

CASE 3200: Application of CABOT
CORP. for salt water disposal,
Lea County, New Mexico.

CASE NO.

3200

Application,

TRANSCRIPTS,

SMALL Exhibits

ETC.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3200
Order No. R-2868

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

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 27, 1965, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 11th day of February, 1965, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Cabot Corporation, is the owner and operator of the H. L. Lowe "C" Well No. 1 located in Unit O of Section 26, Township 13 South, Range 37 East, NMPM, King Field Lea County, New Mexico.

(3) That the applicant proposes to utilize said H. L. Lowe "C" Well No. 1 to dispose of produced salt water into the Wolfcamp formation, with the injection interval from 9406 to 10 037 feet.

(4) That the injection should be accomplished through 2 3/8-inch internally plastic-coated tubing installed in a packer set at approximately 9400 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus in order to determine leakage in the tubing or packer.

-2-

CASE No. 3200

Order No. R-2680

(5) 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 Corporation, is hereby authorized to dispose of produced salt water into the Wolfcamp formation through its H. L. Lowe "C" Well No. 1 located in Unit 0 of Section 26, Township 13 South, Range 37 East, NMPM, King Field, Lea County, New Mexico, injection to be accomplished through 2 3/8-inch internally plastic-coated tubing installed in a packer set at approximately 9400 feet, with the injection interval from 9406 to 10,037 feet;

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

(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

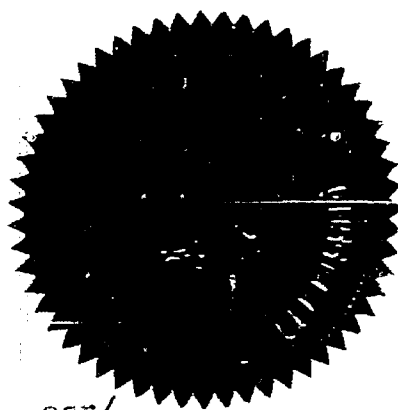
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M. Campbell
JACK M. CAMPBELL, Chairman

Guyton E. Hays
GUYTON E. HAYS, Member

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



esr/

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

February 11, 1965

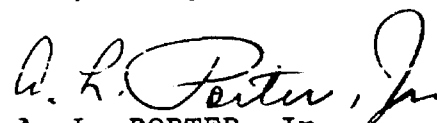
Mr. Clarence Hinkle
Hinkle, Bondurant & Christy
Attorneys at Law
Post Office Box 10
Roswell, New Mexico

Re: Case No. 3200
Order No. R-2868
Applicant:
CABOT CORPORATION

Dear Sir:

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

Very truly yours,


A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC _____

Aztec OCC _____

OTHER Mr. Frank Irby

Case 3200
~~3198~~

Heard 1-27-65

Rec. 1-27-65

1. Grant Cabot on SWD well for their Lowe #1-C - ~~#1~~ unit 0 26-13-37.
 2. Injection to be thru 2 7/8 internally plastic coated tubing + under a packer to be set at approx. 9400'.
 3. Annulus will be filled with inert fluid & a pressure gauge shall be installed at the surface to detect possible leaks thru the casing.
- Thurs. 1/27/65

January 22, 1965

87501

Mr. W. M. Sargent, Jr.
Petroleum Engineer
Cabor Corporation
P. O. Box 1101
Pampa, Texas

Dear Mr. Sargent:

Reference is made to your application to dispose of salt water by injection into a porous formation through your H. L. Lowe, et al Well No. 1 C located in Unit O, Sec. 26, T. 13 S., R. 37 E.

It is noted that one of the proposed intervals of injection in the application is 1,000 - 10,037 feet and that the proposed injection interval shown on the schematic drawing is given as 10,000 - 37 feet. Please advise if I am correct in assuming that the 1,000 feet shown on the application should be 10,000 feet.

Please advise me as to method of calculating top of cement on the intermediate casing string.

Yours truly,

S. E. Reynolds
State Engineer

By:

Frank E. Irby
Chief
Water Rights Division

FEI/ma
cc-A. L. Porter, Jr.
F. H. Hennighausen

January 27, 1965, Examiner Hearing

CASE 3199: Application of Sinclair Oil & Gas Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 240-acre non-standard gas proration unit comprising the NW/4 and the N/2 SW/4 of Section 20, Township 24 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its William H. Harrison "C" WN Well No. 3 located in Unit L of said Section 20.

CASE 3189: (Continued from the January 6, 1965, Examiner Hearing)
Application of Continental Oil Company for a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Jicarilla Apache 30 Well No. 2 located in Unit C of Section 29, Township 25 North, Range 4 West, Rio Arriba County, New Mexico, to produce gas from the Chacra formation and oil from the Gallup formation through the casing-tubing annulus and tubing, respectively.

CASE 3200: Application of Cabot Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp formation through perforations from 9406 to 10,037 feet in its Lowe "G" Well No. 1 located in Unit O of Section 26, Township 12 South, Range 37 East, King Field, Lea County, New Mexico.

CASE 3201: Application of Union Texas Petroleum, Division Allied Chemical Corporation, for an exception to Rule 14(A) of the General Rules and Regulations for Prorated Gas Pools in Northwest New Mexico under Order No. R-1670, as amended. Applicant, in the above-styled cause, seeks an exception to the underproduction cancellation provisions of Rule 14(A) of Order No. R-1670 for its Johnson Federal No. 4 Well, located in the SW/4 NE/4 of Section 33, Township 31 North, Range 9 West, Blanco-Mesaverde Gas Pool, San Juan County, New Mexico, to permit said well to carry forward into the next gas proration period the unproduced allowable which was previously carried forward and to permit the same to be produced during the proration period beginning February, 1965, in addition to the allowable currently assigned to said well.

