D Top C 90.76 (SURV)	Toll   4.	ne wonermb	¥-79
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EXHIBIT 6 - Water analysis reports for Wolfcamp and Devonian Formations.

# HALLIBURTON DIVISION LABORATORY HALLIBURTON SERVICES MIDIAND DIVISION HOBBS, NEW MEXICO 88240

### LABORATORY WATER ANALYSIS

W79-749

To Cabot Corporation	<u>n</u>		Date	7-31-79
Box 1101		<u> </u>	it nor any part thereof n	ty of Halliburton Company and neither for a copy thereof is to be published securing the express written approval
Pampa, Texas 7906	<u> </u>	<del>-</del>	of laboratory management course of regular business	nt; it may however, be used in the s operations by any person or concern eceiving such report from Halliburton
ATTN: Mr. Bob Kel	ley		Company.	Maint and takes the samether
Submitted by			Date Rec	7-31-79
Well No. As Marked	Depth		Formation_	As Marked
County	State "C" #2 Wolfcamp	J.L. Reed	Source	
Resistivity	0.055 @ 74°F.	0,112 @	74 ⁰ F.	
Specific Gravity	1.118	1.063		
pH	6.6	7.3		
Calcium (Ca)	11,000	3,350		*MPL
Magnesium (Mg)	300	300		
Chlorides (Cl)	106,000	52,000		<del></del>
Sulfates (SO ₄ )	530			
Bicarbonates (HCO ₃ )	· · · · · · · · · · · · · · · · · · ·	195	<del></del>	
Soluble Iron (Fe)	Nil	NII		
Remarks:				*Milligrams per liter
**************************************	Respect	fully submitted	•	
Analyst: Brewer		<u>.</u>	HALLIBURTON	COMPANY

NOTICE
THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED, ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.



## GENERAL SCALE PROGRAMMIXING TWO WATERS

CABOT CORP. WATER #1=STATE"C"#2, WATER #2-=J.L.REED #2

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4020 2 WATER #1 6020 2 WATER #2

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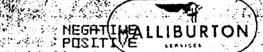
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NEGATIVE HALLIBURTON EXHIBIT 7 - Consents by offset operator and Reed Lease surface owner.

Kerr McGee has no objection to the disposal of water in the Devonian formation in the J. L. Reed No. 1 well located 1980' FNL and 660' FEL of Section 35, Township 13S, Range 37E, Lea County, New Mexico, operated by Cabot Corporation.

for Kerr McGee

Amaullo r

OK City

### JAMES R. MCCRORY

ATTORNEY AT LAW
SUITE 444
200 LOMAS NW
ALBUQUERQUE, NEW MEXICO

TELEPHONE: 808 / 247-8883

August 3, 1979

MAILING ADDRESS: P. O. BOX 28764 ZIP 87125

Bob Johnson Cabot Corporation Box 1101 Pampa, Texas 79065

Dear Mr. Johnson:

I represent Mary Ruth McCrory in regard to her interest described below.

On behalf of Mary Ruth McCrory, I consent to the use of the J. L. Reed oil well located 1980' from the north and 660' from the east lines of Section 35, T 13 S, R 37 E, N.M.P.M., Lea County, New Mexico for the injections of salt water into the Devonian formation from the State C and Lowe wells located nearby.

Yours truly,

James R. McCrory

JRM/1s

Dockets Nos. 32-79 and 33-79 are tentatively set for hearing on August 22 and September 5, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

#### DOCKET: COMMISSION REARING - TUESDAY - AUGUST 7, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205 STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

#### CASE 6590: (Continued from July 25, 1979, Examiner Hearing)

Application of Grace Petroleum Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Lots 9, 10, 15, and 16 and the SE/4 of Section 6, Township 21 South, Range 32 East, to be dedicated to a well to be drilled at an unorthodox location 4650 feet from the South line and 660 feet from the East line of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the costs thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6612: Application of Gulf Oil Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Lots 9 thru 16 of Section 6, Township 21 South, Range 32 East, to be dedicated to a well to be drilled at an unorthodox location 4650 feet from the South line and 660 feet from the East line of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the costs thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

### CASE 6555: (DE NOVO)

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Application of Jake L. Hamon for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox location 660 feet from the North line and 560 feet from the East line of Section 30, Township 20 South, Range 36 East, North Osudo-Morrow Cas Pool, all of said Section 30 to be dedicated to the well.

Upon application of Texas Oil & Gas Corp. this case will be heard De Novo pursuant to the provisions of Rule 1220.

#### CASE 6596: (Continued from July 24, 1979, Commission Hearing)

Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Upper Pennsylvanian gas pool to be designated as the Southeast Indian Basin-Upper Pennsylvanian Gas Pool for its Southeast Indian Basin Well No. 1 located in Unit A of Section 23, Township 22 South, Range 23 East, and special pool rules therefor including 320-acre gas well spacing.

#### CASE 6597: (Continued from July 24, 1979, Commission Hearing)

Application of Harvey E. Yates Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Southeast Indian Basin Well No. 2, an Upper Pennsylvanian well to be drilled 660 feet from the North and West lines of Section 24, Township 22 South, Range 23 East, with the N/2 or all of said Section 24 to be dedicated to the well, depending on the outcome of Case No. 6596.

#### DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 8, 1979

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM, 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 6613: Application of Grace Petroleum Corporation for a unit agreement, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the Smith Ranch Unit Area, comprising 1,600 acres, more or less, of State and federal lands in Township 20 South, Range 33 East.
- CASE 6602: (Continued from July 25, 1979, Examiner Hearing)

Application of Tenneco Oil Company for an unorthdox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal 33 C No. 2 Well 1010 feet from the North line and 1710 feet from the West line of Section 33, Township 17 South, Range 29 East, South Empire-Wolfcamp Pool, the E/2 NW/4 of said Section 33 to be dedicated to the well.

