Case Number

4401

Application

Transcripts.

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 19, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Read and Stevens, Inc., for Salt Water Disposal, Lea County, New Mexico

Case 4401

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

Case 4401

(Four Exhibits marked 1 through 4, respectively)

MR. HATCH: This is the application of Read and Stevens, Incorporated, for Salt Water disposal, Lea County, New Mexico. Applicant seeks authority to dispose of produced salt water into the Queen, San Andres, Glorieta and Delaware formations in the open hole interval between the 8-5/8" casing shoe at 3,998' and the top of the cement at 6,109' in its Getty State "BG" Well No. 1 located in Unit K of Section 12, Township 19 South, Range 34 East, Quail-Queen Pool, Lea County, New Mexico.

MR. STEVENS: Mr. Examiner, I am Donald G. Stevens with McDermitt Connley and Stevens representing Read and Stevens. We have one witness for the case.

WILLIAM J. LeMAY

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

DIRECT EXAMINATION

BY MR. STEVENS

Q Could you give us your current residence and current occupation, Mr. LeMay?

A Yes. I am a consulting geogolist in Santa Fe, New Mexico.

Q You have testified before the Commission before and your qualifications are a matter of record before this Commission?

A Yes, sir.

MR. STEVENS: Will the Commission accept the witnesses qualifications?

MR. NUTTER: Yes. We will

Q Would you state concisely what the applicant proposes in this application, please?

A Reed and Stevens propose to dispose of produced formation water mainly from their Quail-Queen production in the vicinity of their disposal well in Section 12 into this well in Section 12 between the base of the 8-5/8" casing.

Q Give us the Township.

A Section 12, Township 19 south, range 34 east. The location of said disposal well is 1,980' from the south and west lines. It was formerly a Getty Oil Company State "BG" No. 1. The well was sold to Reed and Stevens and it is now the Reed and Stevens Getty State "BG" No. 1 and Reed and Stevens propose to dispose of water in the open hole interval from 3,998 to 6109.

Q Referring to what has been marked as Exhibit A, would you identify and discuss that exhibit?

A Yes. Exhibit A is a land map of the area surrounding the proposed disposal well indicating the dry holes and also the producing wells in the area. This exhibit is not color coded for production but Exhibit 4 shows which formations the wells are producing from. It does show the land ownership,

however, and, as you can see, the Reed and Stevens acreage is either owned or controlled by Reed and Stevens through operating right assignments is colored in yellow indicating that the majority of acreage or at least half the acreage surrounding the well of a radius of a mile and a half is Reed and Stevens owned or controlled.

Q Referring to what has been identified as Exhibit B, would you discuss it for us?

A Yes. Exhibit B is an acoustic log -- a Zerox copy of an acoustic log of the proposed disposal well showing the various formation tops and the drill stem test that was taken by Getty in the Queen formation -- that is the upper Queen -- and what I consider the major porosity zones in the open hole interval between the base of the 8-5/8" casing and the top of the cement at 6,109. These zones being specifically approximately 14' of very porous Queen formation which was drill stem tested as shown on the exhibit and producing 600 or 364 barrels of fluid being mud and water, with good shut-in pressures. This zone, I might add, is a little bit anomalous for the area in that the Queen and most of the wells has been tipped but in this particular well has been very porous. That interval is 4,776, roughly, to 4,779. The other interval is the Delaware sand formation encountered at 5,800. Both of these are quite porous and injectivity tests indicate the well is taking fluid probably in the zones.

Q Could you also discuss the lower Penrose porosity zone in connection with the salt water disposal well?

A Yes. Referring back again to Exhibit No. 1, it does have a salt water disposal well in the northwest corner of the northwest corner. This well was previously --

MR. NUTTER: Of the same section?

WITNESS: Of Section 13. It is marked SWD on there, Atlantic Richfield Mobile, northwest northwest 13. This well was previously a Penrose producer which has been converted to a salt water disposal well. Initially filed for a double completion to try to complete from the upper Penrose and inject water into the upper Queen. The Penrose production was non-commercial and they had another order which permitted them to dispose of water into the lower Penrose which is below the producing pay in the area, the exact intervals of which are 5,161 to 67; 5,208 to 14; 5,268 to 72. As you can see just by rough corelation with Exhibit B, this interval is approximately 100' below the top of the Penrose and it is below what oil production there is in the Quail-Queen field. That well is currently being utilized by Atlantic for salt water disposal purposes.

Q Are they utilizing the upper Queen at this time?

A No. Only the lower Queen. They had that order amended to account for the fact the Penrose production was completed and initially the Queen, I guess they felt, would be

a good disposal zone but I am just guessing it didn't take any water and that is why they went down to the lower Penrose.

Q Referring now to what has been marked Exhibit C, would you identify and discuss that exhibit?