CASE 3202: Application of International Oil & Gas Corporation for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Artesia Pool by the injection of water into the Queen, Grayburg, and San Andres formations through 9 wells in Sections 10 and 11, Township 18 South, Range 28 East, Eddy County, New Mexico.

Docket No. 3-65

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 27, 1965

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

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

- CASE 3193: Application of International Oil & Gas Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the High Lonesome Penrose Unit Area comprising 320 acres of State and Federal lands in Section 15, Township 16 South, Range 29 East, Eddy County, New Mexico.
- CASE 3194: Application of International Oil & Gas Corporation for expansion of a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its High Lonesome Waterflood Project by the conversion to water injection of three wells located in Units A, B, and J, Section 15, Township 16 South, Range 29 East, High Lonesome Pool, Eddy County, New Mexico.
- CASE 3195: Application of H & M Oil Company, et al for a waterflood project, Eddy County, New Mexico. Applicants, H & M Oil Company, Kincaid & Watson, N. E. Salsich, Jr., and Kersey, seek authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg and San Andres formations through six injection wells in Section 1, Township 17 South, Range 29 East and one injection well in Section 6, Township 17 South, Range 30 East, Eddy County, New Mexico.
- CASE 3196: Application of Texas Pacific Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the N/2 of Section 8, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its State "A" A/c-2 Well No. 49 located in Unit C and to its State "A" A/c-2 Well No. 43 located in Unit H of said Section 8.
- CASE 3197: Application of Texas Pacific Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 320-acre non-standard gas proration unit comprising the S/2 of Section 5, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its State "A" A/c-2 Well No. 41 located in Unit M and its State "A" A/c-2 Well No. 27 located in Unit P of said Section 5.
- CASE 3198: Application of Texaco Inc. for an amendment of Order No. R-2758, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an amendment to Rule 6 of Order No. R-2758, which order promulgated special pool rules for the Tooto Dome-Pennsylvanian "D" Pool, San Juan County, New Mexico. Applicant seeks a 150-acre proportional factor for said pool of 4.77 rather than a factor of 2.77 as previously established by the Commission.

CLARENCE E. HINKLE
W. E. BONDURANT, JR.
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
MICHAEL R. WALLER

LAW OFFICES
HINKLE, BONDURANT & CHRISTY
HINKLE BUILDING
ROSWELL, NEW MEXICO

January 15, 1965

OF COUNSEL: HIRSH M. DOW
TELEPHONE 622-6510
AREA CODE 505
POST OFFICE BOX 10

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

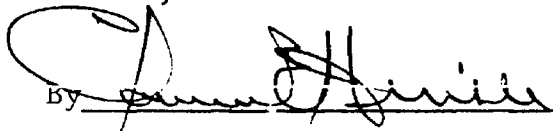
Gentlemen:

We enclose in triplicate application of Cabot Corporation for approval of the Lowe "C" No. 1 well as a salt water disposal in connection with the King Devonian Field. This case is on the January 27 examiner's hearing docket.

You will also find enclosed a log of the proposed injection well to be filed with the application.

Yours very truly,

HINKLE, BONDURANT & CHRISTY

By 

CEH:cs
Enc.