CASE 6611: (Continued from July 25, 1979, Examiner Hearing)

Application of Cabot Corp. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the disposal of produced salt water in the Devonian formation through the perforated interval from 12,156 feet to 12,574 feet in its Reed Well No. 1 located in Unit H of Section 35, Township 13 South, Range 37 East, King Field.

- CASE 6614: Application of Texaco Inc. for the amendment of Order No. R-4442, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks the amendment of Order No. R-4442 to remove the top unit allowable restriction from producing wells in the Vacuum Grayburg San Andres Unit which are offset by "lease line" injection wells.
- CASE 6615: Application of Southland Royalty Company for downhole commingling, San Juan County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the downhole commingling of Kutz-Gallup and Basin-Dakota production in the wellbore of its Frontier "E" Well No. 1 located in Unit O of Section 4, Township 27 North, Range 11 West.
- CASE 6616: Application of Watson Treating Plant for an oil treating plant permit, Roosevelt 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 a site in the SE/4 NW/4 of Section 34, Township 8 South, Range 35 East.
- CASE 6617: Application of El Paso Natural Gas Company for downhole commingling, Rio Arriba County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the downhole commingling of Basin-Dakota and Otero-Gallup production in the wellbore of its Jicarilla 67 Well No. 10 located in Unit M of Section 30, Township 25 North, Range 5 West.
- CASE 6618: Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Yates gas pool for its DEFCO Federal Well No. 1 located in unit D of Section 19, Township 18 South, Range 29 East, and special rules therefor, including 80-acre gas well spacing.
- CASE 6619: Application of Harvey E. Yates Company for an unorthodox well location and a non-standard proration unit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 62,75-acre non-standard Yates gas proration unit comprising Lots 1 and 2 of Section 19, Township 18 South, Range 29 East, to be dedicated to its DEPCO Federal Well No. 1 drilled 330 feet from the North line and 660 feet from the West line of said Section 19.
- CASE 6620: Application of Harvey E. Yates Company for an NGPA determination, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks a new onshore reservoir determination for its Austin

  Monteith Well No. 1 located in Unit K of Section 8, Township 14 South, Range 36 East.
- CASE 6621: Application of Harvey E. Yates Company for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the WolfcampPenn formations underlying the S/2 of Section 4, Township 18 South, Hanga 29 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. Also to be considered will be the designation of applicant as
  operator of the well and a charge for risk involved in drilling said well. (This case will be
  dismissed.)

CASE 6601: (Continued from July 25, 1979, Examiner Hearing)

Application of Harvey E. Yates Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Mississippian formations underlying the E/2 of Section 8, Township 14 South, Range 36 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 6622: Application of Adams Exploration Company for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the WolfcampPenn formations underlying the N/2 of Section 15, Township 24 South, Range 28 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. Also to be considered will be the designation of applicant as
  operator of the well and a charge for risk involved in drilling said well.
- CASE 6623: Application of Penroc 011 Corporation for approval of infill drilling and simultaneous dedication, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the recompletion in the Morrow formation of its Dero "A" Federal Well No. 1 located in Unit N of Section 35, Township 19 South, Range 28 East, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.
- CASE 6624: Application of Belco Petroleum Corporation for approval of infill drilling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of a well to be located in Unit K of Section 31, Township 9 South, Range 33 East, Flying "M"-San Andres Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.
- CASE 6625: Application of Mewbourne Oil Company for an unorthodox gas well location, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Morrow test well to be located 660 feat from the North line and 1315 feet from the East line of Section 30,

  Township 20 South, Range 27 East, the E/2 of said Section 30 to be dedicated to the well.
- CASE 6603: (Continued from July 25, 1979, Examiner Hearing)

Application of Conoco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Penrose Skelly and Eumont production in the wellbore of its Hawk B-1 Well No. 12 located in Unit O of Section 8, Township 21 South, Range 37 East.

CASE 6587: (Continued and Readvertised)

Application of Caribou Four Corners, Inc., for an unorthodox well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Kirtland Well No. 4 located 1450 feet from the North line and 595 feet from the West line of Section 18, Township 29 North, Range 14 West.

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Docket No. 31-79

#### DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 15, 1979

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM, 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:

- ALLOWABLE: (1) Consideration of the allowable production of gas for September, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
  - (2) Consideration of the allowable production of gas for September, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

OF COUNSEL

1000 FIRST NATIONAL BANK TOWER

CLARENCE E. HINKLE

POST OFFICE BOX 3580

W. E. BONDURANT, JR. (1914-1975)

STUART D. SHANOR C.D. MARTIN JAMES H. BOZARTH

PAUL W. EATON, JR.

CONRAD E.COFFIELD

HAROLD L. HENSLEY, JR.

MIDLAND, TEXAS 79702

ROSWELL, NEW MEXICO OFFICE 600 HINKLE BUILDING

(915) 683-4691

(505) 622-6510

DOUGLAS L.LUNSFORD

PAUL M. BOHANNON
J. DOUGLAS FOSTERE CEIVED J. DOUGLAS FOR IN ICA

BOHANNON, FOSTER, ALLEN, ALLEN & BURFORD LICENSED IN TEXAS

ONLY ATTYS. COFFIELD, MARTIN, BCZARTH,

JOHN S. NELSON RICHARD RICHARD E. CONSERVATION DIVISION July 24, 1979 SANTA FE

Mr. Dan Nutter Chief Engineer Oil Conservation Division Post Office Box 2088 Santa Fe, New Mexico 87501

> Re: Case No. 6611 --

Docket No. 28-79

Dear Dan:

This will confirm my request today by telephone for a continuance on the above referenced case so that it may be heard with Docket No. 29-79 on August 8, 1979.

If any problem develops such that it is not possible to have this case heard on August 8, please let me know.

