CASE 7506: GETTY OIL COMPANY FOR [illegible]
WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

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DOCKET MAILED

Date 3/6/82

CASE NO.

7506

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
16 March 1982

EXAMINER HEARING

IN THE MATTER OF:

Application of Getty Oil Company for salt water disposal, Lea County, New Mexico. CASE 7506

BEFORE: RICHARD L. STAMETS

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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

For the Applicant: William F. Carr, Esq.
CAMPBELL, BYRD, & BLACk p.a.
Jefferson Place
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 7506.

MR. PEARCE: Application of Getty Oil Company for salt water disposal, Lea County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr, with the law firm Campbell, Byrd, and Black. P. A., of Santa Fe, appearing on behalf of the applicant.

I have one witness who needs to be sworn.

(Witness sworn.)

L. T. LOFTON

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

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your name, and place of residence?

A My name is Larry T. Lofton and I reside in Midland, Texas.

Q By whom are you employed and in what capacity?

A. I'm employed with Getty Oil Company as a Senior Reservoir Engineer.

Q. Have you previously testified before this commission or one of its examiners and had your credentials accepted and made a matter of record?

A. No.

Q. Would you briefly summarize for the examiner your educational background and your work experience?

A. In 1973 I received my BS degree in petroleum engineering from Texas A&M. I received my Master's degree in petroleum engineering in 1977.

I have approximately nine years drilling and production reservoir experience, all but one and a half of which were with Getty Oil Company.

Q. Do your duties with Getty include supervising responsbility for wells located in Lea County, New Mexico?

A. Yes.

Q. Are you familiar with the proposed injection well?

A. Yes.

Q. Are you familiar with the application filed by Getty in this case?

A. Yes.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: Yes, they are.

Q. Mr. Lofton, will you briefly state what Getty seeks with this application?

A. Getty seeks authority to dispose of salt water from the Abo formation into the State P Well No. 1, located in Unit P, Section 32, Township 16 South, Range 37 East, Lovington-Abo Pool, Lea County, New Mexico.

Q. Would you please refer to what has been marked for identification as Getty Exhibit Number One, explain what this is and what it shows?

A. Exhibit One is the Oil Conservation Division Form C-108 that was submitted by Getty Oil Company, Levelland Office, when we thought we could gain approval to inject salt water administratively.

Q. And when was this application filed?

A. It was filed January the 6th, 1982.

Q. As part of this application for administrative approval did you give notice to all offsetting operators?

A. Yes.

Q. Now what action was taken by the Oil Conservation Commission on this application?

A. The Commission advised that due to two wells within one and a half miles proximity of this well requiring, possibly, needed cement, and also due to other producing Abo wells, that the request be set for hearing.

Q. Now these two wells that were possibly in need of additional cement, were they in a half mile of the proposed well?

A. They're within a half mile radius of our State P Well No. 1.

Q. Now, attached to the Form C-108 is an additional sheet. Would you identify this and explain what it shows?

A. This second sheet provides additional information in response to questions posed on the Form C-108. There are a couple of items I might point out on this page.

First, we anticipate being able to inject on an average 7000 barrels of water per day in the proposed well at an average pressure of perhaps 500 psi. We don't feel that it would exceed a maximum of 1000 psi, and there references to Upper Abo and Lower Abo on this page, but those just give the relative position within the Abo of what we're talking about.

And also we propose to inject in the well at a depth of 8900 feet to 9300 feet.

Q. When you talk about Lower Abo or Upper Abo, you're just making reference to terms that Getty uses to distinguish portions of the Abo formation, is that correct?

A. Yes, that's correct.

Q. You're not attempting to note a separate formation?

A. Correct.

Q. Will you now refer to what has been marked for identification as Exhibit Number Two and review this for the Examiner?

A. Yes. This points out the location of our proposed injection well with an arrow. It also shows all wells within a 2-mile radius of this proposed well, and also, by the circle gives all wells within a half mile radius of our proposed injection well. Also, all wells are symbolically coded with the legend at the bottom, indicating which producing formation wells have been completed in. And it also shows leases, of course, in the proximity to our State P Lease.

Q. All right, Mr. Lofton, will you now proceed to Exhibit Number Three and review this for the Examiner?

A. Yes. This shows the permanent installation of our State P Well No. 1 as it now exists, as indicated on -- headed as before, and also on the after it shows how we

would propose to complete -- recomplete the well and condition it for salt water injection into the Abo formation.

Q. Now your diagrammatic sketch displayed heretofore doesn't indicate any tubing in the well. Is that correct?

A. That is correct. The well is equipped for production and we are currently producing. We have 2-7/8ths, 2-3/8ths inch tubing set at 11,180 feet with sucker rods in the pump, and the well is producing now as a marginal producer.

Q. So this well actually does have tubing in it, which is not shown on this diagrammatic sketch?

A. That is correct.

Q. Now, there is a packer noted at approximately 11,000 feet. Is this a sealing packer? Does it seal tubing in the hole in any way?

A. No, this packer does not seal production and we are producing from the Penn formation at depths indicated there, 10,712 feet to 11,168 feet.

Q. All those perforations are open?

A. That is correct.

Q. All right. Now would you go to what is your proposed --

MR. STAMETS: While we're right at that

point, let me ask a question.

You have perforations shown here at 10,712 to 10,752, and then on down to 11,000 and below.

Do you plan to squeeze those perfs?

A. Not as we've proposed under this situation to the right. We -- from a temperature survey we know we have cement behind the pipe all the way up until 7870 feet.

In recompleting the well for salt water disposal we would set a cast iron bridge plug in the well at 10,650 feet, above the present perforations, with -- and put approximately 30 foot of cement on top of that within the wellbore.

MR. STAMETS: Are all those perforations in the same formation?

A. Yes, they're in the Penn, Lovington-Penn

MR. STAMETS: Okay, thank you.

Q. Mr. Lofton, will you now proceed to the proposed completion for this well if this application is approved?

A. Yes, after setting our cast iron plug in the well we will then perforate the Abo formation from 8900 feet to 9300 feet and then we would run 3-1/2 inch tubing internally plastic coated and set a packer at 8820

feet above the Abo perfs to inject water.

Q. What is the present status of the State P Well No. 1?

A. The State P Well No. 1 is a marginal producer in the Penn, producing approximately 8 barrels of oil per day.

Q. Is this well at its economic limit?

A. Yes, it is.

Q. If Getty completes the well as indicated will the completion in your opinion contaminate any other zone with the produced waters?

A. No.

Q. What is the source of the water that you propose to inject into this well?

A. Our initial plans call for injecting of produced water from the Abo formation from wells, StateP No. 2, No. 3, and No. 4.

Q. Would you refer back to Exhibit Number Two and point out where those wells are located?

A. State P 2 and 3 and 4 are all west of our proposed State P Well No. 1 in the north -- in the southwest quarter of Section 32.

Q. Do you anticipate injection of produced water from other wells in the area?

A. Initially our plans are for installing high volume lift in the three producing Abo wells on the State P, and hopefully, this well will handle all additional water produced.

At such time that we feel that we have excess capacity for injection, we might make plans at that time to take other waters.

Q. You would advise the Commission if you did that?

A. That is correct.

Q. And this would be only if you had excess injection capacity?

A. That is correct.

Q. What volumes do you anticipate disposing in that well?

A. With the installation of high volume lift equipment, we hope to be able to inject an average of 7000 barrels of water a day.

Q. Now when you talk about installation of high volume lift capacity, you're talking about doing what, what are you talking about?

A. Presently the wells are pumping, sucker rod pump installation. We intend to install submersible pumps and increase total volume withdrawal from the Abo to

gain the added oil production, but with it comes additional water, which presently we have nowhere to put.

Q. And so the additional water produced from these three wells would then be disposed of in this new well?

A. That is correct.

Q. Do you propose to inject under pressure or by gravity?

A. Based on the performance we've seen in the Abo reservoir, we feel that we can inject this volume of water under gravity; however, it may be necessary, some low pressures to inject the water.

Q. Will a pressure limitation of .2 per pound -- or .2 pound per foot of depth to the top of the injection interval be sufficient for any contemplated activity?

A. Yes, it should.

Q. Will you now refer to what has been marked as Getty Exhibit Number Four and identify this?

A. Exhibit Four represents a water analysis report taken from produced water in the Abo formation in the State P Well No. 4.

Q. Is this the only water analysis you have?

A. Yes.

Q. Would you anticipate characteristics of

the water reflected on this analysis, that the characteristics would be similar in all three of the wells that you intend to produce and subsequently inject in the disposal well?

A. Due to the proximity of the well, it should be.

Q. All right. How would you characterize the water at the location of the proposed injection well?

A. It should be similar to this produced water.

Q. And why is that?

A. Being in the same reservoir and the nearness of the well.

Q. So what you're doing is taking water out of the Abo at one location --

A. Right.

Q. -- in the southwest of the section and injecting it into the same formation in the southeast of that section.

A. That's right.

Q. Are there any wells within a half mile of the injection well which penetrate the injection zone?

A. Yes, there are three wells which do penetrate the Abo formation.

Q. Will you refer to Exhibit Number Five

and using this exhibit review each of those three wells?

A. The three wells within a half mile radius of our State P No. 1 are the H. L. Batten (sic) No. 1, the State U No. 1, and the Doyle Myers No. 1.

The H. L. Batten No. 1, the State U No. 1, that we have some concern over whether or not there's adequate cement behind the pipe across the Abo formation.

Q. Have you reviewed this with the Oil Conservation Commission staff?

A. Yes.

Q. And what recommendations have -- have they made?

A. It is their recommendation that we re-enter these wells and determine what extent of cement we have behind the pipe and if additional cement is necessary to cover the Abo that we then apply cement there.

MR. STAMETS: How would you propose to do that, with a cement bond log or --

A. We would run a cement bond log, or something very comparable to that, that we could identify cement. If it not being present we would then squeeze cement.

Q. Will Getty work with the Hobbs office of the Oil Commission to promptly comply with this Commission requirement?

A. Yes.

Q. Now, Mr. Lofton, are there other producing Abo wells within two miles of the proposed injection well?

A. Yes, there are quite a few Abo producing wells west of the proposed injector.

Q. Will the proposed injection adversely affect any of the other Abo wells in this area, the Abo producing wells in this area?

A. No.

Q. And would you now refer to Exhibit Number Six and using this exhibit explain why injection at the proposed location would not adversely affect any of these wells.

A. Our Exhibit Six, the State P Well No. 1 is indicated.

Q. And that's the red dot on the --

A. It's the red dot --

Q. -- on the extreme right.

A. -- on the exhibit. What the exhibit shows is the top of the Abo structure. Where we propose to inject water within the Abo formation is approximately 500 feet below this original oil/water contact and due to areal offsetting of the well plus the vertical displacement of where we're going to put the water, we feel it would have no bearing on Abo production.

Q. Now what was the original oil/water contact?

A. It's at 4650.

Q. And how many feet below that contact, original contact, are you proposing to inject?

A. Approximately 500 feet.

Q. Are you aware of similar applications in this area which have been approved for disposal of Abo water back into the Abo formation?

A. Yes, we are aware of five wells which are injecting water, Abo produced water, back into the Abo formation.

Four of these are on the western side of the structure. The Amoco State E-18, Well No. 21 in proration Unit B, is injecting water into the Abo. The Amoco State E-18 Well No. 22, proration unit G, is injecting water into the Abo. Both of these are above the original oil/water contact.

And also the Rojo State B-4286A No. 2 in proration unit F is injecting water into the Abo.

Also Rice Abo SWBC No. 2 in proration unit C is injecting water into the Abo.

Also in Section 31 Rice is injecting water into the Abo in the Abo SWBF No. 31 in proration unit

A. If we were to go ahead and increase total volume lift, we would have to truck, probably have to truck water out to other places that would take the water at much higher expense, and that might affect economics.

Q. Are you therefor requesting that any order that results from this hearing be expedited to the fullest extent possible?

A. Yes.

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

A. Yes, it will.

Q. Were Exhibits One through Six prepared by you or under your direction and supervision?

A. Yes, they were.

MR. CARR: At this time, Mr. Stamets, we would offer Getty Exhibits One through Six into evidence.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: I have no further questions on direct.

MR. STAMETS: Although they were not discussed here today, I did review the application, and all of the items Eleven, Twelve, and Thirteen on Form C-108,

being the chemical analysis of fresh water wells in this area, the permit statement about open faults, and the copies of the proof of notice appear to have been filed with the original application and are part of this record.

CROSS EXAMINATION

BY MR. STAMETS:

Q. On Exhibit Number Four, Mr. Lofton, down at the bottom under remarks and recommendations it says, Corrosion rate high, well needs "evulation." Is there such a thing as an "evulation"?

A. No.

Q. Or is that misspelled?

A. Sounds like some of my spelling, but I believe that should be evaluation. It must be an engineer.

Q. Okay. And on Exhibit Five, the H. L. Batten Well No. 1, the plugged and abandoned well, down at the bottom a 5-1/2 inch liner is noted, set at 11,123, 350 sacks, the top of the cement at 9660 is shown.

How was that top determined?

A. I was probably through calculation on the borehole drilled with the pipe and just calculate the limits, the number of sacks that were put around the well at the time of drilling.

A. And then I also note a little bit further up in the detail there, we do have a squeeze job at 6500 feet, which then brought cement up to a top of 5327, is that correct?

A. Yes, sir, that was indicated as indicated here by temperature survey.

Q. So it is possible we have some sort of a holiday behind the liner in this well from 6500 feet down to 9660.

A. Yes, sir, it's not definite that we don't have it across there though, but we don't know for sure. We know that we have it up to that point but we don't--they didn't confirm how deep the cement went in at that time, so we're stuck with that.

Q. Okay.

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

Anything further in this case?

MR. CARR: Nothing further.

MR. STAMETS: The case will be taken under advisement.

(Hearing concluded.)

A. And then I also note a little bit further up in the detail there, we do have a squeeze job at 6500 feet, which then brought cement up to a top of 5327, is that correct?

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Q. So it is possible we have some sort of a holiday behind the liner in this well from 6500 feet down to 9660.

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Q. Okay.

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

Anything further in this case?

MR. CARR: Nothing further.

MR. STAMETS: The case will be taken under advisement.

(Hearing concluded.)

CERTIFICATE

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

Sally W. Boyd CSR

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

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7506, heard by me on 3-16 1982.