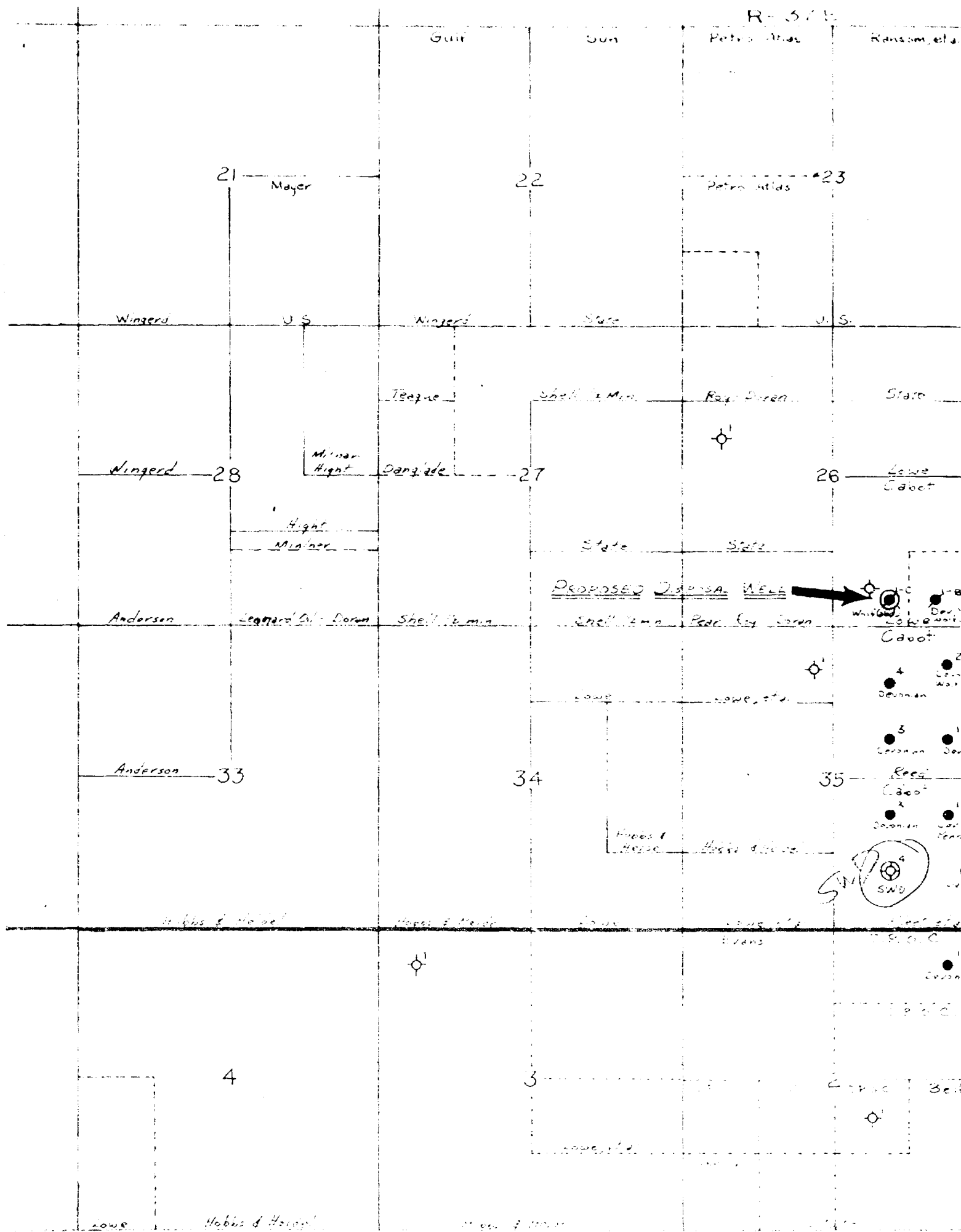
NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

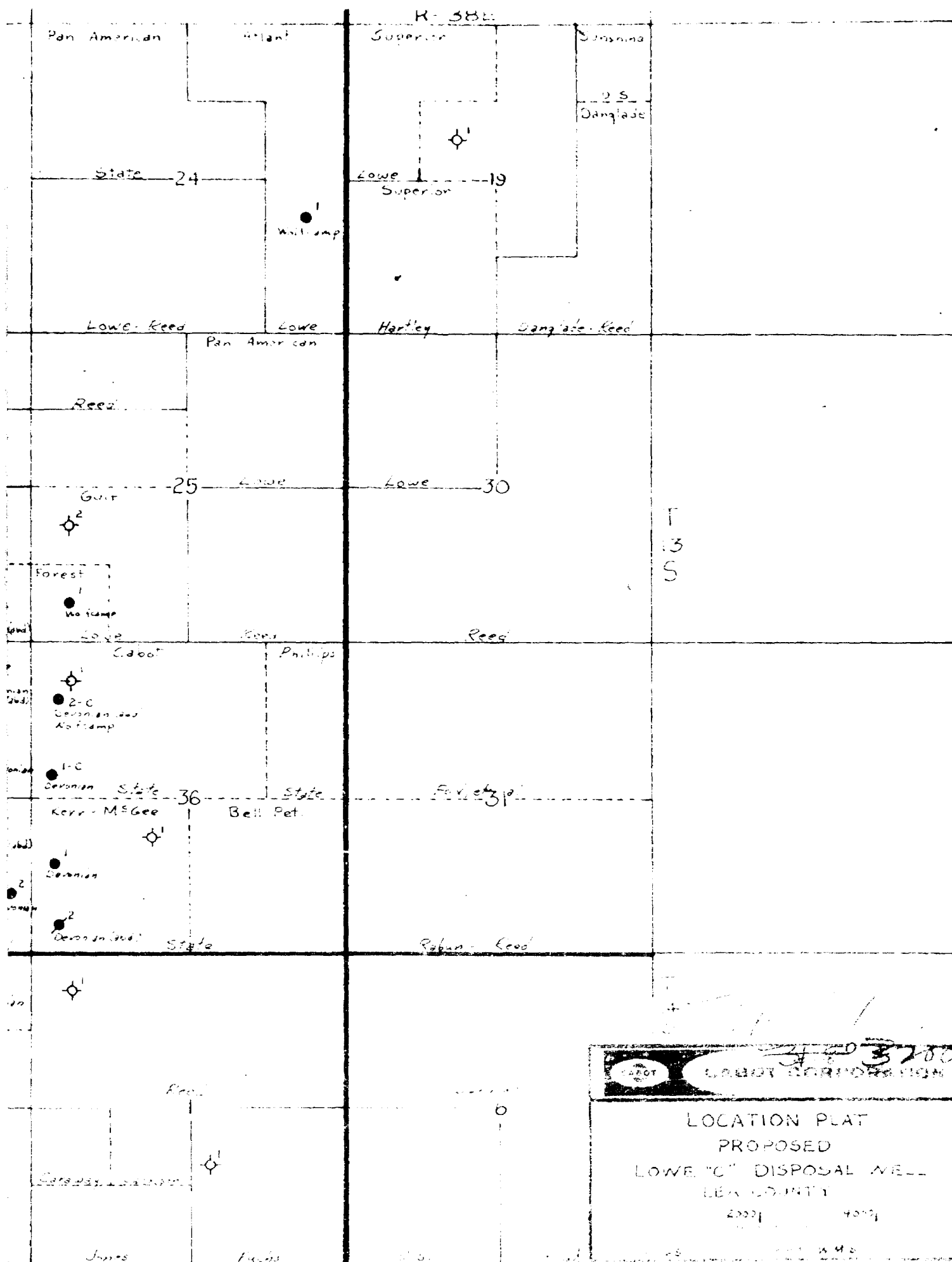
OPERATOR Cabot Corporation		ADDRESS P. O. Box 4395, Midland, Texas				
LEASE NAME H. L. LOWE, ET AL	WELL NO. 1-C	FIELD King	COUNTY Lea			
LOCATION UNIT LETTER 0 ; WELL IS LOCATED 467 FEET FROM THE south LINE AND 1,650 FEET FROM THE east LINE, SECTION 26 TOWNSHIP 13 S RANGE 37E NMPM.						
CASING AND TUBING DATA						
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	
SURFACE CASING	13-3/8"	363' RBM	400	Surface	Circulated	
INTERMEDIATE	8-5/8"	4,630' RBM	2400	215'	Calculated	
LONG STRING	5-1/2"	11,565' RBM	1200	8,750'	Temp. Survey	
TUBING	2-3/8"	9,400'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Model "D" @ 9400'			
NAME OF PROPOSED INJECTION FORMATION Wolfcamp		TOP OF FORMATION 9,297'		BOTTOM OF FORMATION 10,050'		
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES? Perforations		PROPOSED INTERVAL(S) OF INJECTION 1,000-10,037', 9406-12', 9476-85', 9488-91'		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Oil Production		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes		
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 11,410-11,437', bridge plug @ 11,300', two sacks cement on top of plug						
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA est. 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 10,050'		
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.)	MINIMUM 500	MAXIMUM 1500	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 2500	
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? Yes	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Brady Lowe, 3101 32nd Street, Lubbock, Texas						
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Forest Oil Corporation, P. O. Box 4486, Midland, Texas 79702						
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?						
SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes		THE NEW MEXICO STATE ENGINEER Yes		
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)?		PLAT OF AREA Yes		ELECTRICAL LOG Yes		DIAGRAMMATIC SKETCH OF WELL Yes

