

CASE 3738: Application of PAN
AMERICAN FOR SALT WATER DISPOSAL,
CHAVES COUNTY, NEW MEXICO.

Case No.

3738

Application, Transcript,
Small Exhibits, Etc.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



P. O. BOX 2088
SANTA FE

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

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

March 25, 1968


Mr. Charles Malone
Atwood & Malone
Attorneys at Law
Post Office Box 700
Roswell, New Mexico 88201

Re: Case No. 3738
Order No. R-3394
Applicant:
Pan American Petroleum Corp.

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

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC x

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. 3738
Order No. R-3394

APPLICATION OF PAN AMERICAN PETROLEUM
CORPORATION FOR SALT WATER DISPOSAL,
CHAVES COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 20, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 25th day of March, 1968, 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, Pan American Petroleum Corporation, is the owner and operator of the State "CF" SWD Well No. 1, located in Unit I of Section 13, Township 11 South, Range 27 East, NMPM, Chisum-Devonian Pool, Chaves County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres and Liso formations, with injection into the open-hole interval from approximately 2190 feet to 3450 feet.

(4) That the injection should be accomplished through 2 7/8-inch internally plastic-coated tubing set at 2190 feet and cemented in the well bore with the top of said cement being at a depth of approximately 350 feet inside the 13 3/8-inch surface casing.

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

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CASE No. 3738
Order No. R-3394

IT IS THEREFORE ORDERED:

(1) That the applicant, Pan American Petroleum Corporation, is hereby authorized to utilize its State "CF" SWD Well No. 1, located in Unit I of Section 13, Township 11 South, Range 27 East, NMPM, Chisum-Devonian Pool, Chaves County, New Mexico, to dispose of produced salt water into the San Andres and Yeso formations, injection to be accomplished through 2 7/8-inch internally plastic-coated tubing set at 2190 feet and cemented in the well bore with the top of said cement at a depth of approximately 350 feet inside the surface casing, with injection into the open-hole interval from approximately 2190 feet to 3450 feet.

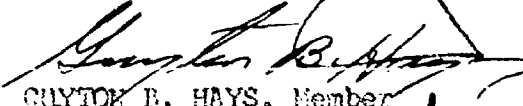
(2) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.


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

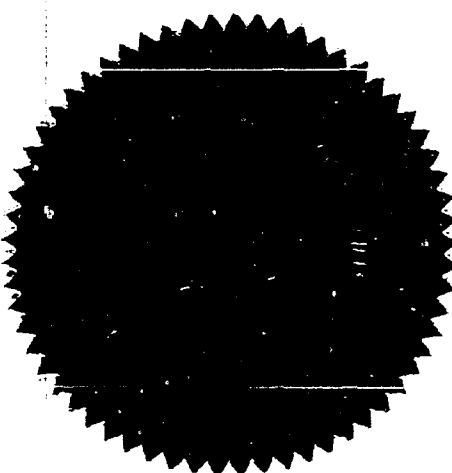
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
CONSERVATION COMMISSION


DAVID F. CARGO, Chairman


CLAYTON B. HAYS, Member


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



esr/

PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING P. O. BOX 1410
FORT WORTH, TEXAS-76101

D. L. RAY
DIVISION ENGINEER

March 1, 1968

Page 3738

File: GHF-123-986.510.1

Subject: Salt Water Disposal into the
San Andres and Yeso Formations
Pan American's State "CF" No. 3
Chaves County, New Mexico

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

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Pan American Petroleum Corporation respectfully requests that a hearing be docketed to consider our application for salt water disposal into the San Andres and Yeso formations in our State "CF" No. 3, Section 13, T-11S, R-27E, Chaves County, New Mexico.

Yours very truly,

D. L. Ray

DGW:mp

MAIN OFFICE

'68 MAR 4 AM 8 10

DOCKET MAILED

Date 3-7-68

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

1170 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 20, 1968
EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Pan American Petroleum)
Corporation for salt water disposal,)
Chaves County, New Mexico.)
)
)
_____)

Case 3738

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Next we will call Case 3738.

MR. HATCH: Case 3738. Application of Pan American Petroleum Corporation for salt water disposal, Chaves County, New Mexico.

MR. MALONE: May it please the Examiner, Charles Malone of Atwood & Malone, Roswell, for the Applicant. We have one witness, Mr. David Wight. We have five exhibits.

(Whereupon, Applicant's Exhibits
1 through 5 marked for
identification)

(Witness sworn)

DAVID WIGHT

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

DIRECT EXAMINATION

BY MR. MALONE:

Q Would you state your name and business address, please, sir?

A David George Wight. I am employed by Pan American Petroleum Corporation as a Petroleum Engineer in their Fort Worth Division Office.

Q It's true that the Fort Worth office of Pan American has jurisdiction of the Chisum Pool area in Chaves County, New Mexico?