Richard L. Stamets, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

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

May 4, 1982

Mr. William F. Carr
Campbell, Byrd & Black
Attorneys at Law
Post Office Box 2208
Santa Fe, New Mexico

Re: CASE NO. 7506
ORDER NO. R-6965

Applicant:

Getty Oil Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 7506
Order No. R-6965

APPLICATION OF GETTY OIL COMPANY 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 March 16, 1982, at Santa Fe, New Mexico, before Examiner Richard L Stamets.

NOW, on this 3rd day of May, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Getty Oil Company, is the owner and operator of the State "P" Well No. 1, located in Unit P of Section 32, Township 16 South, Range 37 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the perforated interval from approximately 8900 feet to 9300 feet.

(4) That the Getty Oil Company H. L. Batton Well No. 1 in Unit B of Section 5 and the Getty Oil Company State "U" Well No. 1 in Unit D of Section 4, both in Township 17 South, Range 37 East, NMPM, Lea County, New Mexico, are located within one-half mile of said State "P" Well No. 1 and penetrate the Abo formation.

(5) That said H. L. Batton Well No. 1 and State "U" Well No. 1 may not be adequately cemented through the Abo formation and could allow the migration of disposed water from the

disposal interval to shallower formations or to fresh water aquifers if injection is permitted in said State "P" Well No. 1.

(6) That no disposal of salt water should be permitted into said State "P" Well No. 1 until both the H. L. Batton Well No. 1 and State "U" Well No. 1 have either been cemented or shown to have adequate cement across and above the Abo formation in accordance with a program to be approved by the supervisor of the Division's district office at Hobbs.

(7) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8820 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.

(8) That the injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1780 psi.

(9) 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 the fracturing of the confining strata.

(10) 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.

(11) 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.

(12) 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, Getty Oil Company, is hereby authorized to utilize its State "P" Well No. 1, located in Unit P of Section 32, Township 16 South, Range 37 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set

at approximately 8820 feet, with injection into the perforated interval from approximately 8900 feet to 9300 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.

PROVIDED FURTHER, that no injection of salt water shall take place in said State "P" Well No. 1 until the Getty Oil Company H. L. Batton Well No. 1 in Unit B of Section 5 and the Getty Oil Company State "U" Well No. 1 in Unit D of Section 4, both in Township 17 South, Range 37 East, NMPM, Lea County, New Mexico, have either been cemented or shown to have adequate cement across and above the Abo formation in a manner prescribed by the supervisor of the Division's district office at Hobbs.

(2) That the injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1780 psi.

(3) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in the fracturing of the confining strata.

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

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

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Getty Oil Company

Address: P.O. Drawer DD, Levelland, Texas 79336-2071

Contact party: C. L. Wade Phone: 806-894-3118

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

XIV. Certification

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

Name: C. L. Wade Title Area Superintendent

Signature: C. L. Wade Date: 1-6-82

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

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

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

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

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

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
GETTY EXHIBIT NO. 1
CASE NO. 7506
Submitted by LOFTON
Hearing Date 3 16 82

PROPOSED SALT WATER DISPOSAL WELL

STATE "P" NO. 1

VII (1) Proposed average and maximum daily rates:

Average 7,000 BBls/day

Maximum 10,000 BBls/day

(2) This will be a closed system

(3) Proposed average and maximum injection pressure:

Average 500 psi

Maximum 1000 psi

(4) The disposal water will be the produced water from the upper Abo oil production zone.

(5) See attached water analysis

VIII GEOLOGICAL DATA

Lithologic detail: Limestone Reef

Geological name: Lower Abo

Thickness: 400 ft.

Depth: 8900'-9300'

Drinking water formations: Ogallala

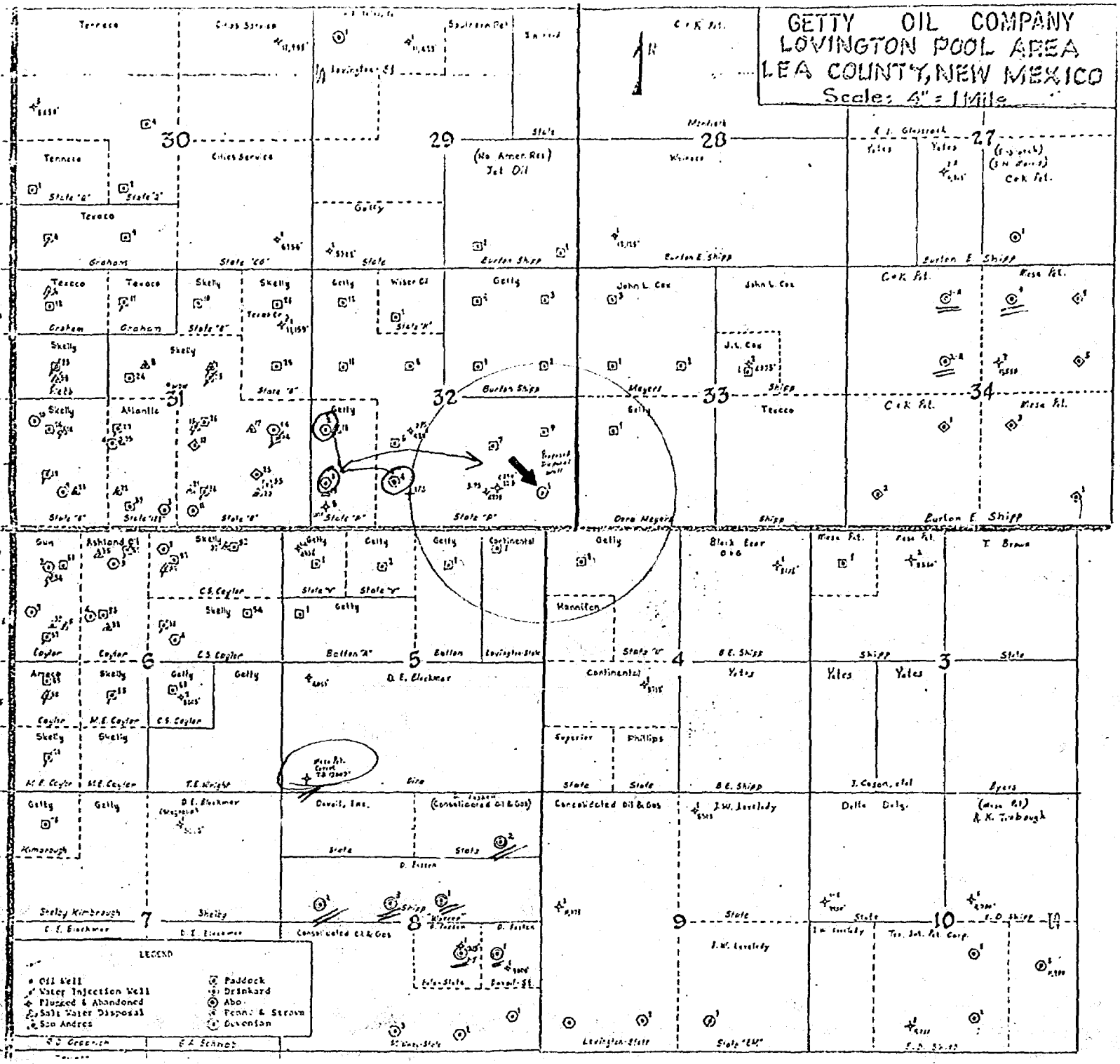
Depth approx. 200 ft.

IX The proposed stimulation program will consist of the following:

Treat perfs 8900'-9300' with
5000 gals of 15% NEFE acid &
ball sealers.

X See attached log

XI There are no fresh water wells producing within one mile of the proposed disposal well. Attached is a water analysis from a producing fresh water well approximately 2 1/2 miles west.



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION

Getty EXHIBIT NO. 2

CASE NO. 7506

Submitted by LOSTON

Hearing Date 3 | 16 | 82

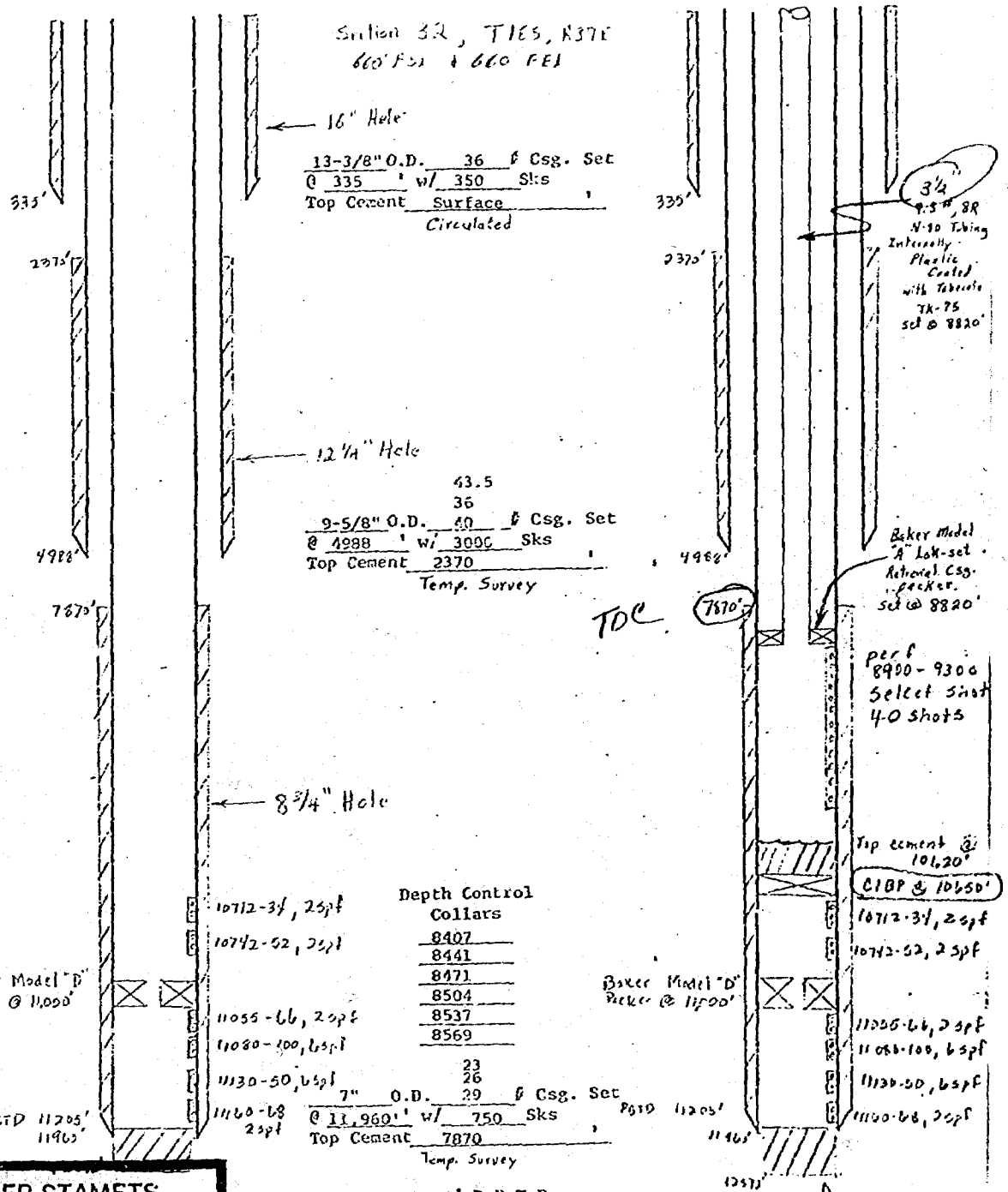
III A

State "P" NCT-1 No. 1

BEFORE

Elevation: DF 3799'
GL 3788'
Zero Point 3799'

Section 32, T16S, R37E
660' FSL & 660' FEL



AFTER

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
GETTY EXHIBIT NO. 3
CASE NO. 7506
Submitted by LOSTON
Hearing Date 3/16/82

Baroid

I. Baroid/NL Industries, Inc.
O Box 1675, Houston, Texas 77001

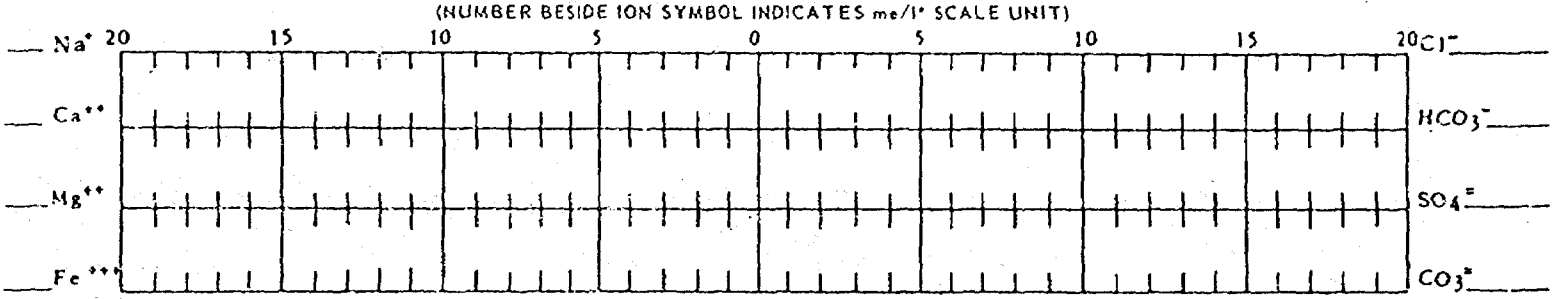
WATER ANALYSIS REPORT

BAROID TREATING CHEMICALS

			SHEET NUMBER
COMPANY: Getty Oil Co.			DATE: 12-7-81
FIELD		COUNTY OR PARISH: Lea Co.	STATE: N.M.
LEASE OR UNIT: STATE Lovington ABO	WELL(S) NAME OR NO.: #4	WATER SOURCE (FORMATION)	
DEPTH, FT.	BHT, F	SAMPLE SOURCE	TEMP, F
WATER, BBL/DAY	OIL, BBL/DAY	GAS, MMCF/DAY	
DATE SAMPLED: 12-7-81	TYPE OF WATER: ☒ PRODUCED ☐ SUPPLY ☐ WATERFLOOD ☐ SALT WATER DISPOSAL		

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l* SCALE UNIT)



DISSOLVED SOLIDS

CATIONS

	me/l*	mg/l*
Total Hardness	106	
Calcium, Ca^{++}	82	1,640
Magnesium, Mg^{++}	24	293
Iron (Total) Fe^{+++}		
Barium, Ba^{++}		0
Sodium, Na^{+} (calc.)	458.0	10,530.