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

H. L. Lowe Petroleum Engineer January 12, 1965
(Signature) (Title) (Date)

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







DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

FIELD LABORATORY REPORT

WATER ANALYSIS

TO: Cabot Carbon Company

LABORATORY LOCATION	REPORT NUMBER
Hobbs, New Mexico	IX 0203
COMPANY	WELL
Cabot Carbon	Lone B #1
POOL	LOCATION
King Devonian	
COUNTY	STATE
Don	New Mexico
FORMATION	DEPTH
Wolfcamp	9200
SUBMITTED BY	TESTS DESIRED
Howard Hawk	Complete

DATE SAMPLE SUBMITTED
October 2, 1958

SAMPLE SOURCE
Well head

	PPM	EPM		PPM	EPM
CALCIUM	1390	69.4	CHLORIDE	27200	766
MAGNESIUM	361	29.6	SULFATE	2150	44.8
SODIUM	16300	720	BICARBONATE	500	8.2
IRON			CARBONATE		
HYDROGEN SULFIDE			HYDROXIDE		

SPECIFIC GRAVITY

1.023

AT

74

°F

pH

8.4

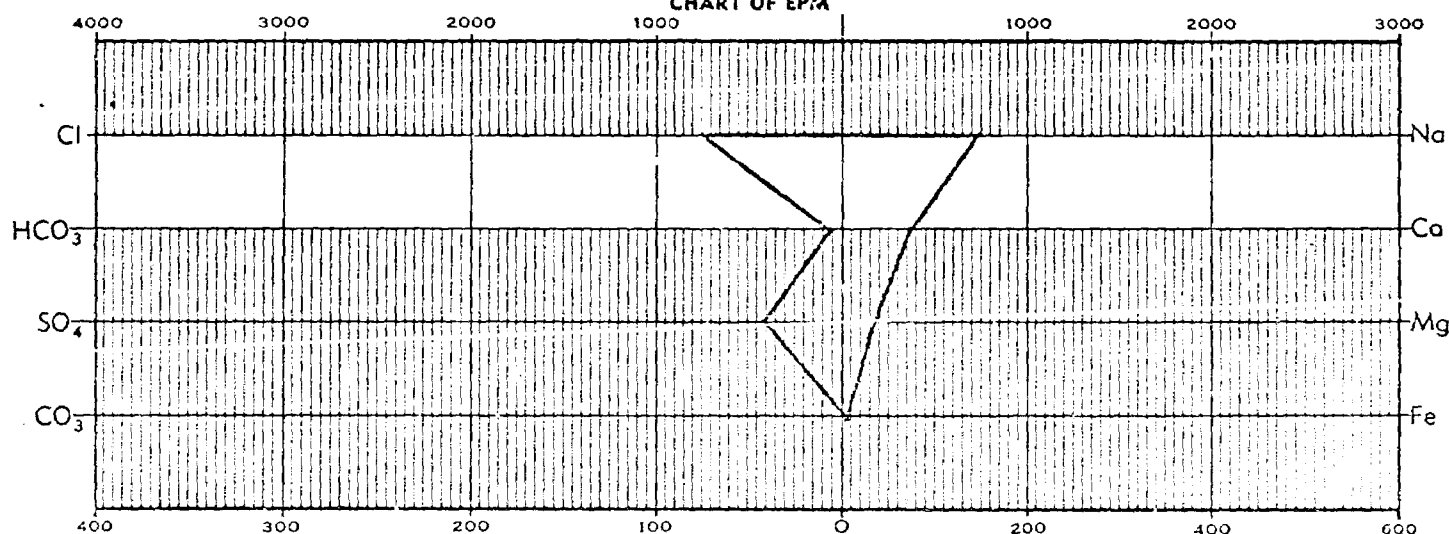
CaCl₂/MgCl₂

2.74

% SALT SATURATION

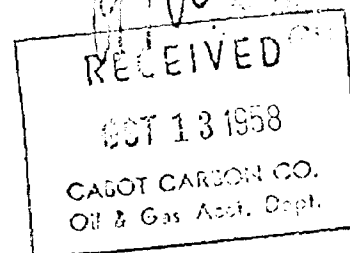
4.352

CHART OF EPM



REMARKS:

cc: Hurst, Stewart, Rosene, File



CR
Charles Rosson

October 2, 1958

CHEMIST

DATE

B. J. SERVICE, INC.

G M Martin

LABORATORY REPORT

BRINE OR WATER ANALYSIS DEPTH: 12,600'

FORMATION: Devonian

Company Cabot Carbon Co. Farm Fleet Well No. 1Location _____ County Lea State New Mexico Date 8-22-58Pool King Samples Submitted by Mr. MaukSPECIFIC GRAVITY: 1.065
pH: 7.4

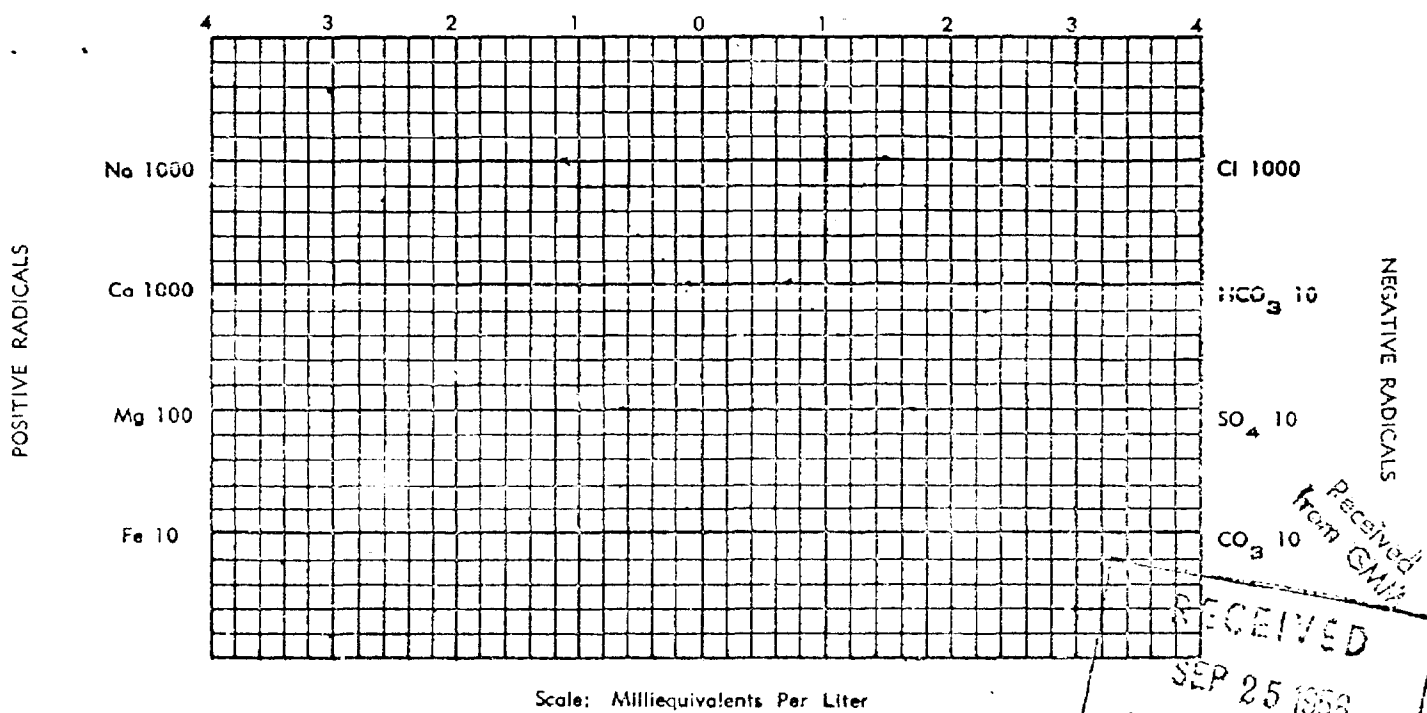
PRINCIPAL CONSTITUENTS

RADICAL	PARTS PER MILLION	REACTING VALUE	*TOTAL REACTING VALUE
SODIUM	27,500	1192.33	41.59
CALCIUM	3,540	177.00	6.17
MAGNESIUM	700	64.10	2.24
CHLORIDE	50,000	1410.00	49.39
SULPHATE	805	16.75	.58
BICARBONATE	407	6.60	.23