A Yes, sir.

Q Are you personally familiar with the matters which are dealt with in this application?

A Yes, sir.

Q Briefly, what does Pan American seek by its application?

A Pan American seeks to use our State CF Well Number 3 as a salt water disposal well in the San Andres and Yeso Formations.

Q And from whence does the water come that you are going to dispose of?

A From the Chisum Devonian Pool, the State CF Well Number 4, the remaining producing well in this pool.

Q You have not testified before the Commission before?

A No, sir.

Q Would you briefly give your degree, your school, and your practice?

A I received a Bachelor of Science Degree in Petroleum Engineering from Texas Technological College in Lubbock in 1964. Since that time I have worked for Pan American Petroleum Corporation in their West Texas and New Mexico operations.

MR. MALONE: Are the qualifications of the witness

acceptable?

MR. NUTTER: They are, please proceed.

Q Would you go now to what was marked Exhibit 1 and describe what it shows, please?

A Exhibit 1 is a plat of the Chisum Pool area. It contains on it marked with an arrow the proposed salt water disposal well, our State CF Well Number 3. In addition, it shows all wells in the area within a two-mile radius that have produced or are now producing. Well No. 3 was a producer in the Devonian at one time. It has since been abandoned.

Q This is your disposal well?

A Yes, sir, that is the proposed disposal well.

Q And the Devonian water which you wish to dispose of comes from the solid blue well immediately to the west marked No. 4, is that correct?

A Yes sir, State CF Well No. 4 is the source of the Devonian produced water that we wish to dispose in Well No. 3.

Q Now, you have stated that you would dispose in this application, in the San Andres and Yeso Formations and I will ask you to point out any other wells in the immediate area which have been completed or are now completed

in the San Andres-Yeso?

A Within the immediate area there are two wells that had been completed in the San Andres, our State CF Wells No. 1 and 2, both San Andres completions. They have been depleted and since abandoned. They are marked with the green circle. Located to the northeast in Section 7 is the one remaining producing well in the San Andres. It's approximately a mile and a half away. It's operated by the Avalanche Journal. It's their LE Ranch No. 1.

Q And one of your later exhibits is a letter from the Avalanche Journal Publishing Company, is that correct?

A Yes, sir.

Q Briefly, what are the red marked wells to the northwest?

A This is the area of the Coyote Queen Field. It is a Queen Formation which is located above our proposed disposal interval.

Q So that on the basis of your testimony, there is no San Andres or Yeso production within a distance of more than a mile and a half and the only well shown anywhere on the plat which produces San Andres is the Avalanche Journal well in the top of Section 7?

A Yes sir.

Q And are there any other Devonian wells in the area?

A There are no Devonian producers. Located directly north of the one Devonian producer are three Devonian dry holes they have marked by the standard dry hole symbols, one on Texas Coast State AM Well No. 1, two on this State CF Lease, Wells No. 4 and 5.

Q There are no other producing Devonian wells other than your No. 4 then?

A No, sir.

Q Would you describe this area as being well-defined with respect to the San Andres and Devonian Formations?

A Yes, sir, as I pointed out, there are Devonian dry holes to the north, also to the east, the G. Magnolia White Well No. 1 is a Devonian dry hole. To the south the Honolulu Federal Hinkle No. 1 is a Devonian dry hole. The two wells on our lease State CF Wells No. 1 and 2 are depleted San Andres wells. Also to the south the Chisum Federal No. 1 is a San Andres dry hole, and there is a San Andres dry hole in Section 18, the LE Ranch No. 18 which was completed by the Avalanche Journal.

Q Is there anything else with respect to this exhibit?

A No, sir.

Q Would you go now to No. 2, please?

A Exhibit Number 2 is a pertinent data sheet listing as No. 1 the proposed disposal interval in our State CF Well No. 3, that being the lower San Andres and Yeso Formations and also the depth in which we plan to inject, being 2,190 feet to 3,450 feet. Part 2 of this exhibit lists the type of fluid which is produced water as previously stated from the Devonian Field has chloride content of approximately 26,000 parts per million. The volume is 500 to 550 barrels per day. The source has previously been discussed.

Q About how much oil does your Devonian well produce from which you want to dispose the water?

A Approximately 40 barrels per day.

Q Do you consider that this Devonian well will have any extended life if you are able to satisfactorily dispose of this water?

A Yes, sir, disposal of water in this manner would be the most economic way to do this. It would improve your mechanics for operating this well and you should be able to produce it to a lower producing rate thereby increasing your recovery.

Q Do you feel the Devonian will continue to produce

under this procedure for a substantial length of time?

A Yes, sir, this is an active water drive reservoir and we anticipate it continuing to produce like this for some time. The Well No. 4 is located on the top of the Devonian structure.

Q Anything else on Exhibit 2?