Thank you.

Very truly yours,

HINKLE, COX, EATON, COFFIELD & HENSLEY

Conrad E. Coffield
Conrad E. Coffield

CEC:rf

Mr. Bob Johnson

Cabot Corporation Post Office Box 1101

Pampa, Texas 79065 xc: Mr. Ed Nail

Cabot Corporation One Houston Center

Suite 1000

Houston, Texas 77002

Docket No. 27-79

Dockets Nos. 29-79 and 31-79 are tentatively set for hearing on August 8 and 22, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

#### DOCKET: COMMISSION HEARING - TUESDAY - JULY 24, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205 STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 6596: Application of Harvey E. Yates Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Upper Pennsylvanian gas pool to be designated as the Southeast Indian Basin-Upper Pennsylvanian Gas Pool for its Southeast Indian Basin Well No. 1 located in Unit A of Section 23, Township 22 South, Range 23 East, and special pool rules therefor including 320-acre gas well spacing.

CASE 6597: Application of Harvey E. Yates Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Southeast Indian Basin Well No. 2, an Upper Pennsylvanian well to be drilled 660 feet from the North and West lines of Section 24, Township 22 South, Range 23 East, with the N/2 or all of said Section 24 to be dedicated to the well, depending on the outcome of Case No. 6596.

Docket No. 28-79

#### DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 25, 1979

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:

CASE 6545: (Continued from June 27, 1979, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Corinne Grace, Travelers Indemnity Company, and all other interested parties to appear and show cause why the Kuklah Baby Well No. 1 located in Unit G of Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

- CASE 6598: Application of Gulf Oil Corporation for downhole commingling, Rio Arriba County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the downhole commingling of Otero-Gallup and Basin-Dakota production in the wellbores of its Apache Federal Wells No. 8 located in Unit C of Section 8 and No. 9 located in Unit D of Section 17, both in Township 24 North, Range 5 West.
- CASE 6599:

  Application of Gulf Oil Corporation for downhole commingling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the downhole commingling of Fusselman and Montoya production, North Justis Field, in the wellbore of its W. A. Ramsay Well No. 4 located in Unit M of Section 36, Township 24 South, Range 37 East.
- CASE 6600: Application of Mesa Petroleum Company for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying the E/2 of Section 10, Township 16 South, Range 27 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6601: Application of Harvey E. Yates Company for compulsory pooling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Mississippian formations underlying the E/2 of Section 8, Township 14 South, Range 36 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6602: Application of Tenneco 011 Company for an unorthodox well location, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal 33

  C No. 2 Well 1010 feet from the North line and 1710 feet from the West line of Section 33, Township 17 South, Range 29 East, South Empire-Wolfcamp Pool, the E/2 NW/4 of said Section 33 to be
  dedicated to the well.

CASE 6603: (This case will be continued to the August 8 hearing.)

Application of Conoco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Penrose Skelly and Euront production in the wellbore of its Hawk B-1 Well No. 12 located in Unit 0 of Section 8, Township 21 South, Range 37 East.

- CASE 6604: Application of Cities Service Company for rescission of Division Order No. R-5921, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the rescission of Order No. R-5921 which order provided for the compulsory pooling of all of the mineral interests in the Pennsylvanian formation underlying the S/2 of Section 8, Township 23 South, Range 28 East.
- Application of Estoril Producing Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying the W/2 of Section 15, Township 20 South, Range 34 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the North and West lines of said Section 15. 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6564: (Continued and Readvertised)

Application of Herndon Oil & Gas Co. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its O. A. Woody Well No. 1 to be drilled 2310 feet from the North line and 330 feet from the West line of Section 35, Township 16 South, Range 38 East, Knowles-Devonian Pool.

- CASE 6606: Application of Getty 011 Company for salt water disposal, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Yates formation in the open-hole interval from 3810 feet to 4169 feet in its State "AA" Well No. 1 located in Unit I of Section 35, Township 21 South, Range 34 East.
- CASE 6607: Application of Getty Oil Company for a dual completion, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the dual completion of its Getty 36 State
  Well No. 1 located in Unit F of Section 36, Township 21 South, Range 34 East, to produce oil from
  the Wolfcamp formation and gas from the Morrow formation through parallel strings of tubing.
- CASE 6608: Application of Getty Oil Company for pool creation and special pool rules, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp oil pool for its Getty
  36 State Well No. 1 located in Unit F of Section 36, Township 21 South, Range 34 East, and special
  rules therefor, including 160-acre oil well spacing.
- CASE 6609: Application of Napeco Inc. for pool creation and special pool rules, Eddy County, New Mexico.
  Applicant, in the above-styled cause, seeks the creation of a new Strawn oil pool for its Benson
  Deep Unit Well No. 1 located in Unit O of Section 33, Township 18 South, Range 30 East, and
  special rules therefor, including 160-acre spacing and standard well locations.
- CASE 6610: Application of Koch Industries, Inc. for salt water disposal, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the Rustler formation through the perforated interval from 1190 feet to 1210 feet in its Wills "A" Well No. 7 located in Unit E of Section 35, Township 26 South, Range 37 East, Rhodes Field.
- CASE 6611: Application of Cabot Corp. for salt water disposal, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the disposal of produced salt water in the Devonian formation through the perforated interval from 12,156 feet to 12,574 feet in its Reed Well No. 1 located in Unit H of Section 35, Township 13 South, Range 37 East, King Field.
  - CASE 6487: (Continued from May 23, 1979, Examiner Hearing)

Application of El Paso Natural Gas Company for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Shell E State Com Well No. 2 located in Unit N of Section 6, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6471: (Continued from May 23, 1979, Examiner Hearing)

Application of Consolidated 011 & Gas, Inc. for approval of infill drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Freeman Well No. 1-A to be located in Unit C of Section 11, Township 31 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6472: (Continued from May 23, 1979, Examiner Hearing)