ANIONS

	me/l*	mg/l*
Chloride, Cl^{-}	478.9	17,000
Sulfate, $SO_4^{=}$	54.0	2,590
Carbonate, $CO_3^{=}$	0	0
Bicarbonate, HCO_3^{-}	24.2	1,480
Hydroxyl, OH^{-}	0	0
Sulfide, $S^{=}$	6.9	111

DISSOLVED GASES

Hydrogen Sulfide, H_2S	mg/l*
Carbon Dioxide, CO_2	mg/l*
Oxygen, O_2	mg/l*

PHYSICAL PROPERTIES

pH	8.0
Eh (Redox Potential)	MV
Specific Gravity	
Turbidity, JTU Units	
Total Dissolved Solids (calc.)	33,644 mg/l*
Stability Index @ 68 F	+1.59
@122 F	+2.26
$CaSO_4$ Solubility @ 68 F	49 mg/l* me/l
@104 F	50 mg/l* me/l
Max. $CaSO_4$ Possible (calc.)	54 mg/l* me/l
Max. $BaSO_4$ Possible (calc.)	mg/l*
Residual Hydrocarbons	ppm(Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

*NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

REMARKS AND RECOMMENDATIONS:

Corrosion rate high. Well needs evulation.

C ENGINEER: Washington	DIST. NO.: 821	ADDRESS: Denver City, TX	OFFICE PHONE: 393-3938	HOME PHONE: 592-8212
ALYZED: C. Medlock	DATE: 12/10/81	DISTRIBUTION: ☐ CUSTOMER ☐ AREA OR ☐ DISTRICT OFFICE ☐ BTC ENGINEER OR ☐ BTC LAB ☐ BTC SALES SUPERVISOR		

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
Gulf EXHIBIT NO. 4
CASE NO. 7526
Submitted by Gulf
Hearing Date 3/16/82

VI. Wells within the area of review which penetrate the proposed injection zone:

1 mile

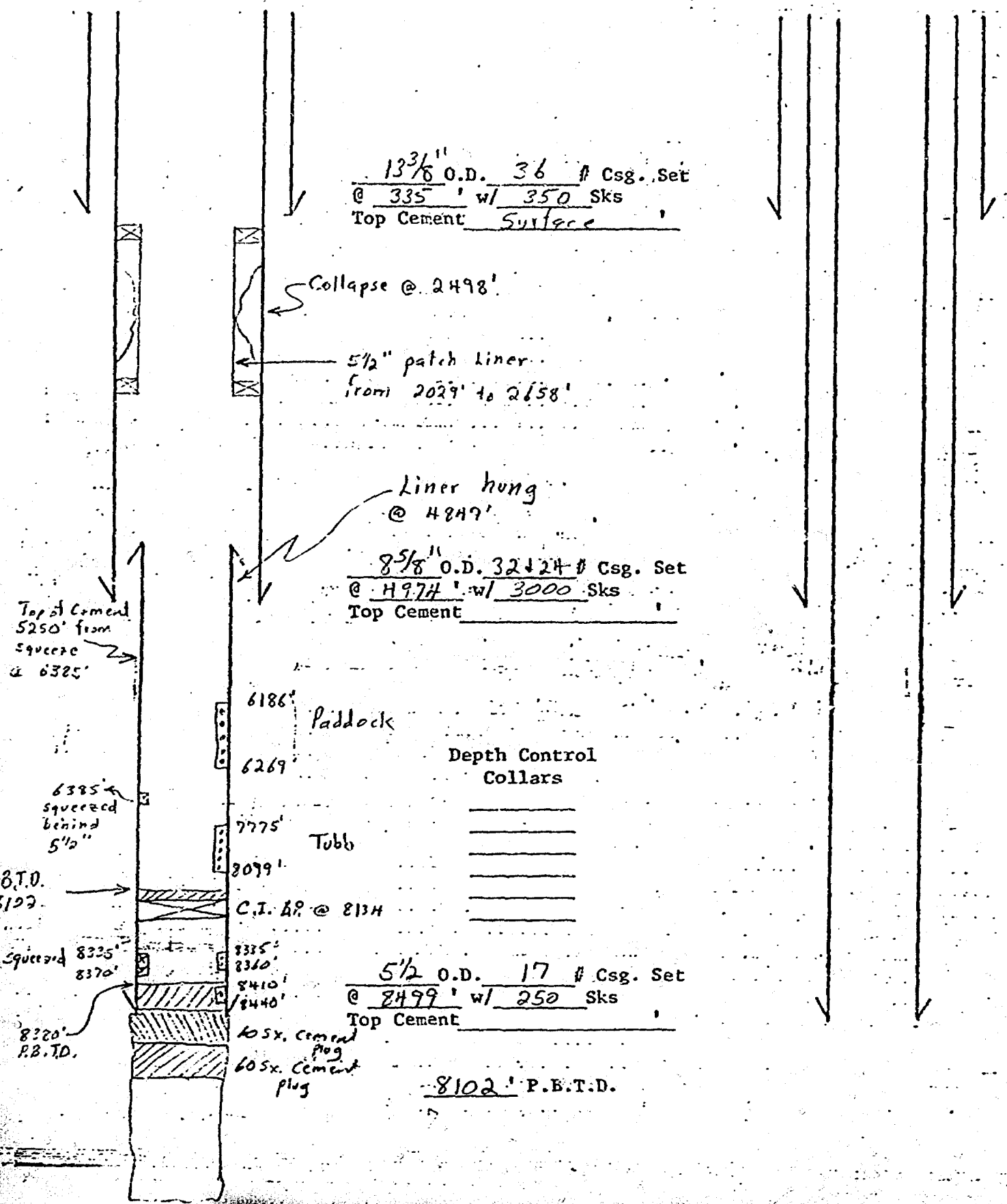
LEASE	WELL NO.	TYPE	LOCATION	DATE DRILLED	DEPTH, T.D.	CONSTRUCTION	RECORD OF COMPLETION
H.L. Batton	1	Oil	Sec. 5, T17S,R37E	11-2-51	11,124'	13 3/8" @ 335' w/ 350 sx 8 5/8" @ 4974' w/ 3000 sx 5 1/2" @ 11,123' w/350 sx Liner hung @ 4342'	Completed 10,98 11,054; Plugged back to 9710', squeezed behind 5 1/2" Csg @ 65 Set plug @ 5470 New P.B.T.D. & perf. 6210' to 6280' (Paddock)
State "U"	1	Oil	Sec. 4, T17S,R37E	4-17-51	11,628'	13 3/8" 335' w/ 350 sx 8 5/8" @ 4951' w/3000 sx 5 1/2" @ 11,050 w/200 sx Liner hung @ 4815'	Completed 11,05 11,120 open hol Tbg. shot off @ 10,853 & well plugged back to 9402 w/ CIBP, squeezed behind 5 1/2" @ 6650'. Perf. @ 6310-6350'. (Paddock)
Dora Meyers	1	Oil	Sec.33,T16S,R37E	9-13-51	11,254	13 3/8" 335' w/ 350 sx 8 5/8" 4974' w/3000 sx 5 1/2" 8499' w/250 sx Liner hung @ 4947'	P.B.T.D. @ 8480' w/ 120 sx. Perf. 8410-8440 & 8335 8370, squeezed & re-perf. 8335-8360'. Plugged back to 8102' w/ CIBP. Perfed @ 7775-8099' & 6186'-6269' & produced co-mingled down-ho

Dora Meyers No. 1

BEFORE

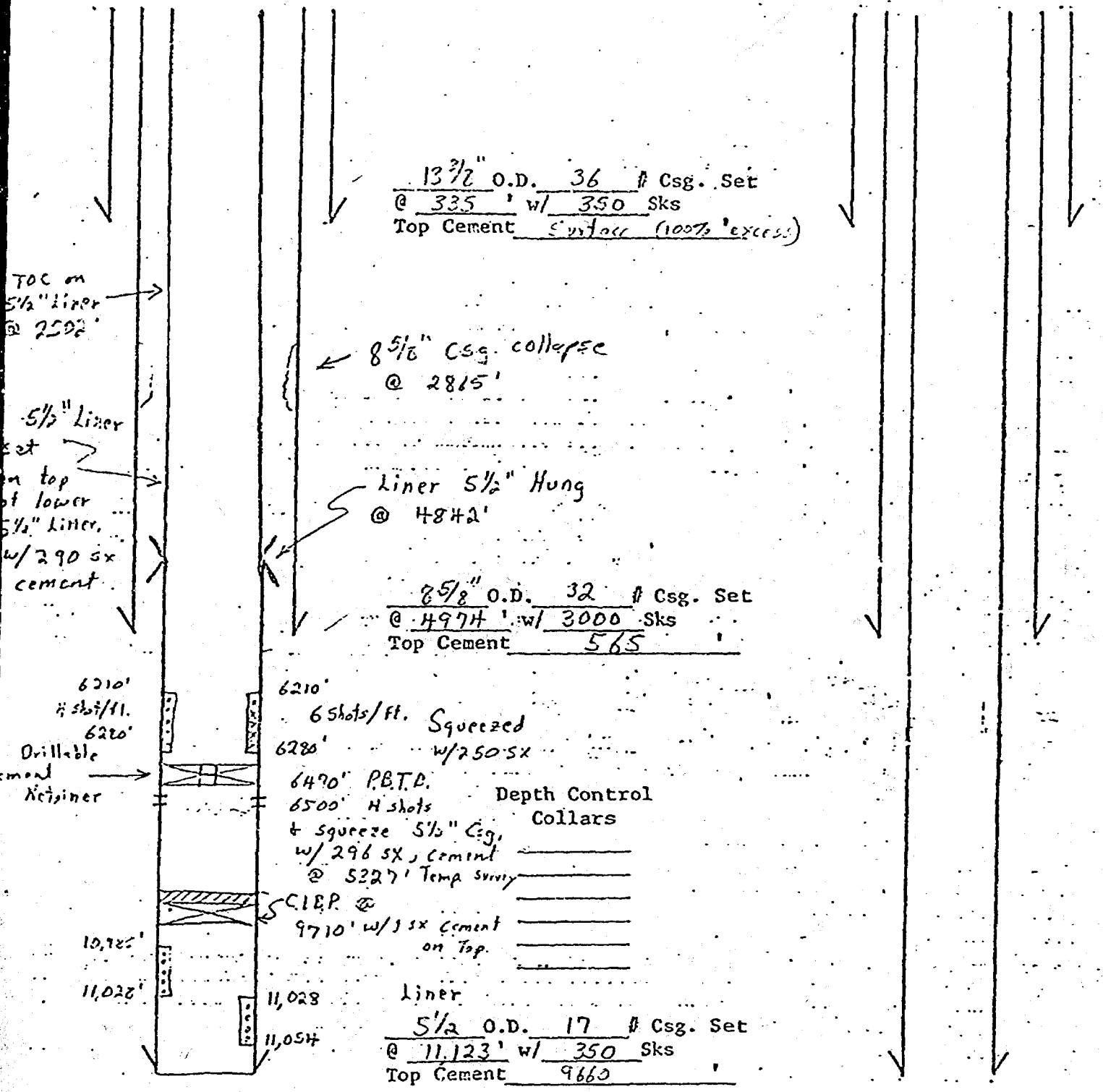
Elevation: DF 3798
GL _____
Zero Point _____

AFTER



H. L. Batton Well No. 1

Elevation: DF 3805'
GL _____
Zero Point _____



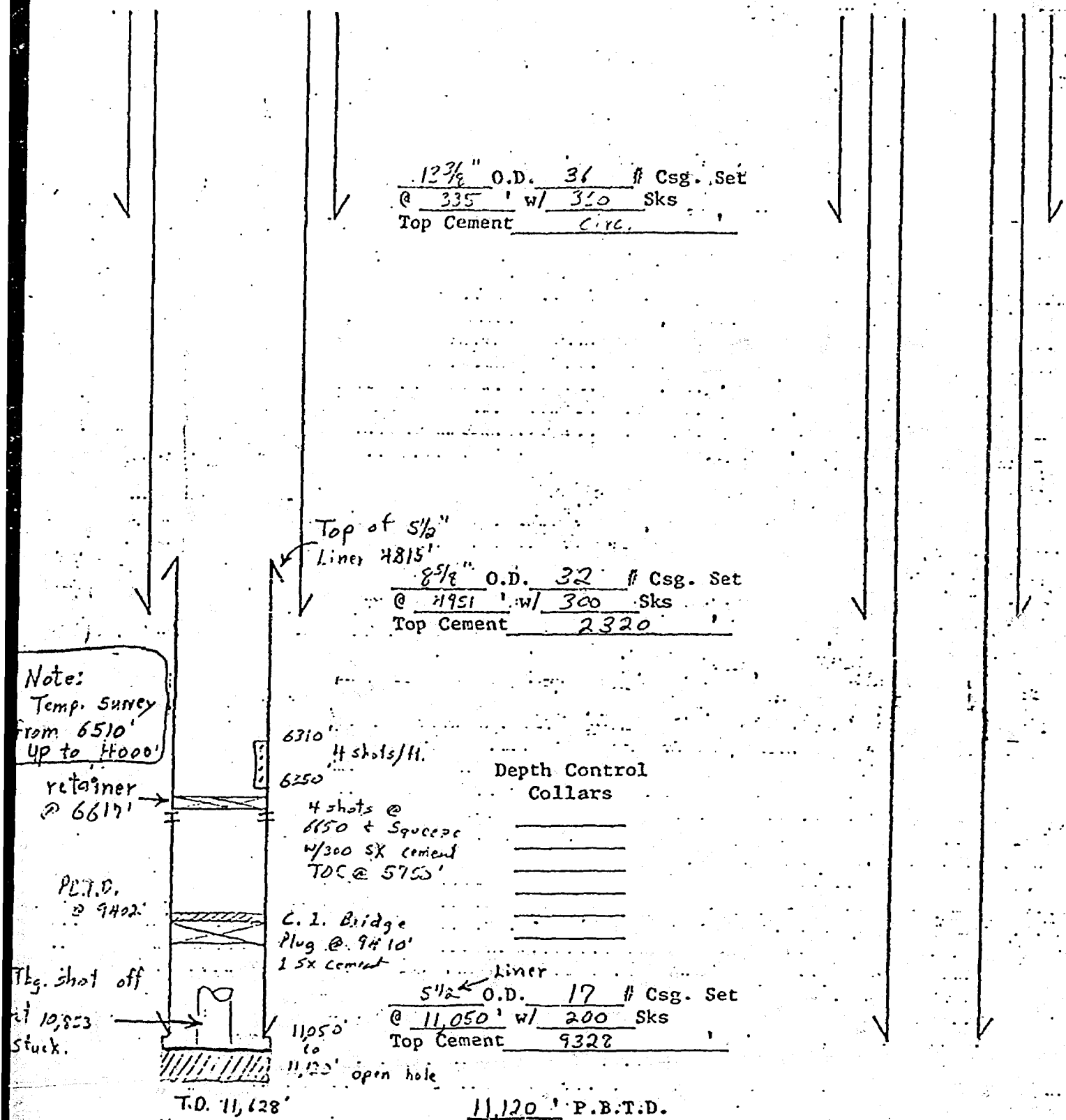
6470' P.B.T.D.