A Exhibit C is a diagrammatic sketch of the proposed water injection system for the Reed and Stevens No. 1 Getty State "BG" and it shows diagrammatically where the disposal zone is, the open hole interval -- where the cement is. It was calculated the 8-5/8" casing is 24 and 32 pound casing and the 1,550 sacks calculate that to the surface or at least ties into the 13-3/8" casing near the surface. Both of these strings -- this is secondhand information -- but I understand they were new when they were run by Getty into the well. Calculating the collapsed pressure and the bursting pressure of the 24 pound casing, the collapsed pressure of which caculates 1,430 pounds -- the bursting pressure, 2,950 pounds. They ran some 32 pound casing along with the 24 pound which calculates 2,740 pounds for the collapsed pressure and 3,930 pounds for the bursting pressure.

What happened on the well -- to give a little history on it -- Getty T and D the well on 10, 10, 68. The well was subsequently sold to Reed and Stevens. Reed and Stevens reentered the well on 8, 5, 69; drilled out plugs and cleaned out the mud hole down to the cement plug at 6,109. They displaced the mud with fresh water and then they acidized and sand fraced the well down to open hole. Then they ran injectivity tests on the well

and were producing from -- I think the maximum was 400 barrels of fluid per day, but for an average they were averaging 131 barrels of fluid a day which is approximately what they propose to dispose of in this well. Then they ran a -- fairly recently, Jetco Chemical, which is a division of J & L Supply -- ran a coupon or corrosion survey on the well with recommendations. I recently called them. They do not have the water analysis as well as recommend any recommendations concerning their survey. However, they will which I will furnish a copy to the Commission when it gets to me. It should have been here today, but it is not. Their recent letter indicates that they ran a recent corrosion survey utilizing an instantaneous corrosion reading device on the well and this indicated only two mills per year corrosion in the system. They sent a water sample to their lab facilities in Texas for analysis and I have also requested a copy of the analysis which will be sent. As soon as I receive it it will be sent to the Commission and added to this file.

Q Will the operator, Reed and Stevens, comply with the recommendations of this report as to corrosion?

A Yes, sir. They will. They will conduct the coupon tests -- I think it is quarterly or what the Commission has as standard policy in that connection and will abide by any recommendations that the Chemical company provides for as well as any recommendations the Commission might have concerning

treatment of the water. It appears to be relatively non-corrosive or very non-corrosive with a rate of only two mills per year.

Q What is your average disposal pressure in this well - do you have that figure?

A Yes. When they were running the injectivity tests the maximum pressure recorded was 1,275 pounds.

Q They don't propose to exceed that pressure?

A No. They do not.

Q Do you have any further comments on Exhibit C?

A No.

Q Referring to what has been marked Exhibit D, would you identify and explain that exhibit?

A Exhibit D is a structure production map of the area showing the various pays. The Scarb Field produces from the Bone Spring limestone below 10,000' and I understand some water is being utilized or they tried to get a disposal system in one of the Scarb wells and never succeeded. That is part of the reason for the delay in the hearing. They tried to buy the well in the northwest northwest 18, 19 south, 35 east and weren't successful in negotiations there. The Scarb Field makes very little water, so it is not a big factor. I understand that all the water from the Scarb Field wells that Reed and Stevens have does go into this disposal well, the proposed well, but the majority of water is from the Penrose production which I might

add is just about non-commercial. They are in the process of -- Reed and Stevens is in the process of plugging out two to three wells in Sections 11, 14 and 13 of 1,934 and it is one of those marginal operations. At the present time they don't anticipate any more water than approximately 131 barrels per day that is being produced at the present time.

You will notice the salt water disposal well northwest, northwest of 13, 1,934. The disposal wells show on the map to be productive but it has subsequently been converted to a salt water disposal well. It is no longer productive. The accumulation is stratographic. The area colored green on Exhibit D appears to be a nose but as the nose flattens in the vicinity of Sections 11 and 14 there is a permeability barrier in the Penrose along the east side of the field which tends to trap the Penrose oil, what oil there is, and this is somewhat controlled by the dry holes in the area on the east side which tests show have oil but which were non-commercial. The Scarb Field is something else. It is a strong nose and it has structural as well as stratographic entrapment features.

Q Of the producing formations in the area, are any of them within the open interval to be injected into?

A Yes. The Penrose interval as shown on Exhibit B would be one of the zones that would be open. However, it indicates to be tight on both log and drill stem analysis. In my opinion it would be too tight to take any of the fluid being

disposed of.

Q Then the nearest Penrose producers are -- would you describe them?

A Well, the nearest producer would be the wells in Section 11 and 13 -- 19 -- the one 1,980 north and east of 11, approximately. They are both Reed and Stevens wells approximately three quarters of a mile from the proposed disposal well.