Application of Consolidated 011 & Gas, Inc. for approval of infill drilling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Jenny Well No. 1-A to be located in Unit P of Section 13, Township 26 North, Range 4 West, Basin-Dakota Pool, Rio Arriba County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6473: (Continued from May 23, 1979, Examiner Hearing)

Application of Consolidated 011 & Gas, Inc. for approval of infill drilling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its McIntyre Well No. 1-A to be located in Unit K of Section 11, Township 26 North, Range 4 West, Basin-Dakota Pool, Rio Arriba County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6474: (Continued from Vay 23, 1979, Examiner Hearing)

Application of Consilidated Oil & Gas, Inc. for approval of infill drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Williams Well No. 1-A to be located in Unit C of Section 24, Township 31 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6475: (Continued from May 23, 1979, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Montoya Well No. 1-A to be located in Unit I of Section 35, Township 32 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6535: (Continued from June 1.3, 1979, Examiner Hearing)

Application of Torreon Oil Company for a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the San Luis-Mesaverde Pool by the injection of water into the Menefee formation through two wells located in Section 21, Townshir 18 North, Range 3 West, Sandoval County, New Mexico.

CASE 6579: (Continued from June 27, 1979, Examiner Hearing)

Application of R. N. Hillin for an unorthodox well location and approval of infill drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of a Morrow gas well at an unorthodox location 800 feet from the South line and 2000 feet from the East line of Section 34, Township 19 South, Range 28 East, is necessary to effectively and efficiently drain that portion of the E/2 of said Section 34 which cannot be so drained by the existing well.

CASE 6580: (Continued from June 27, 1979, Examiner Hearing) (This case will be continued to the August 22 hearing.)

Application of Continental Oil Company for a carbon dioxide injection project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to initiate a pilot carbon dioxide injection project in the Grayburg-San Andres formation in Units H and I of Section 20, Township 17 South, Range 32 East, Maljamar Pool, for tertiary recovery purposes.

Page 4 of 4 Examiner Hearing - Wednesday - July 25, 1979

Docket No. 28-79

CASE 6270: (Continued from July 11, 1979, Examiner Hearing)

In the matter of Case 6270 being reopened pursuant to the provisions of Order No. R-5771 which order created the South Peterson-Fusselman Pool, Roosevelt County, New Mexico, and provided for 80-acre spacing. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 6590: (Continued from July 11, 1979, Examiner Hearing)

Application of Grace Petroleum Corporation for compulsory pooling and an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Lots 9, 10, 15, and 16 and the SE/4 of Section 6, Township 21 South, Range 32 East, to be dedicated to a well to be drilled at an unorthodox location 4650 feet from the South line and 660 feet from the East line of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the costs thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

11

Explication of Cabat Corp. for salt water disposal, La County, law mexico applicant, in the above-styled Come, seeker approval for the disposal of produced Sact Warn in the Devonion formalism through the perforated interval from 12156 fact to 12574 feet in its Reed Weel No. 1 Located in Unit Ho Section 35, Township 13 Sauth, Range 37 East, King Field.

Form C-108 Revised 1-1-65

#### NEW MEXICO OIL CONSERVATION COMMISSION

Case 6611

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

OPERATOR	<del></del>	<del></del>	ADDRESS		
Cabot Corporation		Box 11	Box 1101, Pampa, Texas 79065		
CEASE NAME		WELL NO.	FIELD	<del></del>	COUNTY
J. L. Reed		1	King (	Mississippian)	Lea
LOCATION					
UNIT CETTER_	Н;	WELL IS LOCATED 1	980 PEET PR	OM THE N	LINE AND 660 FEET FROM TH
E LINE, SECTION	35	OWNSHIP 135	MANGE 37E	NMPM.	
	<del></del> -	<del></del>	NG AND TUBING DAT		
NAME OF STRING	SIZE	SETTING DEPTI	H SACKS CEMEN	TOP OF CEM	ENT TOP DETERMINED BY
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	0 5/0	1577	2200	0	
LONG STRING	8-5/8	4577	2200	Circ	<del></del>
	5-1/2	12590	700		e
TUBING	J-1/2	12,790		8770	Survey
		11/00	20.0	2/2 11/00	
NAME OF PROPOSED INJECTION FOR	2 MATION	1 11600	Baker Mode		BOTTOM OF FORMATION
Devonian			12150		12669
IS INJECTION THROUGH TUBING, CAS	SING, OR ANNULUST	PERFORATIO		OPOSED INTERVAL(S) OF INJ	
-100.12 15					
Tubing	IF ANSWER	Perfs	OSE WAS WELL ORIGINA	2156-5/4	HAS WELL EVER BEEN PERFORATED IN AN
424.0					HAS WELL EVER BEEN PERFORATED IN AN ZONE OTHER THAN THE PROPOSED INJECTION ZONE?
NO LIST ALL BUCH PERFORATED INTER	VALS AND SACKS OF	CEMENT USED TO SEAL	OFF OR SQUEEZE EACH	<del></del>	Yes
Penn 10755-764 10	2001	OIL OR GAS ZONE IN	N THIS AREA PENN	10730 DEPTH OF TO OIL OR GAS 11400  IS INJECTION TO BE BY GRAPPRESSURE?	DP OF NEXT LOWER ZONE IN THIS AREA NONE
ANTICIPATED DAILY   MINIMUM   SELE.   3500   2500	4500		Lates I		
ANSWER YES OR NO WHETHER THE PERALIZED TO SUCH A DEGREE AS TO STOCK, IRRIGATION, OR OTHER GENE	OLLOWING WATERS	RE MIN- WATE	OSED	Pressure NATURAL WATER IN DISPO-	
STOCK, IRRIGATION, OR OTHER GENE	RAL USE -	i	Yes	Yes	No
NAME AND ADDRESS OF SURFACE OW	INER (OR LESSEE, IF	STATE OF FEDERAL LA	AND)		
Garland Brown Star	Pouto 1 T	ovington Ne	w Mexico		
Garland Brown, Star	L OPERATORS WITHIN	ONE-HACF (1) MILE O	OF THIS INJECTION WELL		
Kerr McGee, Amarill					
1.022 10000	1.3				
No others					
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<u> </u>	SERVATION D	NIZION			
	CANTA TE OW	HER	OF THIS WELL	R WITHIN ONE-HALF MILE	THE NEW MEXICO STATE ENGINEER
			1	Yes	Yes
RE THE FOLLOWING ITEMS ATTACH	ED TO PLAT OF ARE	:A	LLECTRICAL LO	)e	DIAGRAMMATIC SKETCH OF WELL
		Yes	· · · · · · · · · · · · · · · · · · ·	Yes	Yes
I hereby	ertify that the in	formation above is	true and complete t	o the best of my knowl	edge and belief.
			Drilling & I		
La KL	dan	Western	Region		June 20, 1979
(Signature)	11		(Title)		(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well.