State "U" Well No. 1.

BEFORE

Elevation: DF 3801+'
GL _____
Zero Point _____

AFTER



BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
GETTY EXHIBIT NO. 6
CASE NO. 7506
Submitted by LOFTON
Hearing Date 3/16/82

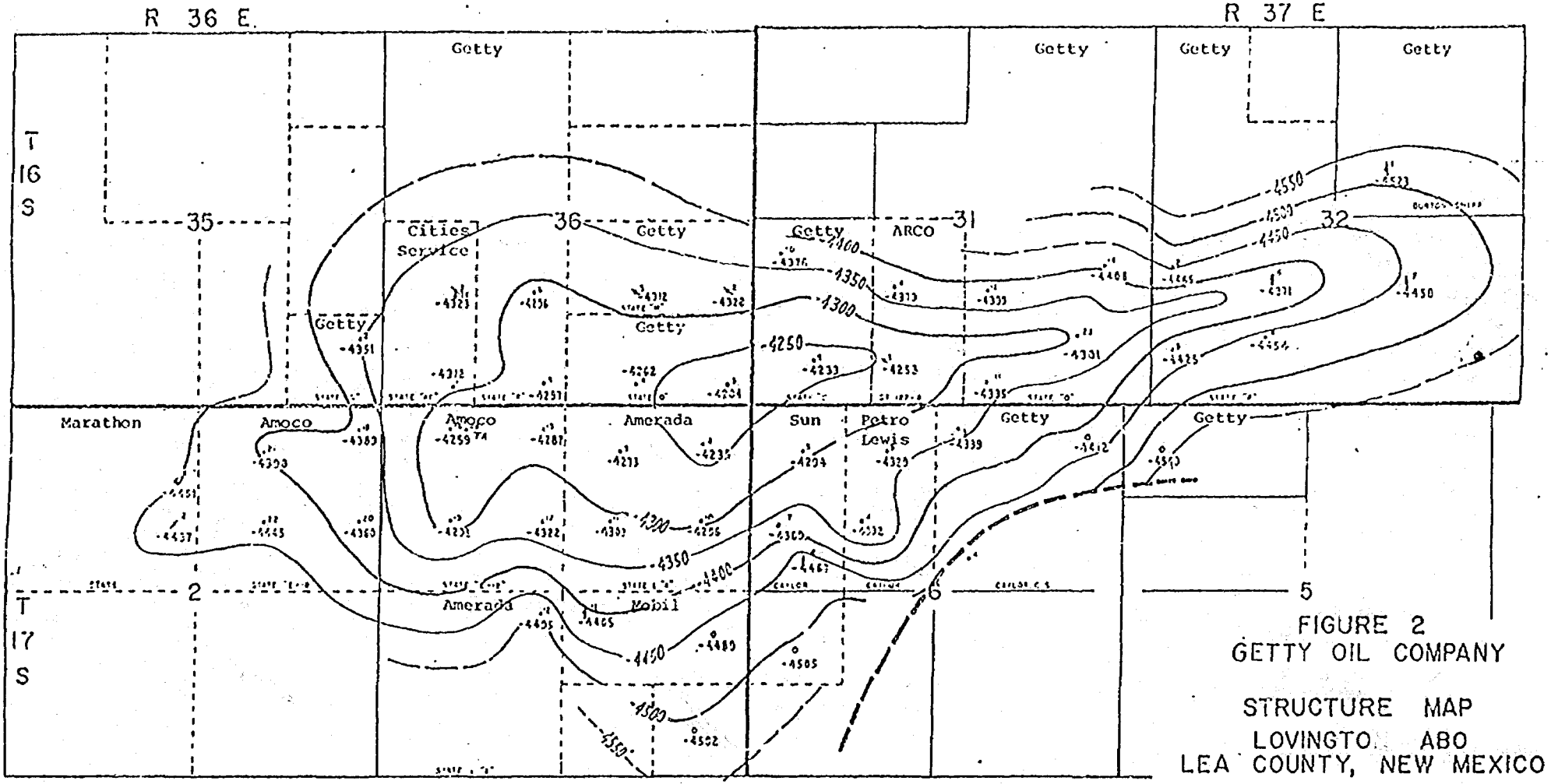


FIGURE 2
GETTY OIL COMPANY

STRUCTURE MAP
LOVINGTON ABO
LEA COUNTY, NEW MEXICO

Subsea Top of Abo Porosity
C.I.: 50'

0 1 2 3 4 5
Scale in Thousands of Feet

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION

GETTY EXHIBIT NO. 5

CASE NO. 7506

Submitted by LOFTON

Hearing Date 3/16/82

Getty

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas
79336

Case 7506

Mike Stogner
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mike,

Enclosed are the copies of the revised well sketches on the H. L. Batton No. 1 and the State "U" No. 1. Also included is a list of all other wells in the 1/2 mile radius, showing date drilled, T. D. and casing settings.

A complete copy of the SWD application has been sent to the State Land Office per your request.

RECEIVED
FEB 24 1982
OIL CONSERVATION DIVISION
SANTA FE

Sincerely,

for Forrest L. Dietrich
Area Engineer

FLD/DMD/kc

Attachments

cc: Oil Conservation Division - Hobbs
Jim Eakin - Midland
File

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas 79336

February 19, 1982

State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87501

Enclosed is your copy of an application of Getty Oil Company to obtain approval to convert State "P" Well No. 1 to a Salt Water Disposal Well to be used for disposing of produced salt water from the Lovington Abo field.

Any questions concerning this matter should be directed to this office.

RECEIVED
FEB 24 1982
OIL CONSERVATION DIVISION
SANTA FE

Sincerely,

for C. L. Wade
Area Superintendent

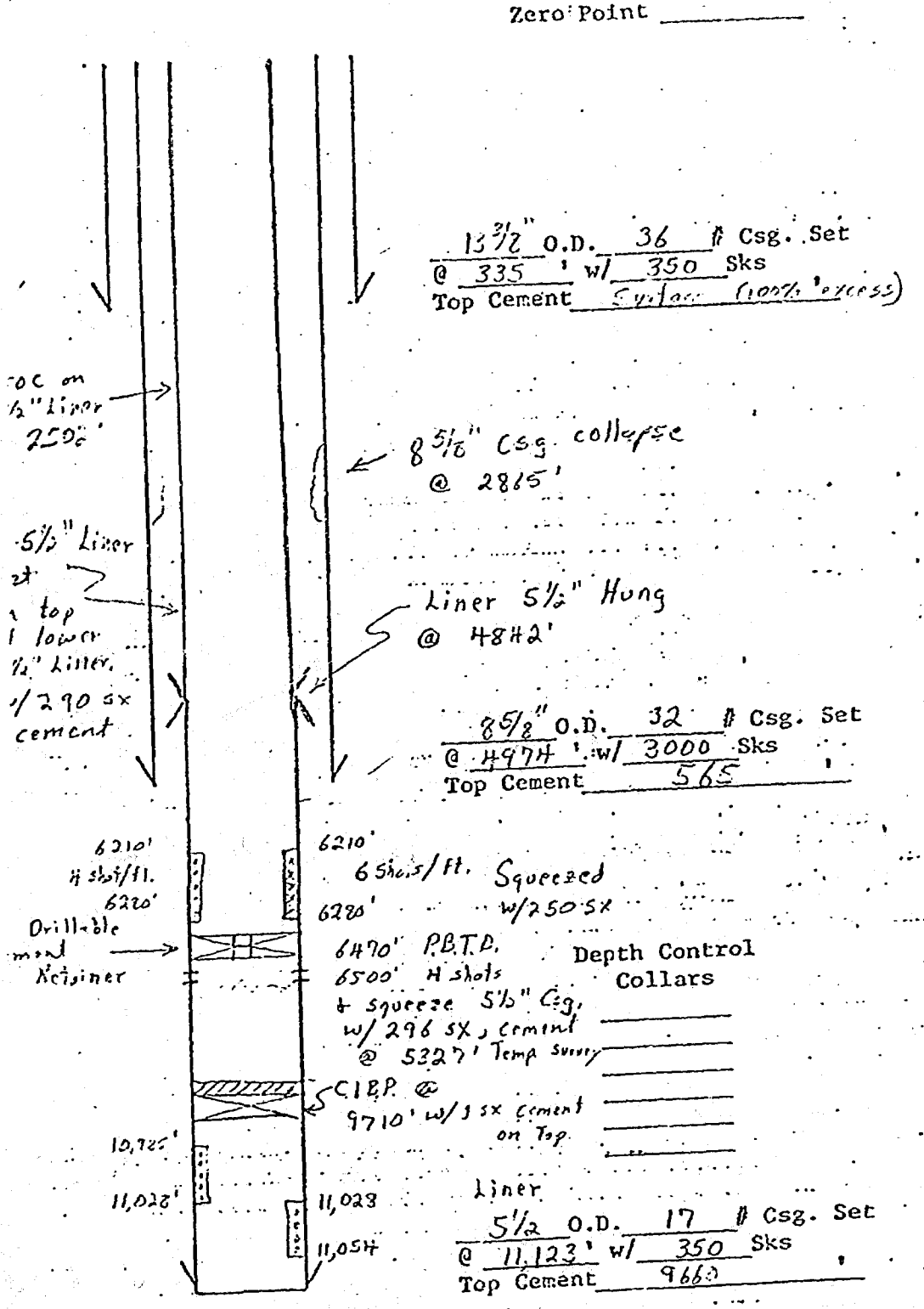
CLW/DMD/kc

Attachments

cc: Oil Conservation Division - Santa Fe
Oil Conservation Division - Hobbs
Jim Eakin - Midland
File

H. L. Patton Well No. 1

Elevation: DF 3905'
GL _____
Zero Point _____



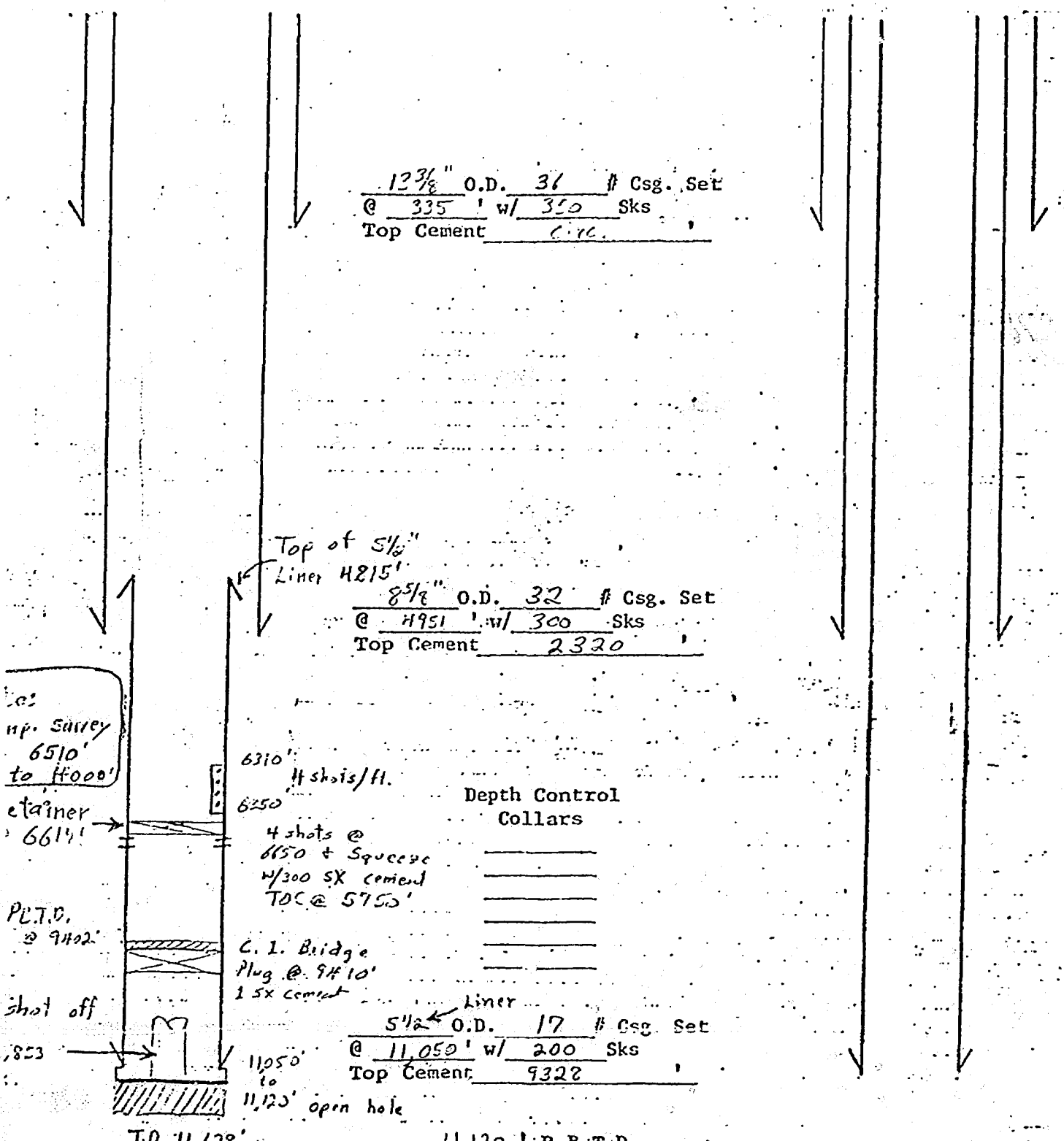
6470' P.B.T.D.