PRIMARY SALINITY: 83.18
 SECONDARY SALINITY: 16.36
 SECONDARY ALKALINITY: .46

PER CENT TOTAL REACTING VALUE
 PER CENT TOTAL REACTING VALUE
 PER CENT TOTAL REACTING VALUE

General Remarks:



Scale: Milliequivalents Per Liter

LAB. NO. 291-B HobbsDISTRICT HobbsANALYZED BY AJ

2-1-58 32820 ABC-BRECKENRIDGE

Signed Austin Jones



DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

GMMartin

FIELD LABORATORY REPORT

WATER ANALYSIS

TO Cabot Corp
Box 4395
Midland, Texas

Received
from GMM

DATE SAMPLE SUBMITTED

11-23-60

SAMPLE SOURCE

Well Head

LABORATORY LOCATION

Hobbs, New Mexico

Cabot Corp.

King-Devonian

Form

Submitted by

Howard Kaur

REPORT NUMBER

1704

Howard Fleet #1

STATE

New Mexico

10972-924 11012-27

Analysis

	PPM	EPM		PPM	EPM
CALCIUM	17,550	879	CHLORIDE	61,400	2280
MAGNESIUM	3,200	262	SULFATE	1,325	27
SODIUM	27,235	1171	BICARBONATE	335	5
IRON			CARBONATE		
HYDROGEN SULFIDE			HYDROXIDE		

SPECIFIC GRAVITY

1.110

AT

64

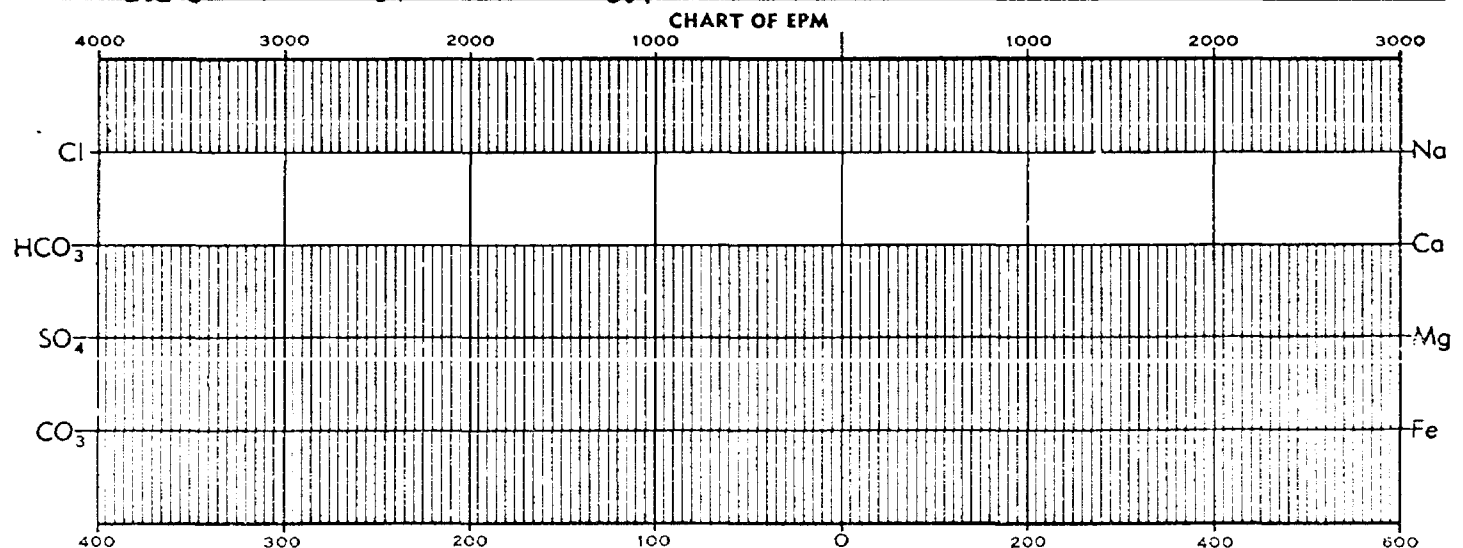
°F

pH

6.4

CaCl₂/MgCl₂

% SALT SATURATION



REMARKS:

cc
Hurst
Stewart
Rosene

James P. Glasgow

CHEMIST

DATE

DWL-451-1-B

James P. Glasgow

11-23-60

COPY
CABOT CORPORATION
BOX 1101
PAMPA, TEXAS

January 12, 1965

New Mexico State Engineer Office
Capitol Building
Santa Fe, New Mexico

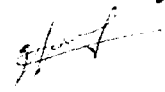
Gentlemen:

Cabot Corporation has made application to the New Mexico Oil Conservation Commission for permission to dispose of produced salt water into our Lowe "C" No. 1 well, Lea County. The well is located in the SW/4 SE/4 of Section 26-T13S-R37E.

Attached is a copy of the application including plat, schematic drawing and electrical log.

This matter has been set for hearing on the January 27th docket.