not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Sania Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.



# CABOT CORPORATION P. O. BOX 1101, PAMPA, TEXAS 79065

WESTERN REGION MANAGER

June 26, 1979

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

Attention: Jerry Sexton District Supervisor

> Reed No. 1 SWD Well Section 35 - T13S - R37E King Field, Lea County, New Mexico

Gentlemen;

Cabot Corporation would like to make application to dispose of salt water by injection into a porous formation.

Our King Field production continues to ( ) shut in awaiting approval from the New Mexico Conservation Commission and joint owners approval to proceed with the work upon Commission

Walver from Kerr McGee and the land owner will be forwarded upon receipt. Kerr McGee has been advised by phone and verbally has voiced no objection.

Very truly yours,

JUL**O 5** 1979

R. A. Keagy

OIL CONSERVATION DIVISION

Enclosures Copy of letter of June 12, 1979

Original and 2 copies Form C 108 Sketch w/2 copies present well condition

Sketch w/2 copies proposed completion Plat w/2 copies general area plat: Plat w/2 copies well location

Copy of Cabot to Kerr NcGee letter of June 20, 1979 Electric log

June 12, 1979

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

Attention: Jerry Sexton

District Supervisor

RE: Howard Fleat No. 1 SWD Well Section 35 - T135 - R37E King Field, Lea County, New Mexico

On June 7, 1979, our field superintendent checked the Gentlemen: above well and found pressure on the intermediate string of 8-5/8"

We immediately shut in the injection system and called casing. Otis to check for a tubing leak. On this same day Otis set a plug at 650' and the casing was bled down. The Otis plug traveled a very short distance up the tubing and hung after the casing had

With a second plug set a tubing leak was found at 16'. bled to zero. This plug was left in the tubing sat at 42

The tubing and casing have both been at zero when checked on June 9, 10, and 11.

The wells in our King Field have been shut-in and will continue shut in until disposal facilities are in operation.

Wo will continue to keep you advised. It is our present intention to apply for a permit to dispose of water in the Devonian on our head well. This well was a producing well in the new to water. It was recently recompleted in the new transfer as a sevent but has decreased in production in recent with sissippi as a sevent but has decreased in production in recent stauLO 5 1979

OIL CONSERVATION DIVISION SANTA FE

Nr. Jerry Sexton Page 2 June 12, 1979

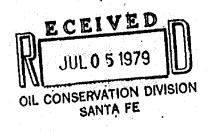
Brand Commission of the Commis

Our plans will be forthcoming.

Very truly yours,

R. A. Keagy

RAK: CC





## CABOT CORPORATION P. O. BOX 1101, PAMPA, TEXAS 79065

R, A, KEAGY
WESTERN REGION
DRILLING & PRODUCTION
MANAGER

CABLE ADDRESS "CABLAK" PAMPA PHONE 648 – 2511 CAREA COOK MA 1

June 20, 1979

Kerr McGee Box 250 Amarillo, Texas 79189

Attention: Mr. Jim Hacksma

Gentlemen:

Cabot has recently experienced trouble on the salt water disposal well on its Fleet No. 1 disposing of water in the San Andres formation.

Attached is the proposal to convert our J. L. Reed No. 1 well to a disposal well in the Devonian pay that has previously been abandoned when it went to 100 percent water.

If you have no objection, would you please sign two copies of the enclosed waiver and return to Cabot Corporation, Box 1101, Pampa, Texas 79065, Attention: R. A. Keagy.