State "U" Well No. 1.

BEFORE

Elevation: DF 3801'
GL
Zero Point

AFTER



OPERATOR	LEASE	WELL NO.		DATE DRILLED	T. D.	CASING SET
Getty	Ship	#2		1-27-65	6400'	5 1/2" 15.5# @ 6399'
Getty	State "P"	#7		7-28-55	8406'	5 1/2" 17# @ 8405'
Getty	State "P"	#9		1-11-65	6370'	5 1/2" 14# @ 6369'
Getty	State "P"	#10	P&A	4-30-65	6400'	5 1/2" 15.5# @ 6399'
Getty	State "PS"	#1	P&A	10-12-67	5200'	5 1/2" 15.5# @ 5200'
Getty	State "PS"	#3	P&A	12- 5-67	4811'	5 1/2" 15.5# @ 4809'
Concco	Lovington St.	#1		2-19-55	6302'	5 1/2" 15.5# @ 6300'

Dockets Nos. 9-82 and 10-82 are tentatively set for March 31, and April 14, 1982. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - TUESDAY - MARCH 16, 1982

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 April, 1982, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

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

CASE 7502: Application of Sun Oil Company for an unorthodox gas well location and non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 760 feet from the South line and 960 feet from the East line of Section 6, Township 24 South, Range 37 East, Jalmat Gas Pool, and a 160-acre non-standard proration unit comprising the SE/4 of said Section 6.

CASE 7503: Application of Sun Oil Company for an unorthodox gas well location and non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 1980 feet from the North line and 1400 feet from the East line of Section 22, Township 22 South, Range 36 East, Jalmat Gas Pool, and a 120-acre non-standard proration unit comprising the W/2 NE/4 and SE/4 NE/4 of said Section 22.

CASE 7504: Application of Cities Service Company for the extension of vertical limits of the Langlie Mattix Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the vertical limits of the Jalmat Pool and the upward extension of the vertical limits of the Langlie Mattix Pool to a subsurface depth of 3416 feet underlying the NW/4 of Section 19, Township 24 South, Range 37 East.

CASE 7505: Application of RCO, Inc. for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Lybrook-Gallup and Basin-Dakota production in the wellbores of wells drilled and to be drilled in Section 2, 3, 4, 9 and 10, Township 23 North, Range 7 West.

CASE 7506: Application of Getty Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of salt water into the Abo formation in the perforated interval from 8900 feet to 9300 feet in its State "P" Well No. 1, located in Unit P, Section 32, Township 16 South, Range 37 East, Lovington-Abo Pool.

CASE 7507: Application of Sonny's Oilfield Service, Inc. for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the NW/4 NE/4 of Section 29, Township 18 South, Range 38 East.

CASE 7508: Application of P & O Oilfield Services, Inc. for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the SW/4 NE/4 of Section 10, Township 25 South, Range 36 East.

CASE 7459: (Continued from February 17, 1982, Examiner Hearing)

Application of Red Mountain Associates for the Amendment of Order No. R-6538, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6538, which authorized applicant to conduct waterflood operations in the Chaco Wash-Mesa Verde Oil Pool. Applicant seeks approval for the injection of water through various other wells than those originally approved, seeks deletion of the requirement for packers in injection wells, and seeks an increase in the previously authorized 68-pound limitation on injection pressure.

CASE 7457: (Continued from February 17, 1982, Examiner Hearing)
(This Case will be continued to April 28, 1982)

Application of E. T. Ross for nine non-standard gas proration units, Harding County, New Mexico. Applicant, in the above-styled cause, seeks approval for nine 40-acre non-standard gas proration units in the Bravo Dome Carbon Dioxide Area. In Township 19 North, Range 30 East: Section 12, the NW/4 NW/4 and NE/4 NW/4; Section 14, the NW/4 NE/4, SW/4 NE/4, and SE/4 NE/4. In Township 20 North, Range 30 East: Section 11, the NE/4 SW/4, SW/4 SE/4, SE/4 SW/4, and NW/4 SE/4.

CASE 7509: Application of Supron Energy Corporation for a non-standard proration unit or compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard proration unit for the Dakota and Mesaverde formations comprising the SW/4 of Section 2, Township 21 North, Range 8 West, or in the alternative, an order pooling all mineral interests from the surface down through the Dakota formation underlying the S/2 of said Section 2, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7510: Application of Union Oil Company of California for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp and Penn formations underlying the N/2 of Section 10, Township 22 South, Range 32 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7511: (This Case will be continued to March 31, 1982)
Application of Buffton Oil & Gas Inc. for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Devonian formations underlying the W/2 of Section 35, Township 16 South, Range 35 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7496: (Continued from March 3, 1982, Examiner Hearing)

Application of Viking Petroleum, Inc. for an unorthodox location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of an Abo gas well to be drilled 62 feet from the South line and 1984 feet from the East line of Section 29, Township 5 South, Range 24 East, the SE/4 of said Section to be dedicated to the well.

CASE 7512: Application of Viking Petroleum, Inc. for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well located in Unit H of Section 31, Township 13 South, Range 34 East, Nonombre-Penn Pool, said well being a recompleted Morrow test and located in the SE/4 of the quarter section whereas the pool rules require wells to be located in the NE/4 or SW/4 of the quarter section.

CASE 7476: (Continued from March 3, 1982, Examiner Hearing)

Application of Jack J. Grynberg for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through and including the Abo formation, underlying two 160-acre gas spacing units, being the NE/4 and SE/4, respectively, of Section 12, Township 5 South, Range 24 East, each 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 wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells and a charge for risk involved in drilling said wells.

CASE 7513: Application of Mesa Petroleum Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Abo formation underlying the SE/4 of Section 12, Township 5 South, Range 24 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7514: Application of Santa Fe Exploration Co. for compulsory pooling, or in the alternative a non-standard proration unit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Permo-Penn, Strawn, Atoka and Morrow formations underlying the W/2 of Section 2, Township 20 South, Range 25 East to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a 200 percent charge for risk involved in drilling said well. In the event said 200 percent risk factor is not approved, applicant seeks a non-standard unit excluding the lands of owners not participating in the well.

CASE 7515: Application of Four Corners Gas Producers Association for designation of a tight formation, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Dakota formation underlying all or portions of Townships 26 and 27 North, Ranges 12, and 13 West, Township 29 North, Ranges 13 through 15 West, and Township 30 North, Ranges 14 and 15 West, containing 164,120 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271. 701-705.

CASE 7445: (Continued from February 17, 1982, Examiner Hearing)
(This Case will be continued to April 28, 1982)

Application of Harvey E. Yates Company for an NGPA determination, Eddy County, New Mexico. Applicant, in theabove-styled cause, seeks a new onshore reservoir determination in the San Andres formation for its Fulton Collier Well No. 1 in Unit G of Section 1, Township 18 South, Range 28 East.

CASE 7492: (Continued and Readvertised)

Application of Harvey E. Yates Company for a tight formation, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Atoka-Morrow formation underlying all or portions of Townships 7, 8, and 9 South, Ranges 28, 29, 30 and 31 East, containing 161,280 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271. 701-705.

CASE 7500: (Continued from March 3, 1982, Examiner Hearing)

Application of Read & Stevens, Inc. for an exception to the maximum allowable base price provisions of the New Mexico Natural Gas Pricing Act, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order of the Division prescribing the price allowed for production enhancement gas under Section 107 of the Natural Gas Policy Act as the maximum allowable base price if production enhancement work which qualifies under the NGPA is performed on its Hackberry Hills Unit Well No. 4 located in Section 22, Township 22 South, Range 26 East, Eddy County, New Mexico.

Getty

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas 79336

January 6, 1982

Case 7506

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

Dear Sirs,

Please find enclosed Form C-108 with attachments required to obtain administrative approval for a Salt Water Disposal Well on State "P" Well No. 1, located in Section 32 T-16-S, R-37-E, Lea County, New Mexico.

Any questions concerning this matter should be directed to this office.

Sincerely,

C. L. Wade

C. L. Wade
Area Superintendent

CLW/kc

Attachments

cc: Hobbs District Commission Office
Surface Owner
Offset Operators
Jim Eakin - Midland
File

RECEIVED
JAN 08 1982
OIL CONSERVATION DIVISION
SANTA FE

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas 79336

January 6, 1982

B. E. Shipp Estate
1018 W. Ave. I
Lovington, New Mexico 88260

Enclosed is your copy of an application by Getty Oil Company to obtain approval to convert State "P" Well No. 1 to a Salt Water Disposal Well to be used for disposing of produced salt water from the Lovington Abo field.

Any questions concerning this matter should be directed to this office.

Sincerely,

C. L. Wade

C. L. Wade
Area Superintendent

CLW/kc

Attachments

cc: Oil Conservation Division - Santa Fe
Oil Conservation Division - Hobbs
Jim Eakin - Midland
File

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas 79336

January 6, 1982

J. L. Cox
Box 2217
Midland, Texas 79702

Enclosed is your copy of an application by Getty Oil Company to obtain approval to convert State "P" Well No. 1 to a Salt Water Disposal Well to be used for disposing of produced salt water from the Lovington Abo field.

Any questions concerning this matter should be directed to this office.

Sincerely,

C. L. Wade
Area Superintendent

CLW/kc

Attachments

cc: Oil Conservation Division - Santa Fe
Oil Conservation Division - Hobbs
Jim Eakin - Midland
File

Getty Oil Company

Central Exploration and Production Division

P. O. Drawer DD
Levelland, Texas 79336

January 6, 1982

Continental Oil Company
Box 1959
Midland, Texas 79702

Enclosed is your copy of an application by Getty Oil Company to obtain approval to convert State "P" Well No. 1 to a Salt Water Disposal Well to be used for disposing of produced salt water from the Lovington Abo field.

Any questions concerning this matter should be directed to this office.

Sincerely,

C. L. Wade
Area Superintendent

CLW/kc

Attachments

cc: Oil Conservation Division - Santa Fe
Oil Conservation Division - Hobbs
Jim Eakin - Midland
File

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

JAN 08 1982

FORM C-108
Revised 7-1-81

Case 7506

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: Getty Oil Company

Address: P.O. Drawer DD, Levelland, Texas 79336-2071

Contact party: C. L. Wade Phone: 806-894-3118

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

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

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

XIV. Certification

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

Name: C. L. Wade Title Area Superintendent

Signature: C. L. Wade Date: 1-6-82

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

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

III. WELL DATA

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

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

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

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

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

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

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

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

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

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

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

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

XIV. PROOF OF NOTICE

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

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

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

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

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

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

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

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

III A. State "P" Well No. 1 Elevation DF 3799'
Section 32, TI6S, R37E, 660' FSL & 660 FEL

Surface hole 16" to 335' with 13 3/8" O.D. 36# Casing Set @ 335' with 350 sacks of cement. Top of cement at surface, circulated.

Intermediate hole 12 1/4" to 4988' with 9 5/8" O.D. 36, 40, & 43.5# casing set @ 4988' with 3000 sacks of cement. Top of cement @ 2370' by temp. survey.

Production hole 8 3/4" to 12,572' with 7" O.D. 23, 26,29# casing set @ 11,960' with 750 sacks of cement. Top of cement @ 7870' by temp. survey. P.B.T.D. @ 11,205' perforated 7" csg. from 10712-11168' 342 shots Total.
Old Baker Model "D" packer @ 11,000'.

Proposed Disposal Well:

Set 7" cast iron Bridge Plug @ 10,650' & put 30' of cement on top. Approx. PBTD @ 10,620'. Perforate 7" from 8900'-9300' with 40 shots. Run Baker Model "A" Lok-set Retreivial Packer on 3 1/2" 9.3#, 8R, N-80 Internally plastic coated Tubing. (TK-75 or comparable coating). Set Packer @ 8820'.

III B. Well Data:

(1) Injection formation: Lower Abo, Lovington Field

(2) Injection interval: 8900'-9300', Perforated 40 shots

(3) Original purpose of well: Produce oil from Penn. Formation.

(4) Depths and detail of other zones previously opened & shut off: 11,055'-11,168' & 10,712'-10,752' (presently open)

Proposed to set Cast Iron Bridge Plug @ 10,650' & dump approx. 30' of cement on top.

(5) Depths and names of next higher & next lower oil & gas zones:

8370', Abo

10,712', Pennsylvanian

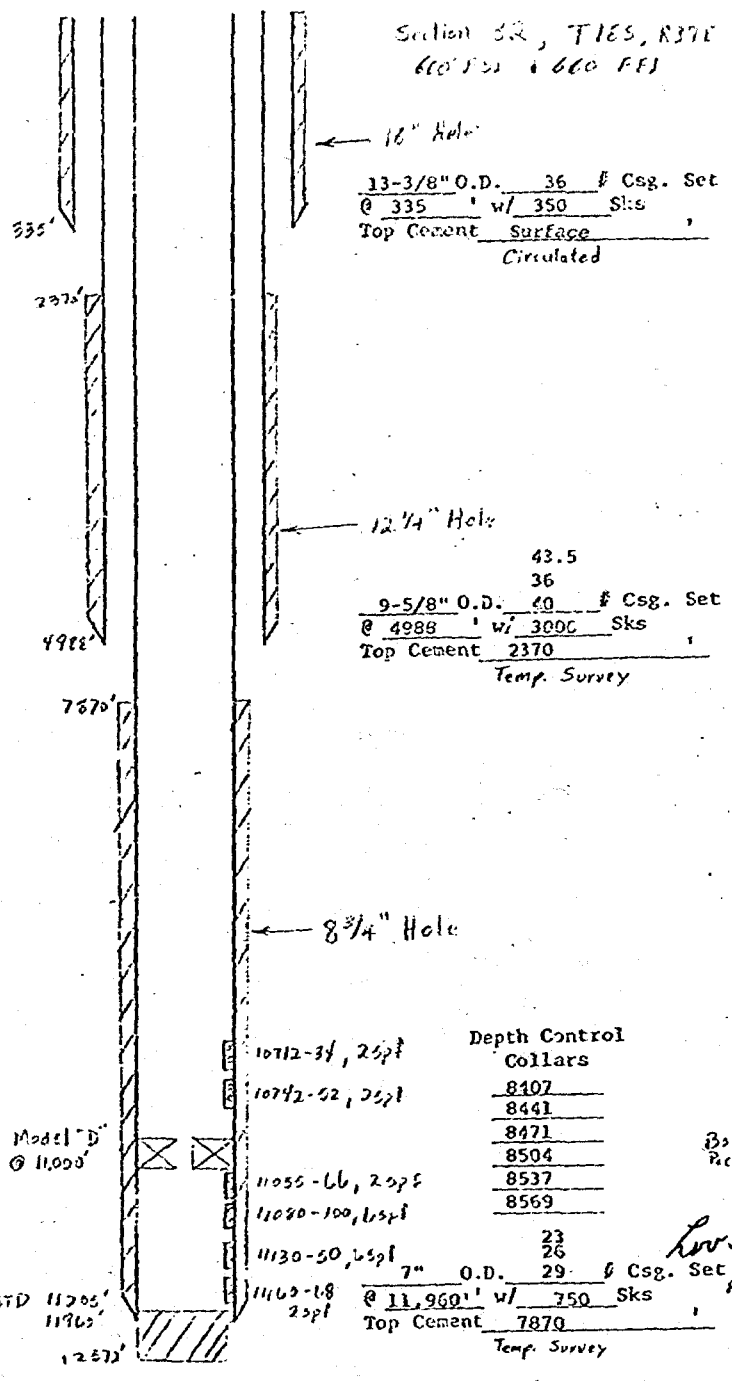
III A

State "P" 10-A No. 1

Elevation: DF 3799'
GL 3788'
Zero Point 3799'