Q Have you any other evidence to present or discuss at this hearing?

A No. I think that pretty well covers it.

MR. STEVENS: At this time we'd like to offer Exhibits A, B, C, and D, introduced into evidence.

MR. NUTTER: Reed and Stevens Exhibits A through D will be admitted in evidence.

(Whereupon, Applicant's Exhibits A through D were offered and admitted in evidence.)

Do you have anything further?

MR. STEVENS: Nothing further.

MR. NUTTER: Mr. LeMay on Exhibit No. C you indicate the amount of cement that was used on each of these two strings of pipe. Do you have a cement top?

A No. There is no cement top. The surface casing -- there is no temperature survey run and this was done by Getty, so I just utilized their information that was filed with the Commission and I had no temperature log.

Q You haven't made a calculation to see if this would fill up?

A It should. It should theoretically fill up the annulus.

Q On both strings?

A Yes.

Q Now, although your disposal zone is a minus 763, this would be the top of the Queen?

A This is the top of the Queen, Mr. Examiner. It is a better marking formation to draw a structure map on than the Penrose is. The top of the Queen is the 4732 figure.

Q That would be equivalent to the 4732 on Exhibit No. B?

A Yes, sir. Correct.

Q So actually the well in Section 13, which is being used as a disposal zone, has the top of the Queen at a minus 812, so it is lower, structurally, than the well you are proposing, is that correct?

A Yes.

Q But you do feel there is this impermeability streak running down the west side of Section 12 which would separate this reservoir from the Penrose producing sand?

A Yes, sir. The well drilled in the northwest northwest of 12 was very tight. It was drilled specifically for the Queen and Penrose and I have a map indicating that it was cored and only one foot of shale oil was encountered and it

was tight as well as other wells drilled in the Scarb Field.

Q Well, how about this Bone Spring well in Unit I of Section 11 -- do you have any knowledge of the Queen formation in that well?

A It was tight. Sometimes they don't test the Queen or Penrose separately. That, I think, is a well drilled by Pennzoil and I called the geogolist on the well. He indicated that there was no drilling time break-in, no shows in the samples in the Queen and Penrose. They look at both those intervals going through and unless they get a drill break or a significant show, many times they don't test it. You have to rely on log analysis.

Q That was drilled primarily as a Bone Spring well?

A Yes. It was. On this exhibit, all the deep wells are circled. The discovery well in the Quail field was a deep test that was plugged back to the Penrose. It is circled in Section 14, but unless they have a drilling break or some indication on the log it should require further testing, sometimes they just don't look at the Queen and Penrose adequately unless they have an indication that there is something there.

MR. NUTTER: Are there any other questions of Mr. LeMay? You may be excused.

(Witness excused)

Do you have anything further, Mr. Stevens?

MR. STEVENS: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4401?

We will take the case under advisement.

****

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Peter A. Lumia
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. ....., heard by me on ....., 19.....

....., Examiner
New Mexico Oil Conservation Commission

I N D E X

WITNESS	PAGE
WILLIAM J. LeMAY	
Direct Examination by Mr. Stevens	1

EXHIBITS	MARKED	OFFERED AND ADMITTED
Applicant's Exhibits A through D	1	9

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4401 heard by me on 8/17, 1972

..... Examiner
New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

August 25, 1970

Mr. Donald Stevens
McDermott, Connelly & Stevens
Attorneys at Law
Post Office Box 1904
Santa Fe, New Mexico

Re: Case No. 4401
Order No. R-4017
Applicant:
Read and Stevens

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

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

Other State Engineer Office

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. 4401
Order No. R-4017

APPLICATION OF READ AND STEVENS, INC.,
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:30 a.m. on August 19, 1970, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 25th day of August, 1970, 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, Read and Stevens, Inc., is the owner and operator of the Getty State "B.G." Well No. 1, located adjacent to the Quail-Queen Pool in Unit K of Section 12, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Queen, San Andres, Glorieta, and Delaware formations, with injection down the 8 5/8-inch casing into the open-hole interval between the 8 5/8-inch casing shoe at 3998 feet and the top of the cement plug at 6109 feet.

(4) 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, Read and Stevens, Inc., is hereby authorized to utilize its Getty State "B.G." Well No. 1, located adjacent to the Quail-Queen Pool in Unit K of Section 12, Township 19 South, Range 34 East, NMPM, Lea County, New Mexico, to dispose of produced salt water into the Queen, San Andres, Glorieta, and Delaware formations, injection to be down the 8 5/8-inch casing into the open-hole interval between the 8 5/8-inch casing shoe at 3998 feet and the top of the cement plug at 6109 feet.