Very truly yours,

R. A. Keagy

Manager, Drilling & Production,

Western Region

RAK: tw

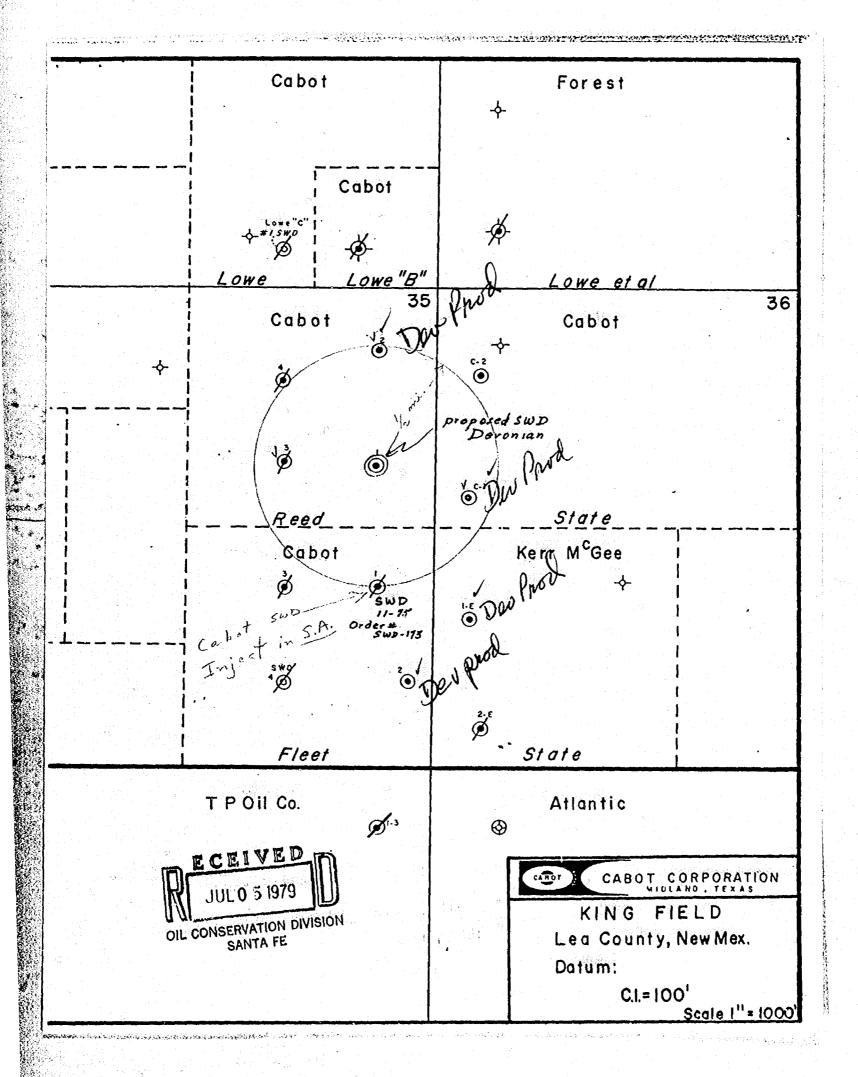
Attachments:

Waiver Acreage plat Form C-108

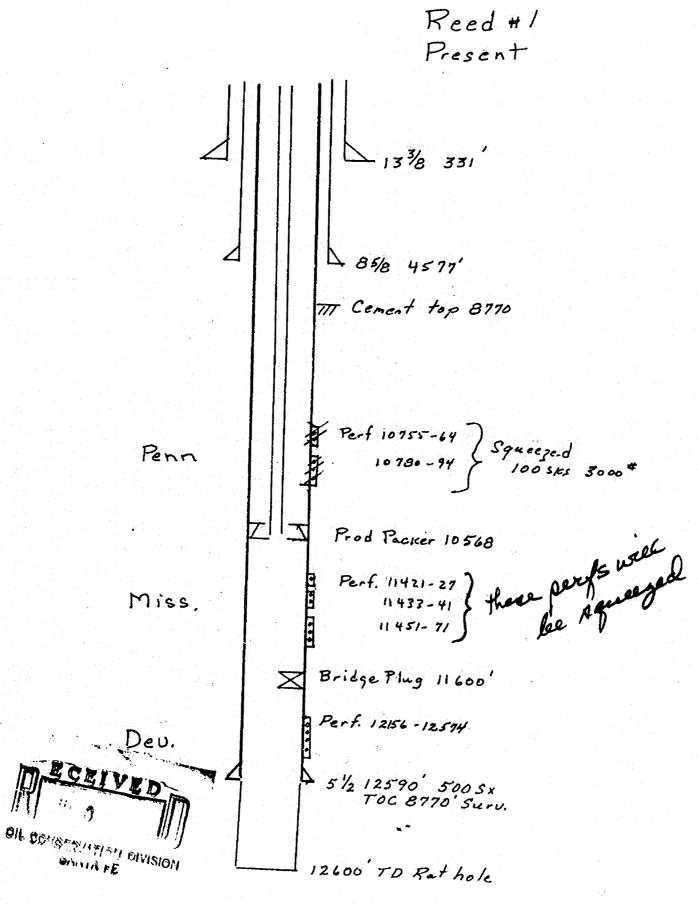
Proposed well sketch

JULO 5 1979

OIL CONSERVATION DIVISION SANTA FE



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Reed #1 Proposed 6-18-79 13 3/8 331 23/2 EUE Plastic coated the. 1160-Set Baker Model Da 10600 Perf 10755-64) Squeezal w/ 100 sk Penn Perf 11421-27 Squeeze on conversion to SWD well Miss 11451-71 packer @ 11600 Perf 12156 - 12574 OIL CONSERVATION DIVISION SANTA FE 5 1/2 12590 500 sx TOC 8770 by survey

# OIL CONSERVATION COMMISSION HOBBS DISTRICT

OIL CONSERVATION COMMISSION BOX 2088	DATE July 2, 1979
SANTA FE, NEW MEXICO	RE: Proposed MC
	Proposed DHC
	Proposed NSL
	Proposed SWD X
	Proposed WFX
	Proposed PMX
entlemen:	
I have examined the application date	ed
or the <u>Cabot Corporation</u> J. L. R	eed No. 1-H 35-13-37
Operator Lease	
nd my recommendations are as follows:	and Well No. Unit, S-T-R
	and well No. Unit, 5-1-k
nd my recommendations are as follows:	and well No. Unit, 5-1-k
nd my recommendations are as follows:	and well No. Unit, 5-1-k
nd my recommendations are as follows:	and well No. Unit, 5-1-k
ond my recommendations are as follows:	and well No. Unit, 5-1-k
ond my recommendations are as follows:	and well No. Unit, 5-1-k
ond my recommendations are as follows:	
ond my recommendations are as follows:	Yours very truly,
ond my recommendations are as follows:	
ond my recommendations are as follows:	
ond my recommendations are as follows:	
ond my recommendations are as follows:	