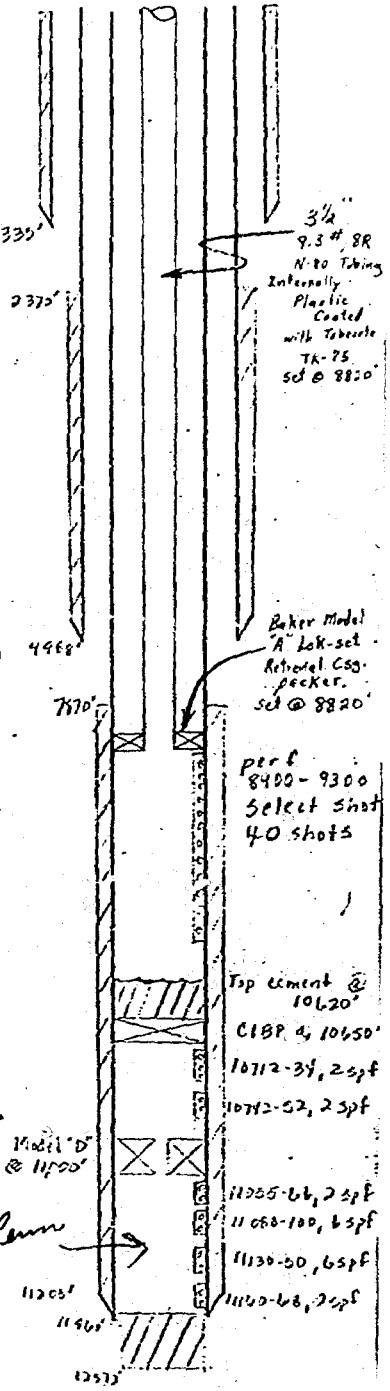
Section 32, T16S, R37E
660' FSL & 660 FEL

BEFORE

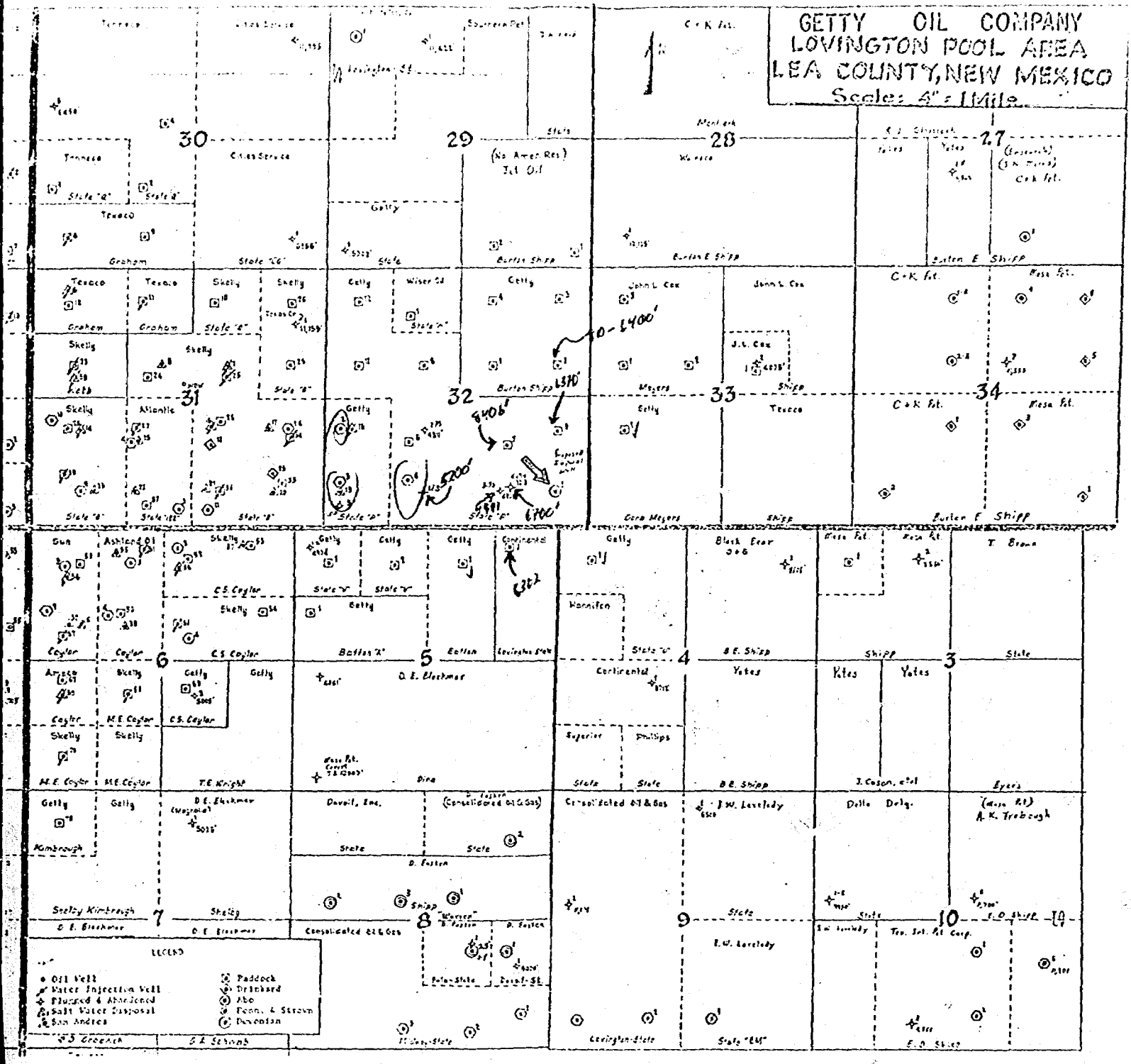


11,205' P.B.T.D.

AFTER



GETTY OIL COMPANY
LOVINGTON POOL AREA
LEA COUNTY, NEW MEXICO
Scale: 4" = 1 Mile

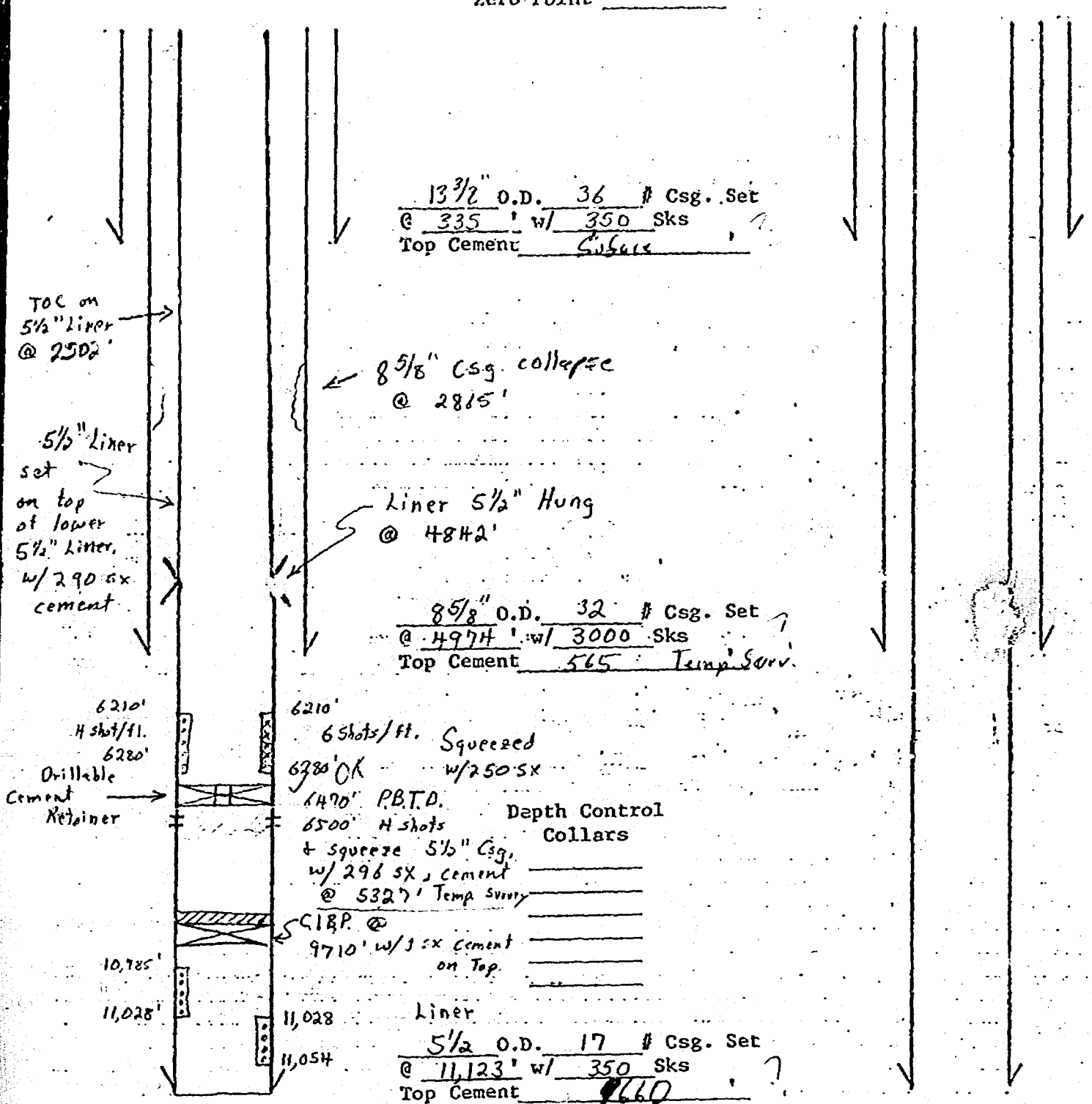


VI. Wells within the area of review which penetrate the proposed injection zone:

LEASE	WELL NO.	TYPE	LOCATION	DATE DRILLED	DEPTH, T.D.	CONSTRUCTION	RECORD OF COMPLETION
H.L. Batton	1	Oil	Sec. 5, T17S,R37E	11-2-51	11,124'	13 3/8" @ 335' w/ 350 sx 8 5/8" @ 4974' w/ 3000 sx 5 1/2" @ 11,123' w/350 sx Liner hung @ 4842'	Completed 10,985-11,054; Plugged back to 9710', squeezed behind 5 1/2" Csg @ 6500 Set plug @ 5470, New P.B.T.D. & perf. 6210' to 6280' (Paddock).
State "U"	1	Oil	Sec. 4, T17S,R37E	4-17-51	11,628'	13 3/8" 335' w/ 350 sx 8 5/8" @ 4951' w/3000 sx 5 1/2" @ 11,050 w/200 sx Liner hung @ 4815'	Completed 11,050-11,120 open hole; Tbg. shot off @ 10,853 & well plugged back to 9402 w/ CIBP, squeezed behind 5 1/2" @ 6650'. Perf. @ 6310-6350'. (Paddock)
Dora Meyers	1	Oil	Sec.33,T16S,R37E	9-13-51	11,254	13 3/8" 335' w/ 350 sx 8 5/8" 4974' w/3000 sx 5 1/2" 8499' w/250 sx Liner hung @ 4947'	P.B.T.D. @ 8480' w/ 120 sx. Perf. 8410-8440 & 8335-8370, squeezed & re-perf. 8335-8360'. Plugged back to 8102' w/ CIBP. Perfed @ 7775-8099' & 6186'-6269' & produced co-mingled down-hole

H. L. Batton Well No. 1

Elevation: DF 3805'
GL _____
Zero Point _____



State "U" Well No. 1.