(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

DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

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

esr/

Docket No. 19-70

DOCKET: REGULAR HEARING - WEDNESDAY - AUGUST 19, 1970

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

ALLOWABLE: (1) Consideration of the oil allowable for September and October, 1970;

(2) Consideration of the allowable production of gas for September, 1970 from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico. Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico, September, 1970.

THE FOLLOWING CASES WILL BE HEARD BEFORE DANIEL S. NUTTER, EXAMINER, OR ELVIS A. UTZ, ALTERNATE EXAMINER, IN THE OIL CONSERVATION COMMISSION CONFERENCE ROOM ON THE SECOND FLOOR OF SAID BUILDING AT 9:30 a.m.

CASE 4414: Southeastern New Mexico nomenclature case calling for an order for the creation and extension of certain pools in Lea, Chaves, and Eddy Counties, New Mexico:

(a) Create a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Townsend-Morrow Gas Pool. The discovery well is the Avance Oil & Gas Company State ETA No. 2 located in Unit I of Section 8, Township 16 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
SECTION 8: SE/4

(b) Extend the Allison-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 36 EAST, NMPM
SECTION 12: S/2

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

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM
SECTION 36: NW/4

(d) Extend the Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM
SECTION 24: E/2 NE/4

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

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
SECTION 19: SE/4
SECTION 20: SW/4

(f) Extend the Hobbs-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM
SECTION 19: S/2

(g) Extend the Indian Basin-Upper Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 23 EAST, NMPM
SECTION 21: N/2 and N/2 N/2 N/2 S/2

(h) Extend the Paduca-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM
SECTION 1: W/2
SECTION 12: W/2

(i) Extend the Springs-Upper Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM
SECTION 3: Lots 1, 2, 7, 8, 9, 10, 15 and 16

(j) Extend the Sulimar-Queen Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM
SECTION 26: SW/4 NE/4

(k) Extend the Tres Papalotes-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 34 EAST, NMPM
SECTION 33: NW/4

(l) Extend the Northwest Vacuum-Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
SECTION 5: SW/4

CASE 4413: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to permit Stanley Leonard Jones dba Francisca Corporation and all other interested parties to appear and show cause why the Francisca Corporation Beeman Well No. 1 located 1980 feet from the South and West lines of Section 2, Township 24 South, Range 28 East, Eddy County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 4172: (Reopened)

In the matter of Case No. 4172 being reopened pursuant to the provisions of Order No. R-3816, which order established 80-acre spacing units for the Northeast Lovington-Pennsylvanian Pool, Lea County, New Mexico. All interested parties may appear and show cause why the said pool should not be developed on 40-acre spacing units.

CASE 4399: Application of Pan American Petroleum Corporation for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle in the wellbore production from the Blinebry, Tubb, and Drinkard Oil Pools in its Southland Royalty "A" Well No. 8 located in Unit O of Section 4, Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 4400: Application of David C. Collier for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico. Said exception would be for applicant's Southern Federal Lease in Units A, C, E, G, I, K, and M of Section 30, Township 19 South, Range 31 East, North Hackberry Yates-Seven Rivers Pool, Eddy County, New Mexico.

CASE 4401: Application of Read and Stevens, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen, San Andres, Glorieta, and Delaware formations in the open-hole interval between the 8 5/8 inch casing shoe at 3998 feet and the top of the cement at 6109 feet in its Getty State "B.G." Well No. 1 located in Unit K of Section 12, Township 19 South, Range 34 East, Quail-Queen Pool, Lea County, New Mexico.

CASE 4402: Application of Reserve Oil and Gas Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Cooper-Jal Unit Area comprising 2581 acres, more or less, of Federal and fee lands in Township 24 South, Ranges 36 and 37 East, Lea County, New Mexico.

CASE 4403: Application of Reserve Oil and Gas Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by water injection through 26 wells into the Lower Seven-Rivers and Queen formations underlying its Cooper-Jal Unit Area, Langlie-Mattix Pool, Lea County, New Mexico.

CASE 4404: Application of Reserve Oil and Gas Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by water injection through 23 wells into the Tansill, Yates, and Upper and Middle Seven-Rivers formations underlying its Cooper-Jal Unit Area, Jalmat Pool, Lea County, New Mexico.

CASE 4405: Application of Reserve Oil and Gas Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Langlie-Jal Unit Area comprising 1080 acres, more or less, of fee lands in Township 25 South, Range 37 East, Lea County, New Mexico.

CASE 4406: Application of Reserve Oil and Gas Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institite a waterflood project by water injection through 13 wells into the Seven Rivers and Queen formations underlying its South Langlie-Jal Unit Area, Langlie-Mattix Oil Pool, Lea County, New Mexico.

CASE 4407: Application of Tenneco Oil Company for an unorthodox oil well location, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox Dakota oil well location 1980 feet from the South and East lines of Section 13, Township 17 North, Range 9 West, Hospah Field, McKinley County, New Mexico, said location being closer than 330 feet to an inner boundary line.