JULO 5 1979

OIL CONSERVATION DIVISION SANTA FE

Form C-108 Revised 1-1-65

660

#### NEW MEXICO OIL CONSERVATION COMMISSION

	APPLICATI	ION TO DISPOSE O	F SALT WA	TER BY INJECTION INTO A POROUS	FORMATION
Cabot	Corporation			Box 1101, Pampa, Texas	79065
LEASE HAM			WELL NO.	FIELD	COUNTY
J. L.	Reed		1	King (Mississippian)	Lea
LOCATION	UNIT CETTER H	; WELL 15 L	OCATED 198	O PEET FROM THE N LINE	AND 660 FEET PROM THE
	E LINE, SECTION	35 TOWNSHIP	138	RANGE 37E NMPM.	<u> </u>

		CASING	AND TOBING DA	1.75				
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEME	NT T	OP OF CEME	NT	TOP DETERMINED	BY
SURFACE CASING							<del></del>	
larii kurasa vi	13-3/8	331	400		Circ			
INTERMEDIATE		<del></del>	<del> </del>				<del> </del>	
	8-5/8	4577	2200		Circ			
LONG STRING	5-1/2 12590 700			8770	s	urvev		
TUBING			HAME, MODEL AND D	EPTH OF TUBIN			<del></del>	
	2	11600	Baker Mod	el D-1160	00			
NAME OF PROPOSED INJECTIO	FORMATION		TOP OF FORM	IATION		SOTTOM OF	FORMATION	
Devonian .		ا پیدورٹ	12150			12669		
15 INJECTION THROUGH TUBING	, CASING, OR ANNULUS?	PERFORATION	S OR OPEN HOLE? PR	OPOSED INTERV	AL(S) OF INJE	TION		
Tubing		Perfs	Po aso a utaid d	12156-574		ing. Shaan ah útu 2 tek	er kulasas er ekkir er vilkilir.	
IS THIS A NEW WELL ORILLED DISPOSAL?	FOR IF AREWER	15 NO. FOR WHAT PURPO	SE WAS WELL ORIGIN	ALLY ORILLED?		HAS WELL EN	ER BEEN PERFORATED THAN THE PROPOSED I	IN AN
No	011		o vestila			TION ZONE?	Yes	
LIST ALL SUCH PERFORATED I	NTERVALS AND SACKS OF	CEMENT USED TO SEAL	OFF OR SQUEEZE EACH	•				
Penn 10755-764	100sx W111	squeeze off Mi	esissinni ne	rfe 11 4	21 to 11	471		
DEPTH OF BOTTOM OF DEEPES FRESH WATER ZONE IN THIS A	7	DEPTH OF BOTTOM OF	F NEXT HIGHER PENT	10730	DEPTH OF TOP	OF NEXT LOW	ER REA	
SALE & PERSONAL RESTORMED TO THE PROPERTY OF T	200'			11400			None	
ANTICIPATED DATLY I MINIMU		OPEN OR CLOS	ED TYPE SYSTEM	IS INJECTION	TO BE BY GRA	TTY OR A	PPROX. PRESSURE (PS	1)
(BBLS.)	4500	) Clo	sed	Pressure			2500	
ANSWER YES OR NO WHETHER	THE FOLLOWING WATERS	ARE MIN- WATER	TO BE DISPOSED OF	NATURAL WAT		ARE WATER A	HALYSES ATTACHED?	
STOCK, IRREGATION, OR OTHER	GENERAL USE -		Yes		es	N	<b>o</b>	2
NAME AND ADDRESS OF SURFA	CE OWNER (OR LESSEE, IF	STATE OF FEDERAL LAN		<u> </u>	<b>M</b>			
Carland Brown S	Star Route 1. T	outnoton. New	Mexico					h
LIST HAMES AND ADDRESSES O	F ALL OPERATORS WITHI	ONE-HACF ( ) MILE OF	THIS INJECTION WEL					
Kerr McGee, Amar	1110							
MOLL PROGES AMAI	<u> </u>	<del></del>					<del></del>	

	OIL CONSERVATION DIVIS	ON	
MAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?	SURFACE OWNER	TEACH OPERATOR WITHIN ONE-HALF MILE TOF THIS WELL	THE NEW MEXICO STATE ENGINEER
	Yes	Yes	! Yes
ARE THE FOL! OWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-8)	PLAT OF AREA	FELECTRICAL LOG	DIAGRAMMATIC SKETCH OF WELL
	Yes	Yes	Yes