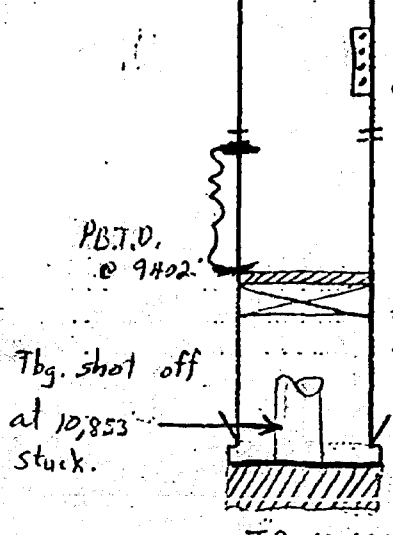
BEFORE

Elevation: DF 3801+'
GL _____
Zero Point _____

AFTER

13 3/8" O.D. 31 # Csg. Set
@ 335 ' w/ 350 Sks
Top Cement _____ '

8 5/8" O.D. 32 # Csg. Set
@ 4951 ' w/ 300 Sks
Top Cement 2320 '



Depth Control Collars

Liner
5 1/2 O.D. 17 # Csg. Set
@ 11,050 ' w/ 200 Sks
Top Cement 9328 '

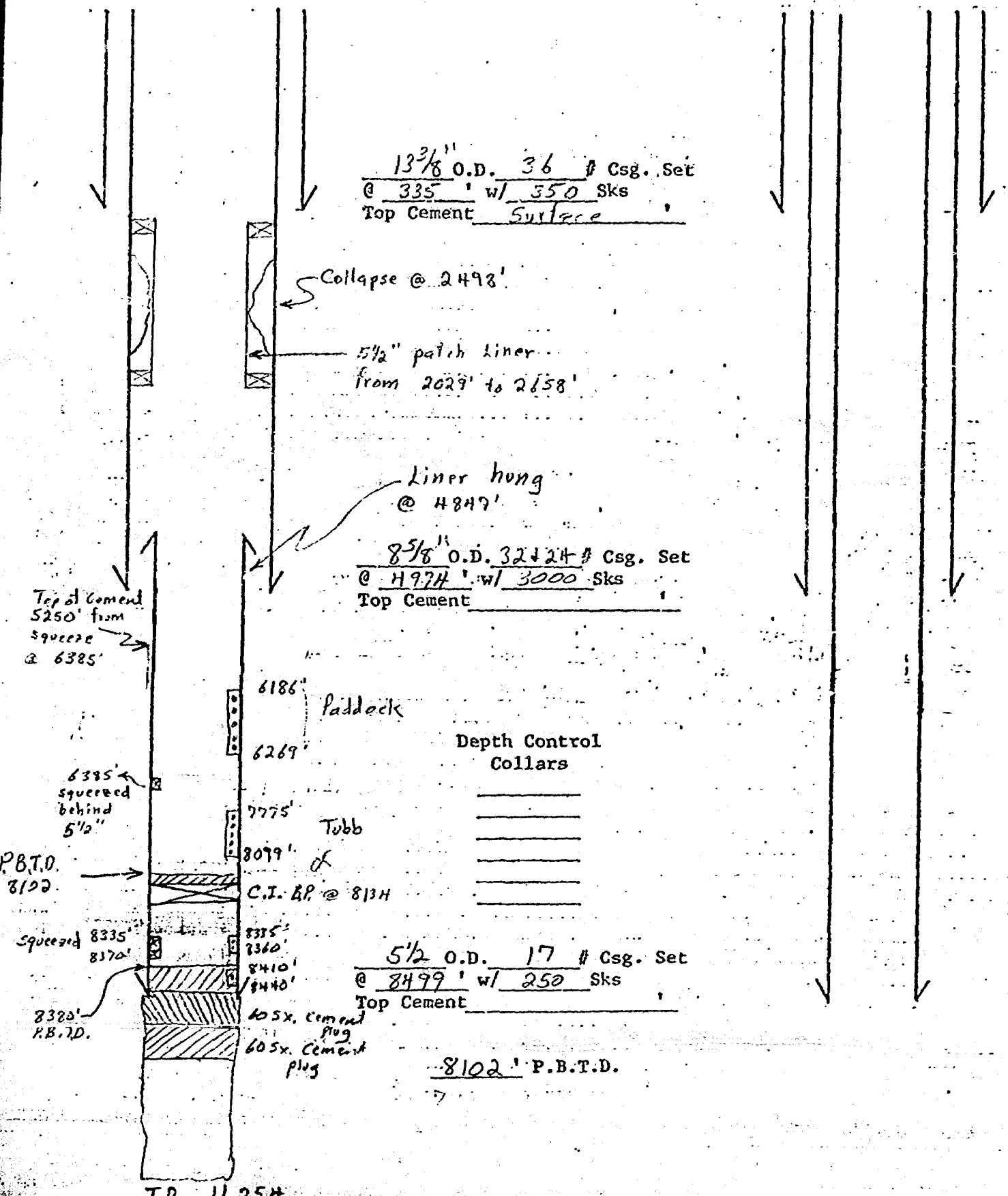
11,120 ' P.B.T.D.

Dora Meyers No. 1

BEFORE

Elevation: DF 3798
GL
Zero Point

AFTER



PROPOSED SALT WATER DISPOSAL WELL

STATE "P" NO. 1

VII (1) Proposed average and maximum daily rates:

Average 7,000 BBls/day

Maximum 10,000 BBls/day

(2) This will be a closed system

(3) Proposed average and maximum injection pressure:

Average 500 psi

Maximum 1000 psi

(4) The disposal water will be the produced water from the upper Abo oil production zone.

(5) See attached water analysis

VIII GEOLOGICAL DATA

Lithologic detail: Limestone Reef

Geological name: Lower Abo

Thickness: 400 ft.

Depth: 8900'-9300'

Drinking water formations: Ogallala

Depth approx. 200 ft.

IX The proposed stimulation program will consist of the following:

Treat perfs 8900'-9300' with 5000 gals of 15% NEFE acid & ball sealers.

X See attached log

XI There are no fresh water wells producing within one mile of the proposed disposal well. Attached is a water analysis from a producing fresh water well approximately 2 1/2 miles west.

Baroid
L Baroid/NL Industries, Inc.
O. Box 1675, Houston, Texas 77001

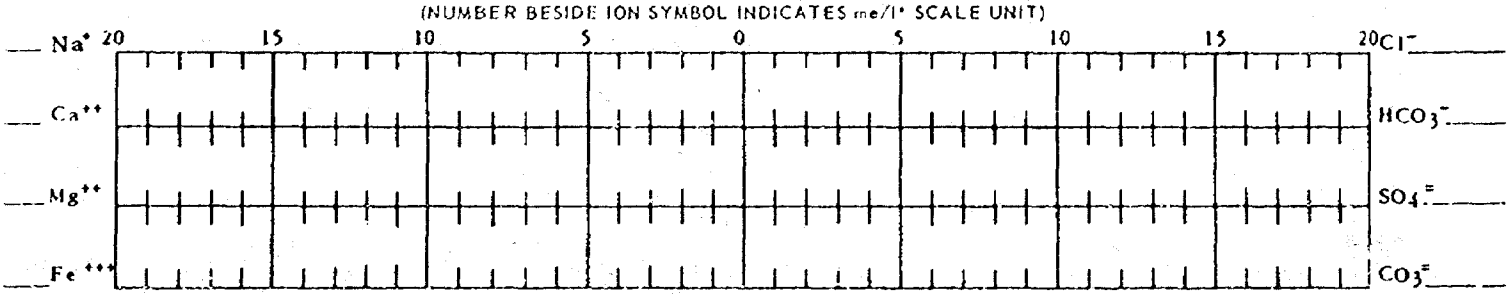
WATER ANALYSIS REPORT

BAROID TREATING CHEMICALS

			SHEET NUMBER
COMPANY: Getty Oil Co.			DATE: 12-7-81
FIELD	COUNTY OR PARISH: Lea Co.		STATE: N.M.
LEASE OR UNIT: Lovington ABO	WELL(S) NAME OR NO.: #4	WATER SOURCE (FORMATION)	
DEPTH, FT.	BHT, F	SAMPLE SOURCE	TEMP, F
WATER, BBL/DAY	OIL, BBL/DAY	GAS, MMCF/DAY	
DATE SAMPLED: 12-7-81	TYPE OF WATER: [x] PRODUCED [ ] SUPPLY [ ] WATERFLOOD [ ] SALT WATER DISPOSAL		

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l* SCALE UNIT)



DISSOLVED SOLIDS

CATIONS

	me/l*	mg/l*
Total Hardness	106	
Calcium, Ca^{++}	82	1,640
Magnesium, Mg^{++}	24	293
Iron (Total) Fe^{+++}		
Barium, Ba^{++}		0
Sodium, Na^{+}(calc.)	458.0	10,530

ANIONS

	me/l*	mg/l*
Chloride, Cl^{-}	478.9	17,000
Sulfate, $SO_4^{=}$	54.0	2,590
Carbonate, $CO_3^{=}$	0	0
Bicarbonate, HCO_3^{-}	24.2	1,480
Hydroxyl, OH^{-}	0	0
Sulfide, $S^{=}$	6.9	111

DISSOLVED GASES

Hydrogen Sulfide, H_2S	mg/l*
Carbon Dioxide, CO_2	mg/l*
Oxygen, O_2	mg/l*

PHYSICAL PROPERTIES

pH	8.0
Eh (Redox Potential)	MV
Specific Gravity	
Turbidity, JTU Units	
Total Dissolved Solids (calc.)	33,644 mg/l*
Stability Index @ 68 F	+1.59
@122 F	+2.26
$CaSO_4$ Solubility @ 68 F	49 ~~mg/l~~* me/l
@104 F	50 ~~mg/l~~* me/l
Max. $CaSO_4$ Possible (calc.)	54 ~~mg/l~~* me/l
Max. $BaSO_4$ Possible (calc.)	mg/l*
Residual Hydrocarbons	ppm(Vol/Vol)

SUSPENDED SOLIDS (QUALITATIVE)

Iron Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

*NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

REMARKS AND RECOMMENDATIONS:

Corrosion rate high. Well needs evulation.

SALES ENGINEER	DIST. NO.	ADDRESS	OFFICE PHONE	HOME PHONE
Washington	821	Denver City, TX	393-3938	592-8212
ANALYZED	DATE	DISTRIBUTION		
C. Medlock	12/10/81	☐ CUSTOMER ☐ AREA OR ☐ DISTRICT OFFICE ☐ BTC ENGINEER OR ☐ BTC LAB ☐ BTC SALES SUPERVISOR		

SCHLUMBERGER

Electrical Log

COUNTY Lea
FIELD or LOCATION Wildcat
WELL State P #1-D
COMPANY Tidewater Assoc. Oil Company

COMPANY TIDEWATER ASSOC. OIL COMPANY
WELL STATE P #1-D
FIELD WILDCAT
LOCATION SEC. 32-16S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660'fr S & E/L
Sec. 32-16S-37E

Tops Marked

Elevation: D.F. 3799'
K.B.:
or G.L.:

FILING No.

FOLD HERE

RUN No.	I	II	III		
Date	11-9-50	12-28-50	3-11-51		
First Reading	4987	10154	12570		
Last Reading	335	4994	10154		
Feet Measured	4652	5160	2416		
Csg. Schlum.	335	4994	4994		
Csg. Driller	336	4988	4988		
Depth Reached	4990	10157	12573		
Bottom Driller	4990	10150	12572		
Depth Datum	1' abv. RT	or 11' abv. Gr.			
Mud Nat.	Zeogel	Aquagel	Caustic Obr.		
" Density	10.8	9.8	9.6		
" Viscosity	34	35	56		
" Resist.	.052@ 42°F	.80@ 35°F	2.0 @ 50°F	@ °F	@ °F
" Res. BHT	.03@ 92°F	.22@158°F	.52 @ 190F	@ °F	@ °F
" pH	@ °F	10.5@ °F	10 @ °F	@ °F	@ °F
" Wtr. Loss	CC 30 min.	CC 30 min.	6.6 CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	92	158	190		
Bit Size	12 1/4"	8 3/4"	8 3/4"		
Spcgs.—AM	10"	10"	10"		
A O	32"LS	32"LS	32"LS		
AO	19'	19'	19'		
Opr. Rig Time	6 hrs.	9 hrs.	6½ hrs.		
Truck No.	504-Hobbs	510-Hobbs	510-Hobbs		
Recorded By	Cargill	Scott	Scott		
Witnessed By	Jones	Hogue	Dorsey		

REMARKS Run 1, 2 & 3: Mud sample from mud pit.
Run 2: SMCC - #12C + 4"
Run 3: SMCC - #12C + 3'

SPONTANEOUS-POTENTIAL millivolts

— 120 Run 1 & 2 / 15 Run 3

Radioactivity Increases →

DEPTHS

RESISTIVITY -ohms. m²/m

Run 1:

0	10" Normal	10
0		100
0	32" LS Lateral	3
0		30

Run 2:

0	10" Normal	150
0		1500
0	32" LS Lateral	150

Run 3:

0	10" Normal	200
0		2000
0	32"LS Lateral	150

RESISTIVITY -ohms. m²/m

0	19' Lateral	
0		
0	19' Lateral	
0		
0	19' Lateral	

SCHLUMBERGER

Electrical Log

COUNTY Lea
FIELD or LOCATION Wildcat
WELL State P #1-D
COMPANY Tidewater Assoc. Oil Company

COMPANY TIDEWATER ASSOC. OIL COMPANY
WELL STATE P #1-D
FIELD WILDCAT
LOCATION SEC. 32-16S-37E
COUNTY LEA
STATE NEW MEXICO

Location of Well
660'fr S & E/L
Sec. 32-16S-37E

Elevation: D.F. 3799' Tops Marker
K.B.:
or G.L.:

FILING No.