CASE 4408: Application of Keohane and Westall for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicants, in the above-styled cause, seek an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for applicants' State Well No. 1, located in Unit D of Section 2, Township 19 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.

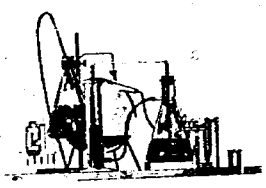
CASE 4409: Application of Anadarko Production Company for two waterflood expansions, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the expansion of its Federal Q Waterflood Project by the conversion to water injection of three additional wells in Units J, L, and P of Section 3, Township 17 South, Range 30 East, Square Lake Pool, Eddy County, New Mexico. Applicant further seeks the expansion of the Stallworth Oil and Gas Company Parke Waterflood Project by the conversion to water injection of one additional well in Unit H of said Section 3.

CASE 4410: Application of Major, Giebel & Forster for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the SE/4 of Section 28, Township 25 South, Range 37 East, Crosby-Devonian Pool, Lea County, New Mexico, said acreage to be dedicated to a well to be drilled in said quarter section. Also, to be considered will be the cost of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4411: Application of Continental Oil Company for an exception to Rule 104 C I, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C I of the Commission Rules and Regulations to permit the completion within 660 feet of another producing well in the same formation of its State H-35 Well No. 10 located 2030 feet from the North line and 1780 feet from the East line of Section 35, Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.

CASE 4412: Application of Continental Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Yates and Seven Rivers formations through two wells on its McCallister "A" lease in Section 24, Township 26 South, Range 36 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico.

Case 4401



Jetco Chemicals

P. O. Box 1278 ■ Corsicana, Texas 75110 ■ AC 214/874-3706

August 15, 1970

Case 4401

Mr. Dan Lowe
Read & Stevens Oil Co.
Lovington, N.M.

Dear Sir:

A recent corrosion survey of the Getty SWD, utilizing an instantaneous corrosion reading device, indicated only 2 mills per year corrosion in the system.

I have sent a water sample to our lab facility in Corsicana, Texas for an analysis.

If I can be of further service, please call on me--day or night.

Thank you,

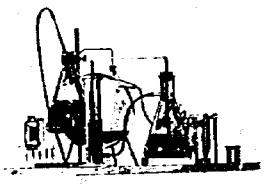
Jerry Cox, Sr.

Jerry Cox, Sr.
Sales Engineer
Jetco Chemical Co., Inc.

cc: file

JC/kb

Case 4401



Jetco Chemicals, Inc.

P. O. Box 1278 ■ Corsicana, Texas 75110 ■ AC 214/874-3706

August 26, 1970

Mr. Dan Lowe
Read & Stevens
Lovington, New Mexico

Dear Sir:

Attached you will find a completed water analysis of the water sampled from the Getty SWD. I have also taken the liberty of submitting a Stability Index for the purpose of predicting the scaling tendency of the water involved.

Based on the results of the Stability Index, it would appear that the water has a slight scaling tendency at 120°. The scaling tendency gets progressively less as the temperature is decreased.

Due to the fact that the pH is of such a low nature, the Iron count is relatively high and the Chloride content is relatively high I would conclude that the water has a tendency to be more corrosive than either scaling or neutral. The instantaneous corrosion rate recently established, utilizing the Corrater Instrument, indicated a 2 mpy corrosion rate.

In an effort to insure a stable system, I would recommend that the water be treated with 5 gallons of Jet-Cote 85-1 for an initial treatment, followed with 10 parts per million Jet-Cote 85-1, based on the total water being disposed of daily.

If I can be of further service, please do not hesitate to call.

Respectfully submitted,

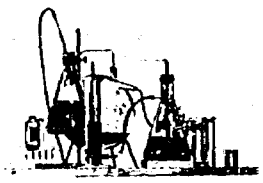
Jerry Cox, Sr.

Jerry Cox, Sr.
Sales Engineer
Jetco Chemical Co., Inc.

cc: Bill LeMay ✓
John Anthony
Scott Ferguson
file

Jc/kb

Jetco Chemicals, Inc.