Yours very truly,


W. M. Sargent, Jr.
Petroleum Engineer

WMS:mn
Encls.

cc: New Mexico Oil Conservation Commission

COPY
CABOT CORPORATION
BOX 1101
PAMPA, TEXAS

January 13, 1965

Forest Oil Corporation
P. O. Box 4486
Midland, Texas 79702

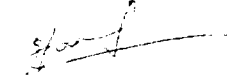
Gentlemen:

Enclosed is a copy of application by Cabot Corporation to the New Mexico Oil Conservation Commission for authority to dispose of salt water into the Wolfcamp formation from 9406' to 10,037' in our H.L. Lowe "C" No. 1 well. The well is located in the SW/4 SE/4 of Section 26-T13S-R37E, Lea County, New Mexico.

This matter has been set for hearing at 9:00 a.m. January 27, 1965 at the State Land Office Building, Santa Fe.

We respectfully request that you as an offset operator furnish the Oil Conservation Commission a waiver of any objections to this application. Your cooperation is appreciated.

Yours very truly,



W. M. Sargent, Jr.
Petroleum Engineer

WMS:mn
Encls.

cc: New Mexico Oil Conservation Commission

COPY
CABOT CORPORATION
BOX 1101
PAMPA, TEXAS

January 13, 1965

Mr. Brady Lowe
3101 32nd Street
Lubbock, Texas

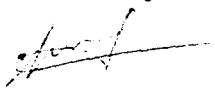
Dear Mr. Lowe:

Cabot Corporation has filed an application with the New Mexico Oil Conservation Commission requesting permission to dispose of produced salt water into their H. L. Lowe "C" No. 1 well. The well is located in the SW/4 SE/4 of Section 26-T138-R37E, Lea County, New Mexico. Water will be injected into the Wolfcamp formation between 9406' and 10,037'.

This matter has been set for hearing on January 27, 1965, at the State Land Office Building, Santa Fe, New Mexico at 9:00 a.m.

We respectfully request that you as surface owner furnish the Oil Conservation Commission a waiver of any objections to this application. Your cooperation is greatly appreciated.

Yours very truly,


W. M. Sargent, Jr.
Petroleum Engineer

WMS:mn
Encls.

cc: New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE, Inc.

FARMINGTON, N. M.
PHONE 325-1182

SANTA FE, N. M.
PHONE 983-3971

ALBUQUERQUE, N. M.
PHONE 243-6691

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 27, 1965

EXAMINER HEARING

IN THE MATTER OF:

APPLICATION OF CABOT CORPORATION FOR SALT
WATER DISPOSAL, LEA COUNTY, NEW MEXICO

Case No. 3200

BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING



dearnley-meier



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

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

PAGE 2

MR. UTZ: Case Number 3200.

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

MR. HINKLE: Clarence Hinkle of Hinkle, Bondurant & Christy, Roswell, New Mexico, representing Cabot Corporation. We have one witness and two exhibits.

W I L L I A M M. S A R G E N T, the witness, having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

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

A William M. Sargent, Jr., Pampa, Texas; employed by Cabot Corporation.

Q What is your present position with Cabot Corporation?

A Petroleum engineer.

Q Do you have New Mexico under your jurisdiction in that position?

A I do.

Q Have you testified previously before the Oil Conservation Commission?

A Yes.

Q Several times?

A Yes.

dearnley-meier

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

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



PAGE 3

Q Are your qualifications a matter of record with the Oil Conservation Commission?

A Yes, sir.

Q Were your qualifications acceptable?

A Yes, sir.

Q Are you familiar with the application of Cabot Corporation? That is, in Case Number 3200?

A Yes, sir.

Q Did you prepare the application yourself, and the exhibits which were filed with it?

A I did.

Q The application was on Form C-103 of the Commission, was it not?

A It was.

Q Which is their application form to dispose of salt water by injection into formation?

A Yes, sir.

Q Have you discovered that you made an error in connection with the application, in filling out the blank with regard to the proposed intervals of injection?

A Yes, sir, I have. The typist inadvertently typed 1,000 for the first interval there, where it should have been 10,000, so that the first interval is represented as 10 to 1037.

dearnley-meier

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Q And you would like to make that correction in the application which you have filed?

A Yes.

Q Did you prepare the exhibits which were attached to the application?

A Yes, sir.

Q We have had identified as Exhibit 1 and Exhibit 2 two of the exhibits which were attached to the application form. I refer you now to Cabot's Exhibit Number 1 and ask you to explain what it is and what it shows.

A Exhibit 1 is a map of a portion of Lea County, New Mexico which depicts the area within a two-mile radius of the proposed injection well, and shows the wells located in the King Pool. The proposed injection well is indicated by the arrow in the southeast of the southwest of Section--excuse me--southwest of the southeast of Section 26.

Q Does it also show the present salt water disposal well?

A Yes.

Q Where is it located?

A Southwest of southeast of Section 35. That is Cabot's Fleet Number 4 well.

Q This proposed injection well you refer to--was this drilled as an oil well?

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A Yes.

Q Was it produced as an oil well?

A Yes, sir, produced as an oil well, from an interval of 10,000 to 1037.

Q And what is the present status of the well?

A It is temporarily abandoned.

Q For what cause?

A For lack of commercial oil production the well was abandoned. It was making three barrels of oil and 100 barrels of water per day.

Q What zones was this well completed in?

A The Wolfcamp.

Q Just the one zone?

A Yes, sir.

Q Does Exhibit 1 show anything else you would like to state to the Commission?

A No, sir.

Q I now refer you to Applicant's Exhibit 2 and ask what it shows.

A Exhibit 2 is a section of the well showing the casing setting depth and cement surfaces, tops of cement, the proposed injection intervals and the previous completion attempts.