RUN No.	1	11	111
Date	11-9-50	12-28-50	3-11-51
First Reading	4987	10154	12570
Last Reading	335	4994	10154
Feet Measured	4652	5760	2416
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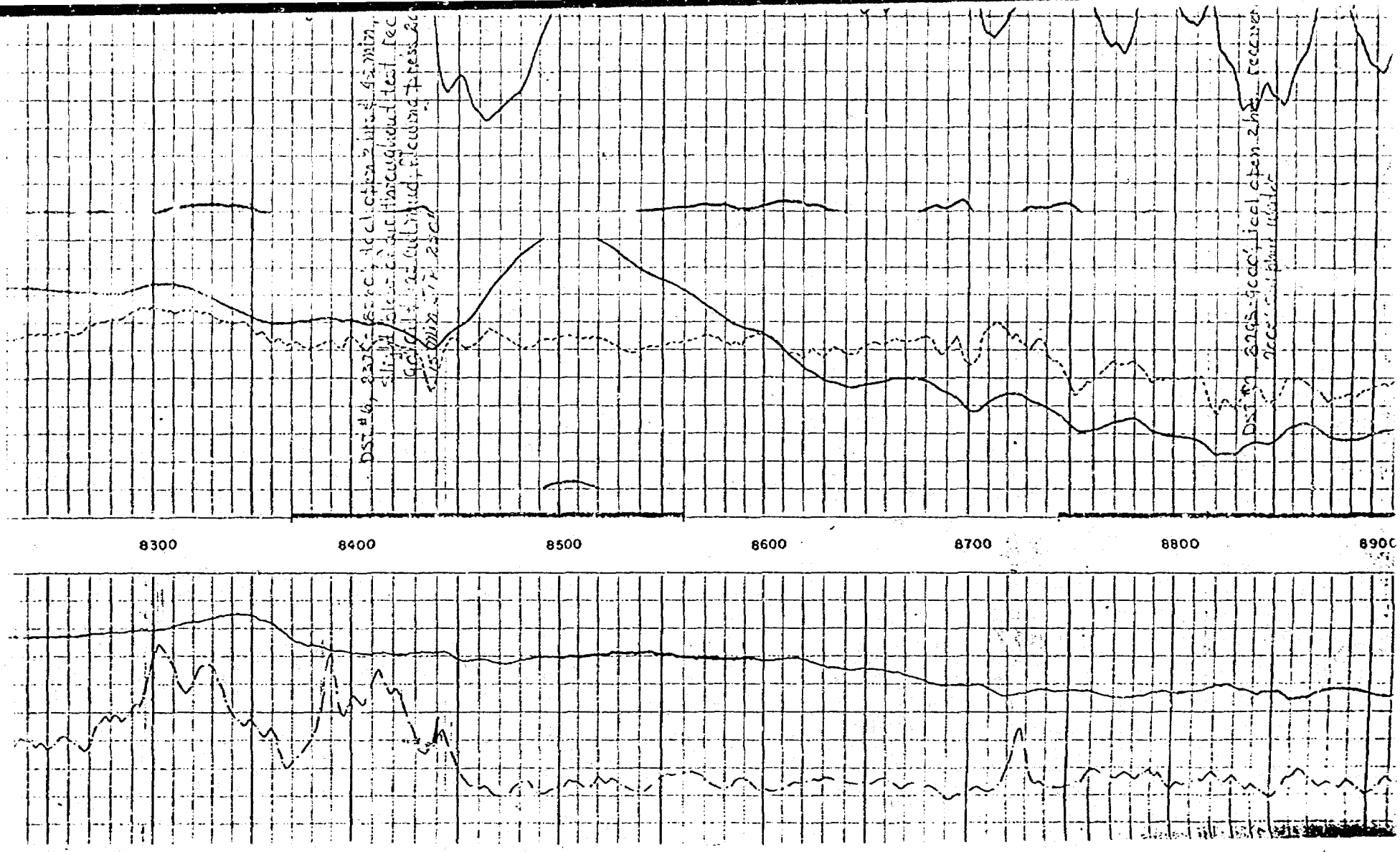
Csg. Driller	336	4988	4988
Depth Reached	4990	10157	12573
Bottom Driller	4990	10150	12572
Depth Datum	1' abv. RT	RT or 11' abv. GL	GL
Mud Nat.	Zeogel	Aquagel	Caustic Chr.
" Density	10.8	9.8	9.6
" Viscosity	34	35	56
" Resist.	.052 @ 42 °F	.80 @ 35 °F	2.0 @ 50 °F
" Res. BHT	.03 @ 92 °F	.22 @ 158 °F	.52 @ 190 °F
" pH	@ 10.5 °F	@ °F	@ °F
" Wtr. Loss	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	92	158	190
Bit Size	12 1/4"	8 3/4"	8 3/4"
Csg.—AM	10"	10"	10"
" —AM	32" LS	32" LS	32" LS
" AO	12'	12'	19'
Oper. Rig Time	5 hrs.	9 hrs.	6½ hrs.
Truck No.	504-Hobbs	512-Hobbs	510-Hobbs
Recorded By	Carroll	Scott	Scott
Witnessed By	Jones	Hoque	Dorsey

FOLD HERE

REMARKS
Run 1, 2 & 3: Mud sample from mud pit.

Run 2: SWCC - #12C + 4'
Run 3: SWCC - #12C + 3'

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY -ohms. m²/m	RESISTIVITY -ohms. m²/m
20 Run 1 & 15 Run 3		Run 1:	
		0 10" Normal 10	
		0 100	
0		0 32" LS Lateral 3	
Radioactivity Increases →		0 30	
		Run 2:	
		0 10" Normal 150	0 19' Lateral
		0 1500	0
		0 32" LS Lateral 150	
		Run 3:	0
		0 10" Normal 200	0 19' Lateral
		0 2000	0
		0 32" LS Lateral 150	


8300
8400
8500
8600
8700
8800


8900
9000
9100
9200
9300
9400
9500

Baroid
L Baroid/NL Industries, Inc.
O. Box 1675, Houston, Texas 77001

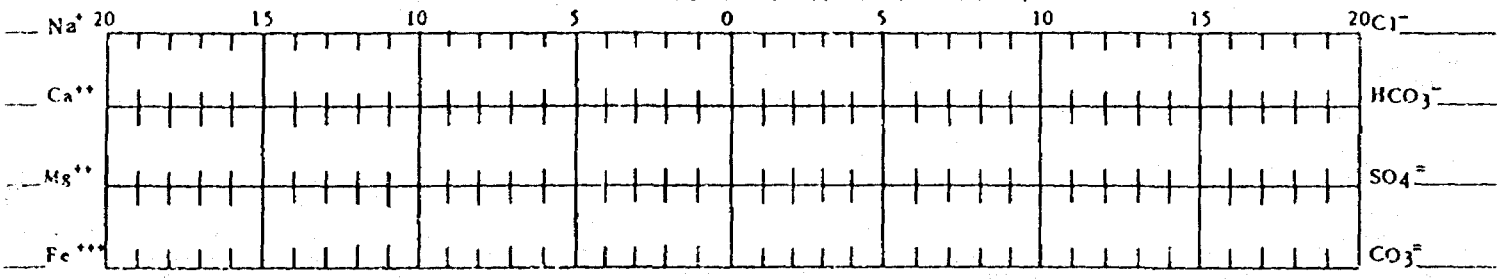
WATER ANALYSIS REPORT

BAROID TREATING CHEMICALS

			SHEET NUMBER
MPANY: Getty Oil Co.			DATE: 12-17-81
LD		COUNTY OR PARISH: Lea	STATE: N.M.
ASE OR UNIT: Lovington Water System	WELL(S) NAME OR NO.: #1	WATER SOURCE (FORMATION)	
PTH, FT. / BHT, F	SAMPLE SOURCE: Wellhead / TEMP, F	WATER, BBL/DAY / OIL, BBL/DAY	GAS, MMCF/DAY
TE SAMPLED: 12-17-81	TYPE OF WATER: ☐ PRODUCED ☒ SUPPLY ☐ WATERFLOOD ☐ SALT WATER DISPOSAL		

WATER ANALYSIS PATTERN

(NUMBER BESIDE ION SYMBOL INDICATES me/l* SCALE UNIT)



SSOLVED SOLIDS

\TIONS	me/l*	mg/l*
otal Hardness	8.0	
ilcium, Ca ++	6.2	124
ignesium, Mg++	1.8	22
on (Total) Fe+++		
rium, Ba++		0
dium, Na+(calc.)	3.1	71
NIONS		
loride, Cl-	4.2	150
lfate, SO4=	3.4	163
rbonate, CO3=	0	0
carbonate, HCO3-	3.5	214
droxyl, OH-	0	0
lfide, S=		1

DISSOLVED GASES

Hydrogen Sulfide, H_2S	_____ mg/l*
Carbon Dioxide, CO_2	_____ mg/l*
Oxygen, O_2	_____ mg/l*

PHYSICAL PROPERTIES

pH	6.5
Eh (Redox Potential)	_____ MV
Specific Gravity	_____
Turbidity, JTU Units	_____
Total Dissolved Solids (calc.)	744 mg/l*
Stability Index @ 68 F	-0.64
@ 122 F	-0.20
$CaSO_4$ Solubility @ ___ F	_____ mg/l*
@ ___ F	_____ mg/l*
Max. $CaSO_4$ Possible (calc.)	3.4 mg/l* me/l
Max. $BaSO_4$ Possible (calc.)	_____ mg/l*
Residual Hydrocarbons	_____ ppm(Vol/Vol)

SPENDED SOLIDS (QUALITATIVE)

n Sulfide ☐ Iron Oxide ☐ Calcium Carbonate ☐ Acid Insoluble ☐

*NOTE: me/l and mg/l are commonly used interchangeably for epm and ppm respectively. Where epm and ppm are used, corrections should be made for specific gravity.

EMARKS AND RECOMMENDATIONS:

Complete Analysis
Solid Content

C ENGINEER	DIST. NO.	ADDRESS	OFFICE PHONE	HOME PHONE
Washington	821	Denver City, TX		
ALYZED	DATE	DISTRIBUTION ☐ CUSTOMER ☐ AREA OR ☐ DISTRICT OFFICE ☐ BTC ENGINEER OR ☐ BTC LAB ☐ BTC SALES SUPERVISOR		
. Medlock	12/18/81			

M 8BR-214vB 10M G & C

DATE: January 6, 1982

XII Affirmative Statement

This well has been examined by the geologic and engineering departments and no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water was found.

SIGNED:

C. L. Wade

C. L. Wade
Area Superintendent

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

I, ROBERT L. SUMMERS

of the Hobbs Daily News-Sun, a daily new paper published at Hobbs, New Mexico, do solemnly swear that the clipping attached hereto was published once a week in the regular and entire issue of said paper, and not in a supplement thereof for a period

of ONE weeks.

Beginning with the issue dated DECEMBER 22, 19 81

and ending with the issue dated DECEMBER 22, 19 81

Robert L. Summers
Publisher.

Sworn and subscribed to before me this 22ND day of DECEMBER, 19 81

Notary Public.

My Commission expires

, 19

(Seal)

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

OFFICIAL SEAL
Signature Jane Pavlowsky
JANE PAVLOWSKY
NOTARY PUBLIC - NEW MEXICO
NOTARY BOND FILED WITH SECRETARY OF STATE
My Commission Expires 3-24-83

LEGAL NOTICE
December 22, 1981

Getty Oil Company is requesting approval for a Salt Water Disposal Well located 660' FSL and 660 FEL, Section 32, Township 16 South, Range 37 East, Lea County, New Mexico. The proposed well will be used to dispose of the produced salt water from the nearby Lovington Abo Oil Wells. The salt water will be injected into the lower Abo formation at a depth of 8900'-9300' with expected maximum rate and pressure of 10,000 barrels/day and 1000 psi. Any questions concerning this proposal should be directed to: C. L. Wade, Area Superintendent, Getty Oil Company, P. O. Drawer DD, Levelland, Texas 79336; Phone: 806-894-3118.

Any objections or requests concerning this proposed Salt Water Disposal Well should be directed within 15 days to the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501.

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RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO X
B.E. Shipp Estate
STREET AND NO.
1618 W. Ave. I
P.O. STATE AND ZIP CODE
Levington, N.M. 88260

POSTAGE	$ 54
CERTIFIED FEE	75
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
RETURN RECEIPT SERVICE	60
SHOW TO WHOM AND DATE DELIVERED	
RESTRICTED DELIVERY	
TOTAL POSTAGE AND FEES	$ 189
POSTMARK OR DATE	

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES

PS Form 3800, Apr. 1976

LEVELLAND TX JAN 6 1982 USPO

P 325 486 335

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO X
Continental Oil Co.
STREET AND NO.
Box 1959
P.O. STATE AND ZIP CODE
Midland, Tx 79702

POSTAGE	$ 54
CERTIFIED FEE	75
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
RETURN RECEIPT SERVICE	60
SHOW TO WHOM AND DATE DELIVERED	
RESTRICTED DELIVERY	
TOTAL POSTAGE AND FEES	$ 189
POSTMARK OR DATE	

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES

PS Form 3800, Apr. 1976

LEVELLAND TX JAN 6 1982 USPO

P 325 486 336

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO X
J. L. Cox
STREET AND NO.
Box 2217
P.O. STATE AND ZIP CODE
Midland, Tx 79702

POSTAGE	$ 54
CERTIFIED FEE	75
SPECIAL DELIVERY	
RESTRICTED DELIVERY	
RETURN RECEIPT SERVICE	60
SHOW TO WHOM AND DATE DELIVERED	
RESTRICTED DELIVERY	
TOTAL POSTAGE AND FEES	$ 189
POSTMARK OR DATE	

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES

PS Form 3800, Apr. 1976

LEVELLAND TX JAN 6 1982 USPO

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. 7506

Order No. R-6965

APPLICATION OF GETTY OIL COMPANY 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 March 16, 1982, at Santa Fe, New Mexico, before Examiner Richard L Stamets.

NOW, on this _____ day of ~~March~~ April, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Getty Oil Company, is the owner and operator of the State "P" Well No. 1, located in Unit P of Section 32, Township 16 South, Range 37 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the perforated interval from approximately 8900 feet to 9300 feet.

(4). That the Getty Oil Company H.L. Batton Well No. 1 in Unit B of Section 5, and the Getty Oil Company State "U" Well No. 1 in Unit D of Section 4, both in Township 17 South, Range 37 East, NMPM, Lea County, New Mexico, ~~and the Dorn Meyer's Well No. 1 in Unit L of Section 33, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico,~~ are located within one-half mile of said State "P" Well No. 1 and penetrate the Abo formation.

(5) That said H.L. Batton Well No. 1 and State "U" Well No. 1 may not be adequately cemented through the Abo formation and could allow the migration of disposed water from the disposal interval to shallower formations or to fresh water aquifers if injection is permitted in said State "P" Well No. 1.

(6) That no disposal of salt water should be permitted into said State "P" Well No. 1 until both the H. L. Button Well No. 1 and State "U" Well No. 1 have either been cemented or shown to have adequate cement across and above the Abo formation in accordance with a program to be approved by the supervisor of the Division's district office at Hobbs.

7 (A) That the injection should be accomplished through 3½ inch plastic lined tubing installed in a packer set at approximately 8820 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.

8 (B) That the injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1780 [redacted] psi.

9 (C) 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 Yates-Seven Rivers formation~~ the fracturing of the confining strata.

~~injected waters from the Abo formation.~~

10 ~~(9)~~ 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.

11 ~~(10)~~ 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.

12 ~~(11)~~ 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, Getty Oil Company, is hereby authorized to utilize its State "P" Well No. 1, located in Unit P of Section 32, Township 16 South, Range 37 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3½ inch tubing installed in a packer set at approximately 8820 feet, with injection into the perforated interval from approximately 8900 feet to 9300 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.

Provided Further, that no injection of salt water shall take place in said State "P" Well No. 1 until the Getty Oil Company H.L. Batton Well No. 1 in Unit B of Section 5 and the Getty Oil Company State "U" Well No. 1 in Unit D of Section 4, both in Township 17 South, Range 37 East, NMPM, Lea County, New Mexico, have either been cemented or shown to have adaquate cement across and above the Abo formation in a manner prescribed by the supervisor of the Division's district office at Hobbs.

(2) That the injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1780 psi.

(3) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in ~~migration of the injected waters from the Yates-Seven Rivers formation~~ the fracturing of the confining strata.

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

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

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

(7) That jurisdiction of this cause is retained for the

entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E A L