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WATER ANALYSIS REPORT

Sample

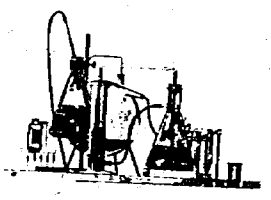
Company-----Read & Stevens Oil Co.
Sample------Getty SWD
Date--------August 26, 1970

Analysis	ppm	epm
1. p-H	5.5	
2. H_2S	Neg.	
3. Specific Gravity		
4. Methyl Orange Alk. ($CaCO_3$)	100	
5. Bicarbonate Alk. (HCO_3)	122	2
6. Chlorides (Cl)	132,000	3,718
7. Sulfates (SO_4)	250	5
8. Calcium (ca)	22,400	1,120
9. Magnesium (Mg)	9,720	797
10. Total Hardness ($CaCO_3$)	96,000	
11. Total Iron (fe)	14.5	

PROBABLE MINERAL COMPOSITION

				Compound		ppm
1,120	Ca	HCO_3	2	$Ca(HCO_3)_2$	=	162
797	Mg	SO_4	5	$CaSO_4$		340
1,808	Na	Cl	3,718	$CaCl_2$		61,771
				$Mg(HCO_3)_2$		------
				$MgSO_4$		------
				$MgCl_2$		37,955
				$NaHCO_3$		------
				Na_2SO_4		------
				NaCl		105,695

Jetco Chemicals, Inc.



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SCALING TENDENCY OF OIL FIELD BRINES

Stiff and Davis Method

SI (Stability Index) = p-H - pCa - pAlk - K

SI @ 120°= (5.5)-(.3)-(2.7)-(1.9) or +.60

SI @ 100°= (5.5) -(.3)-(2.7)-(2.25) or +.25

SI @ 80°= (5.5) -(.3)-(2.7)-(2.40) or +.10

SI @ 60°= (5.5) -(.3)-(2.7)-(2.70) or .00

Note: Positive factors normally indicate scaling tendencies.

Negative factors normally indicate that the water tends to become corrosive rather than scaling.