Q And the location of the tubing?

A And the proposed location of the tubing and packer.

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Q Were copies of the application forwarded to the State Engineer?

A Yes, sir, they were.

Q Have you received any communication from the State Engineer's office with respect to the application?

A Yes, sir, I did. On Monday this week I received a letter from Mr. Frank Irby in which he pointed out the error previously mentioned, concerning the transposition of 1,000 to 10,000, and also requested how we calculated the top of the cement on the intermediate casing string to be at 215 feet. After I received that letter I contacted our production people in Midland and after digging through the file they determined that we actually ran a temperature survey on this string of casing, so the top at 215 is not an estimate but is an actual top by temperature survey.

Q I believe this Exhibit 2 also shows the perforations as they exist?

A Yes, sir, they do. The perforations 11,410 to 11,437 were tested on initial completion of the well and found to be non-productive and abandoned. A cast iron breach plug and two sacks of cement was set at 11,300 feet and in the Wolfcamp zone ten to 10,037 was produced until abandoned. This fall we attempted to establish production in the interval from 9,406 to -91. However, these sets of perforations proved to

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be tight and non-productive.

Q Are those perforations still open?

A Yes, sir, all perforations from 9,406 to 1,037 are currently open and these are the perforations we propose to inject salt water into.

Q How much water is being produced from the well at the present time?

A In December the average daily production of water we disposed of was 2,000 barrels per day.

Q And that was disposed of in your present disposal well previously referred to?

A Yes, sir.

Q Why was it necessary, in your opinion, to have a second salt water disposal well?

A We are disposing of water in the Fleet 4 into the San Andres zone. This is one of the few areas this far north of New Mexico where we can adequately inject water, and over the past year we have been injecting water at approximately 1,600 PSI. This has put an undue strain on the pump and mechanical equipment, resulting in excessive maintenance costs. We feel that by utilizing a second injection well we can lower the pressure substantially and reduce costs thereby.

Q Do you have any idea of the pressure necessary to use to inject water into this new well?

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A We would not apply more than 2,600 pounds at the surface.

Q Do you anticipate that this well, with the existing injection well, will be sufficient to dispose of the salt water being produced and which will be produced?

A Yes, sir.

MR. HINKLE: We would like to offer in evidence Applicant's Exhibits 1 and 2.

MR. UTZ: Without objection, Applicant's Exhibits 1 and 2 will be entered into the record of this case.

MR. HINKLE: I believe that's all we have.

MR. UTZ: Judging from your Exhibit 2, from the top of the cement at 8,750 and the bottom of the intermediate string of 4,630, you have some 4,120 feet open. What formations and oil, gas and water are behind this casing?

A The formations through that interval would be of Permian age, San Andres down to somewhere near the top of the Wolfcamp formation--middle Permian in age. As to the exact formations, I'm not sure. We have had no oil or gas shows within that interval. As to what waters there are in there, I don't know. There would be no fresh water in there.

Q From the top of the perforations at 9,406 to the top of your cement at 8,750 is some 656 feet, is that correct?

A Yes, sir. I might mention here that the top of the

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cement at 8,750 was determined by temperature survey when the well was originally drilled. When we tested the interval 9,406 to 91, we ran a cement bond log through the interval and determined that the bond was insufficient to withstand the high acidizing pressure we felt would be needed, so we re-cemented from approximately 9,400 with 150 sacks. Where this cement--the top of the cement or re-cement job was, I don't know--we did not run temperature surveys. However, it did withstand surface pressure of approximately 5,000 pounds when we were trying to acidize these perforations.

Q Do you intend to internally coat this 2-3/8 tubing?

A Yes, sir, it will be plastic coated.

Q I notice from your water analysis that you have 2,150 parts of sulfate and 16,600 parts of sodium. Would it be safe to say there would be sodium sulphate in this water?

A We have had some evidence of bond corrosion and deposits of a calcarious material or carbonate deposit in the surface equipment in our current disposal well.

Q What type of cement was used in cementing the production string in this well?

A I'm not familiar with what was used in that. I could only hazard a guess that it was.

Q Do you think it had posilants mixed with it?

A Yes.

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Q Is it your intention to use some type of inert fluid in the annulus between the tubing and the production string?

A I don't know what the production department intends to follow in that regard. It would be no problem to put fresh water in the annular space.

Q It wouldn't be too much trouble to put a pressure guage to the surface, too, would it?

A No, sir, we would be most happy to do that.

MR. HINKLE: That's all we have.

MR. UTZ: Are there other questions of the witness?

... The witness may be excused. Are there any other statements to be made in this case? The case will be taken under advisement. We will take a fifteen-minute recess.

* * *

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STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

I, ELIZABETH K. HALE, Notary Public and Court Reporter, do certify that the foregoing transcript in Case Number 3200 was taken by me in shorthand and transcribed by me, and that it is a true and accurate record of proceedings in said case to the best of my knowledge, skill and ability.

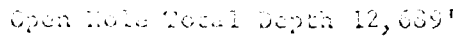
Witness my hand and seal of office this 1st day of March, 1965.

Elizabeth K. Hale
Notary Public and Court Reporter

My commission expires May 23, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 3200, heard on 1st day of Jan 27, 1965.
James H. [Signature], Examiner
New Mexico Oil Conservation Commission

Proposed Salt Water Disposal Well



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