No others

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

Manager, Drilling & Production,

Mestern Region

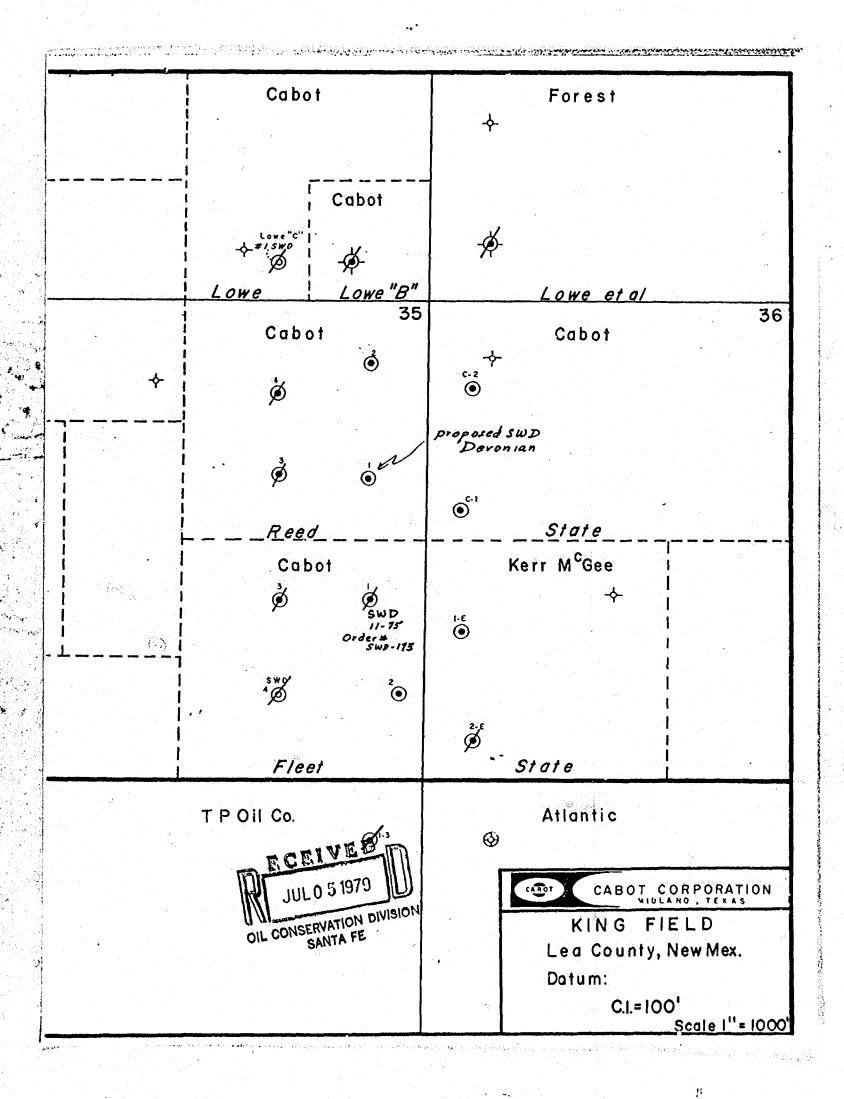
(Title)

June 20, 1979

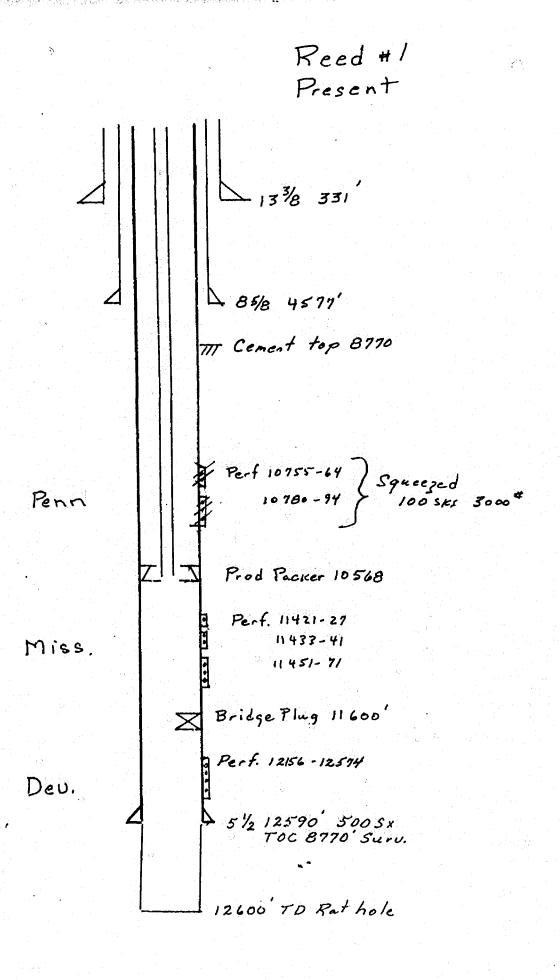
(Date)

NOTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well.

not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days
from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing,
if the applicant so requests. SEE MULE 701.



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Reed #1 Proposed 6-18-79 D. 133/8 331 2% EVE Plastic coated tog. TI Cement top 8770' Set Baxer Model De 10600 Perf 10755-64) Squeezal w/ 100 sk Penn Squeeze on conversion to SWD well Miss 11451-71 Perf 12156 - 12574 Dev 5 1/2 12590' 500 sx TOC 8110 by Survey

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dr/

### 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. 6611 Order No. R- 6/0/

APPLICATION OF CABOT CORP. 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 July 25 august 8

19 79, at Santa re, New Mexico, before Examiner Pariel NOW, on this _____day of _____, 1979 , the Division Director, having considered the testimony, the record, and the recomendations 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, Cabot Corp. is the owner and operator of the Reed Well No. 1 located in Unit H of Section 35, Township 13 South Range 37 East __, NMPM, King Field Lea _County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 12,156 feet to 12,574
- (4) That the injection should be accomplished through 23/8 -inch plastic lined tubing installed in a packer set at approximately 10,600 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

- (6) that the Director of the Bisision should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the company operator that such higher pressure will not result in migration of the injected waters from the Devonian forme tion.

  to determine leakage in the casing, tubing, or packer.
  - (5) That the injection well or system should be equipped with a per-cif valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1200 psi.
  - 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.
  - (7) 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, Cabot C	orp.
is hereby authorized to utilize its	Reed Well No. 1
located in Unit H of Section 35	, Township 13 South
Range 37 East , NMPM, King Fie	1d
Lea County, New Mexico, to disp	ose of produced salt water
into theDevonian	formation, injection to be
accomplished through 23/6 -in	ch tubing installed in a
packer set at approximately 10606	_feet, with injection into
the perforated interval from approx	imately 12,156 feet to
12,574 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 pressure //mit my device with a pop off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1200 psi.
- 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.
- 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 submit monthly reports of its disposal operations in accordance with Rules 704 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.

(3) That the Director of the Division may authorne an increase in injection pressure upon a proper showning by the operator of said well proper showning by the operator of said well that such higher pressure will not result that such higher pressure will not result in migration of the injected blaid from the Devonian Lorm ation.