CASE NO. 4401 Exhibit "A"
LAND AND LOCATION MAP

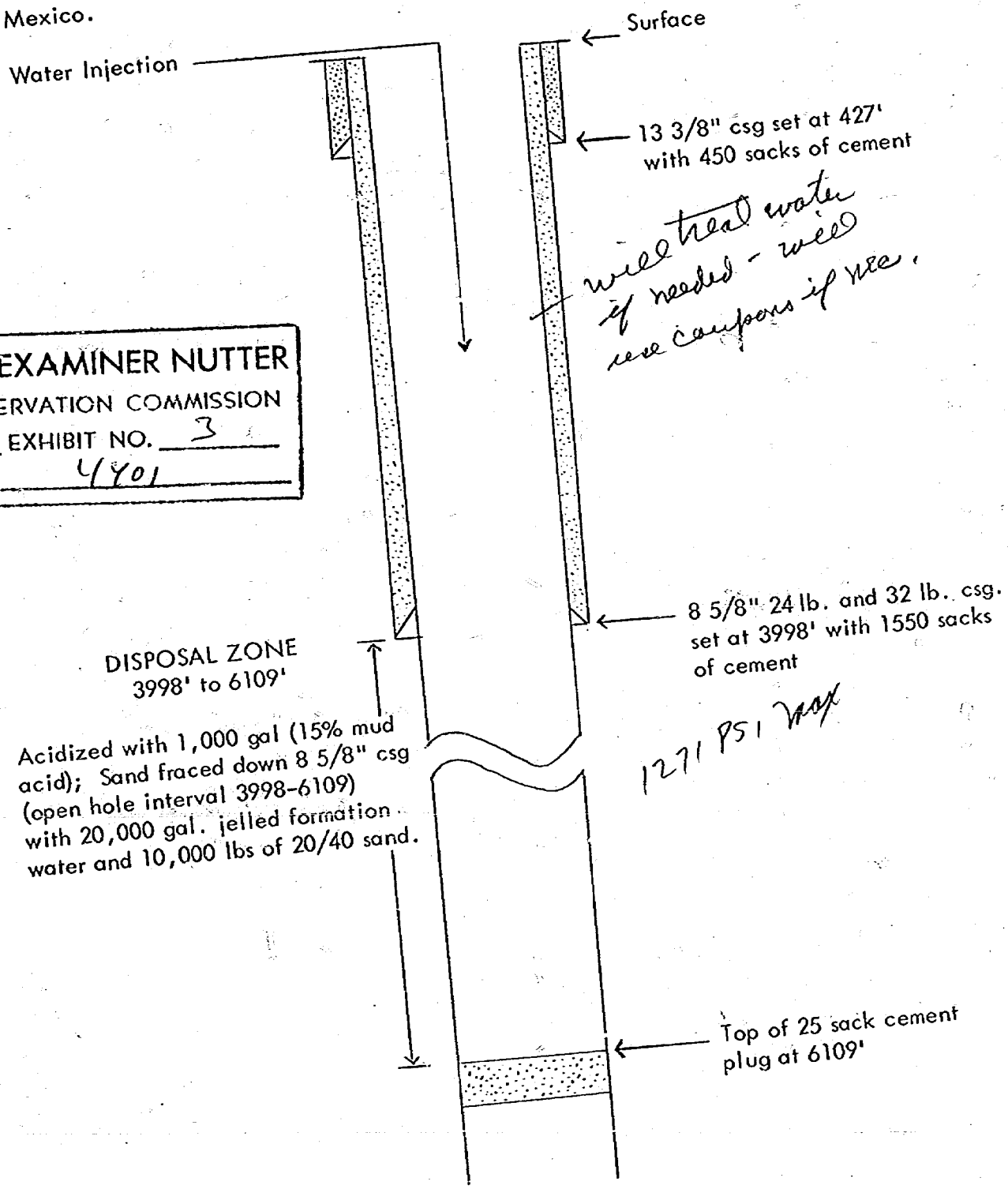
● Proposed Salt Water Disposal well

□ Read & Stevens Acreage

William J. LeMay - Geologist

CASE NO. 4401 EXHIBIT "C"

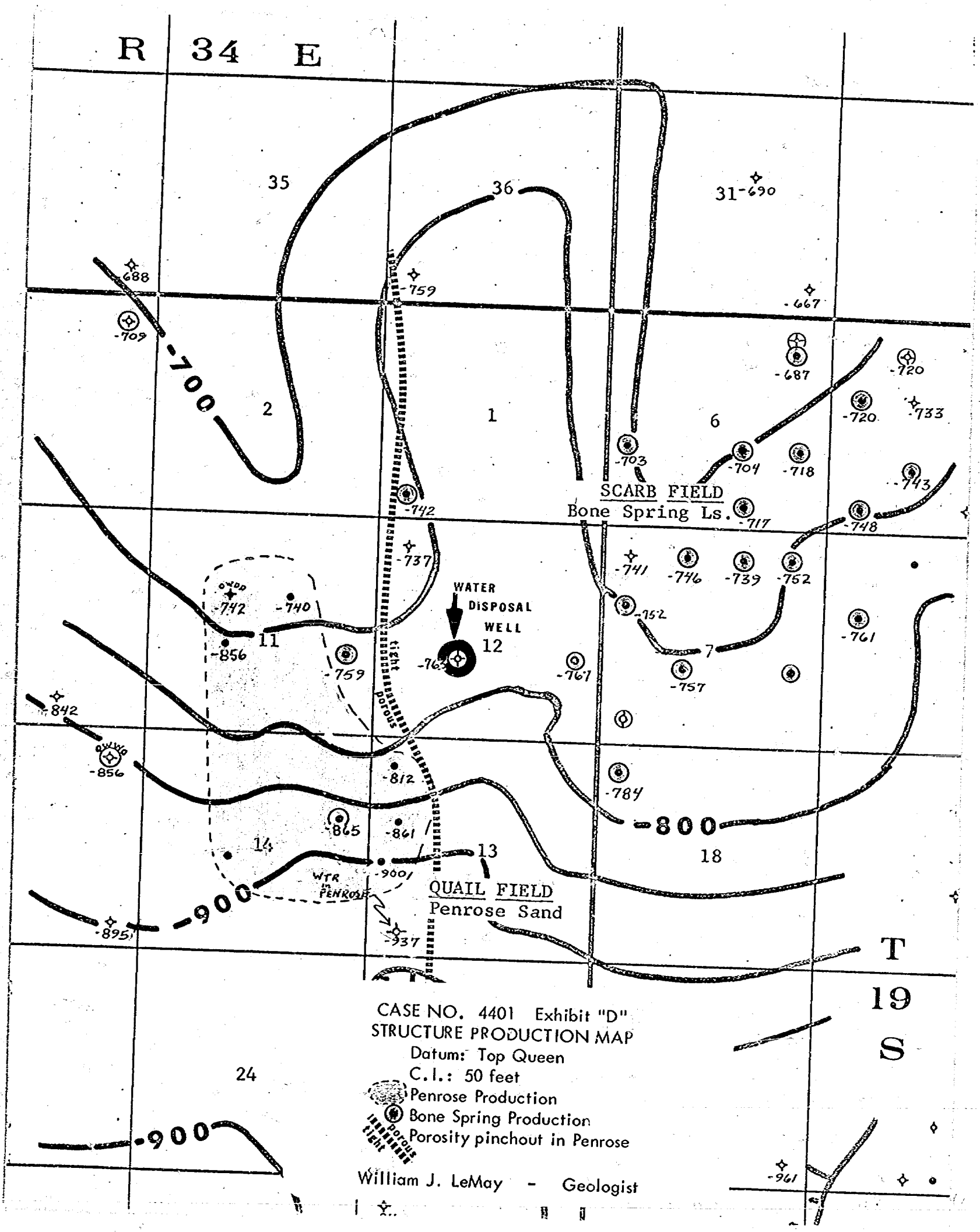
DIAGRAMMATIC SKETCH of Proposed Water Injection System for the Read & Stevens No. 1 Getty State "BG", Section 12, T-19-S, R-34-E, Lea County, New Mexico.



BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 4401

T.D. 10,330' by Getty on 10-6-68, P&A.

Re-entered by Read & Stevens on 8-5-69 - Drilled plugs and cleaned out to 6109' - Displaced heavy mud with fresh water.



CASE NO. 4401 Exhibit "D"
STRUCTURE PRODUCTION MAP
Datum: Top Queen
C.I.: 50 feet
Penrose Production
Bone Spring Production
Porosity pinchout in Penrose

William J. LeMay - Geologist

Pd 4 14

Pd 4 14

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

APPLICATION OF READ AND STEVENS, INC.)
FOR SALT WATER DISPOSAL CONVERSION)
OF HIS GETTY STATE "B. G." WELL)
LOCATED 1980 FEET FROM THE SOUTH)
AND WEST LINES, SECTION 12,)
TOWNSHIP 19 SOUTH, RANGE 34 EAST)
N.M.P.M., LEA COUNTY, NEW MEXICO)

Case 4401

APPLICATION

COMES NOW Read & Stevens and respectfully presents this Application to the Oil Conservation Commission of the State of New Mexico for an Order permitting him to dispose of produced salt water down the annulus between the 8 5/8 inch intermediate casing string and the top of cement into the Queen, San Andres, Glorieta, and Delaware formations into the open hole interval between the 8 5/8 inch casing at 3,998 feet and the top of the cement at 6,109 feet and, thereby, to complete his Getty State "B. G." Well No. 1 located 1980 feet FS & WL, Section 12, Township 19 South, Range 34 East, N.M.P.M., Lea County, New Mexico as a salt water disposal well and in support thereof, states:

1. Attached hereto marked Exhibit "A" is a plat showing the location of Applicant's well hereinabove described and the location of all other wells within a radius of two miles therefrom. This plat also indicates the lessees of record within this two mile radius. All such wells are now producing from the Bone Spring or Penrose (Lower Queen) formations in the Scharb or Quail Queen Pools.

2. Attached hereto marked Exhibit "B" is a log of Applicant's well hereinabove described.

3. Attached hereto marked Exhibit "C" is a diagrammatic sketch of Applicant's well hereinabove described showing all casing strings, including diameters and setting depths, quantity used and tops of cement, perforated or open hole

DOCKET MAILED

Date 8-6-70

intervals, tubing strings, including diameters and setting depths, and the type and location of packers, if any.

4. The salt water to be disposed of would be that produced from Applicant's wells hereinabove described, the anticipated volume of which would be approximately 400 barrels of water per day. The produced salt water would be continously treated prior to injection to prevent casing corrosion.

WHEREFORE, Applicant requests that this Application be set for examiner hearing and that after such hearing this Commission enter its Order authorizing the salt water disposal completion as herein requested.

Respectfully submitted,

READ AND STEVENS INC.

By William J. LeMay, Agent

DRAFT

GMH/esr

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. 4401

Order No. R-4017

APPLICATION OF READ AND STEVENS, INC.,
FOR SALT WATER DISPOSAL, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:30 a.m. on August 19, 1970, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of August, 1970, 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, Read and Stevens, Inc.,

is the owner and operator of the Getty State "B.G." Well No. 1, adjacent to the Quail-Queen Pool
located in Unit K of Section 12, Township 19 South, Range
34 East, NMPM, ~~adjacent to the Quail-Queen Pool~~, Lea,
County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Queen, San Andres, Glorieta, and Delaware formations, with injection down the 8 5/8-inch casing into the open-hole interval between the 8 5/8-inch casing shoe at 3998 feet and the top of the cement plug at 6109 feet.
~~from approximately xxxxxxxxxxxxx feet to xxxxxxxxxxxxx feet~~

~~(4) That the injection should be accomplished through _____-inch plastic-lined tubing installed in a packer set at~~

approximately _____ feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus or the annulus left open at the surface in order to determine leakage in the casing, tubing, or packer.

(3) 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, Read and Stevens, Inc., is hereby authorized to utilize its Getty State "B.G." Well No. 1, adjacent to the Quail-Queen Pool located in Unit K of Section 12, Township 19 South, Range 34 East, NMPM, ~~Quail Queen Pool~~, Lea County, New Mexico, to dispose of produced salt water into the Queen, San Andres, Glorieta, and Delaware formations, injection to be ~~accomplished through~~ down the 8 5/8-inch casing ~~_____-inch tubing installed in a packer set at approximately _____ feet, with injection~~ into the open-hole interval between the 8 5/8-inch casing shoe at 3998 feet and the top of the cement plug at 6109 feet ~~from approximately xxxxxxxxxxxx feet to xxxxxxxxxxxx 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 left open at the surface in order to determine leakage in the casing, 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.