A No, sir.

Q Would you now take Exhibit 3, please?

A Exhibit No. 3 is a schematic diagram of the well bore on State CF Well No. 3; starting at the bottom it indicates the previous completion in the Devonian and our plugging procedures that were followed. A fifty sack plug was put at the casing, set for the oil string; also the cement that had previously been put in there on completion is indicated. Then a twenty-five sack plug at the top of the oil string where it was shot off and pulled.

Q That's at 3,450 feet?

A No, sir, this one is at 3,638 feet, that is the first 25 sack plug. The second one 25 sack plug was put at 3,450 to 3,548. Forty-four thirty-four fifty would be the bottom of our proposed disposal interval. Next the disposal interval is indicated in here; it would be an open hole section. Then the bottom of the intermediate string located at 2,190 the amount of cement used which was 200 sacks,

the casing being eight and five eighths. The cement used in this casing string, the top being at 1,370 feet by temperature survey.

Q So you have about 800 feet of cement behind the pipe immediately above the disposal area?

A Yes, sir. Continuing up the hole we propose to use two and seven eighths inch tubing internally plastic coated, set at 2,190 feet and cemented from 1,300 feet which would be in the intermediate string up to 350 feet which would be into the surface string and this would take some 500 sacks of cement.

Q As I understand you, this is an old Devonian well to be recompleted for disposal in this area?

A Yes, sir. At one time it was used as a disposal well in the Devonian.

Q By whom?

A By Honolulu Oil Corporation. It had been abandoned. Our initial attempts were to re-enter the Devonian and dispose of water in that interval; however, we could not re-enter the well any deeper than the 3,450.

Q Anything else on Exhibit 3?

A No, sir.

Q What is Exhibit 4, please?

A Exhibit No. 4 is a log of the proposed disposal well.

Q Does that log speak for itself?

A Yes, sir, it's considered self-explanatory. It covers the entire interval that this well did penetrate.

Q Going then to Exhibit 5 what is that?

A Exhibit No. 5 is a letter from the Avalanche Journal Publishing Company who operates the one San Andres producing well in the area. They notified us that they waive any objection to our disposing of salt water in the San Andres Formation. Their well, as I pointed out, is located about a mile and a half to the northeast. It currently produces about one barrel of oil per day, no water.

Q Were these exhibits prepared either by you or under your direct supervision?

A Yes, sir, they were.

MR. MALONE: I would like to move the admission of Exhibits 1 through 5.

MR. NUTTER: Pan American's Exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5 were offered and admitted in evidence.)

Q In your opinion, would the granting of this application tend to prevent waste of any type?

A Yes, sir, I believe it would.

Q Is there any other economically efficient way to dispose of this water?

A No, sir, it would require trucking of some manner and to what point I'm not sure. It would be certainly more expensive than the method we propose here and it would cause an earlier abandonment of this well due to increased operating cost.

Q As a matter of fact, you have some of the injection equipment already in place between your Devonian well and the proposed disposal well which belonged to Honolulu when they used this same disposal well in the Devonian?

A Yes, sir, that is correct. From the lease facilities to Well No. 3 the lines for injection purposes are still there and these may be used if our request is approved.

MR. MALONE: I believe that's all our examination.

MR. NUTTER: Are there any questions of Mr. Wight?

CROSS EXAMINATION

BY MR. NUTTER:

Q How do you propose to cement this two and seven

eighths in this interval from 1300 up to 350?

A Our proposed method would be to put a circulating sleeve in the tubing at about 1,350 feet, below that put some metal petal baskets wire baskets to keep your cement from settling down through the pipe.

Q Would the cement basket be on the tubing at a point that would be inside of the eight and five eighths?

A Yes, sir.

Q To insure that the cement would be down in the eight and five eighths and the sleeve would be immediately above the basket?

A Yes, sir, that is correct. In that manner we could circulate the cement back up into the surface casing and have cement from the intermediate oil string back into the surface casing.

MR. NUTTER: Are there any other questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Malone?

MR. MALONE: Nothing further.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3738? We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, KAY EMBREE, Notary Public 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 Conservation 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.

Witness my Hand and Seal this 28th day of March, 1968.

Kay Embree
 NOTARY PUBLIC

My Commission Expires:

November 19, 1971

I hereby certify that the foregoing is a true and correct copy of the original as the same appears in the records of the Commission.
 3/20 3138 68
Donna
 Donna, Secretary
 New Mexico Oil Conservation Commission

PAN AMERICAN PETROLEUM CORPORATION
PROPOSED SALT WATER DISPOSAL
STATE CF WELL NO. 3
UNIT I SECTION 13, T-11-S, R-27-E
CHAVES COUNTY, NEW MEXICO

I. Disposal Interval

- A. Lower San Andres and Yeso Formations
- B. Depth: 2190' to 3450'

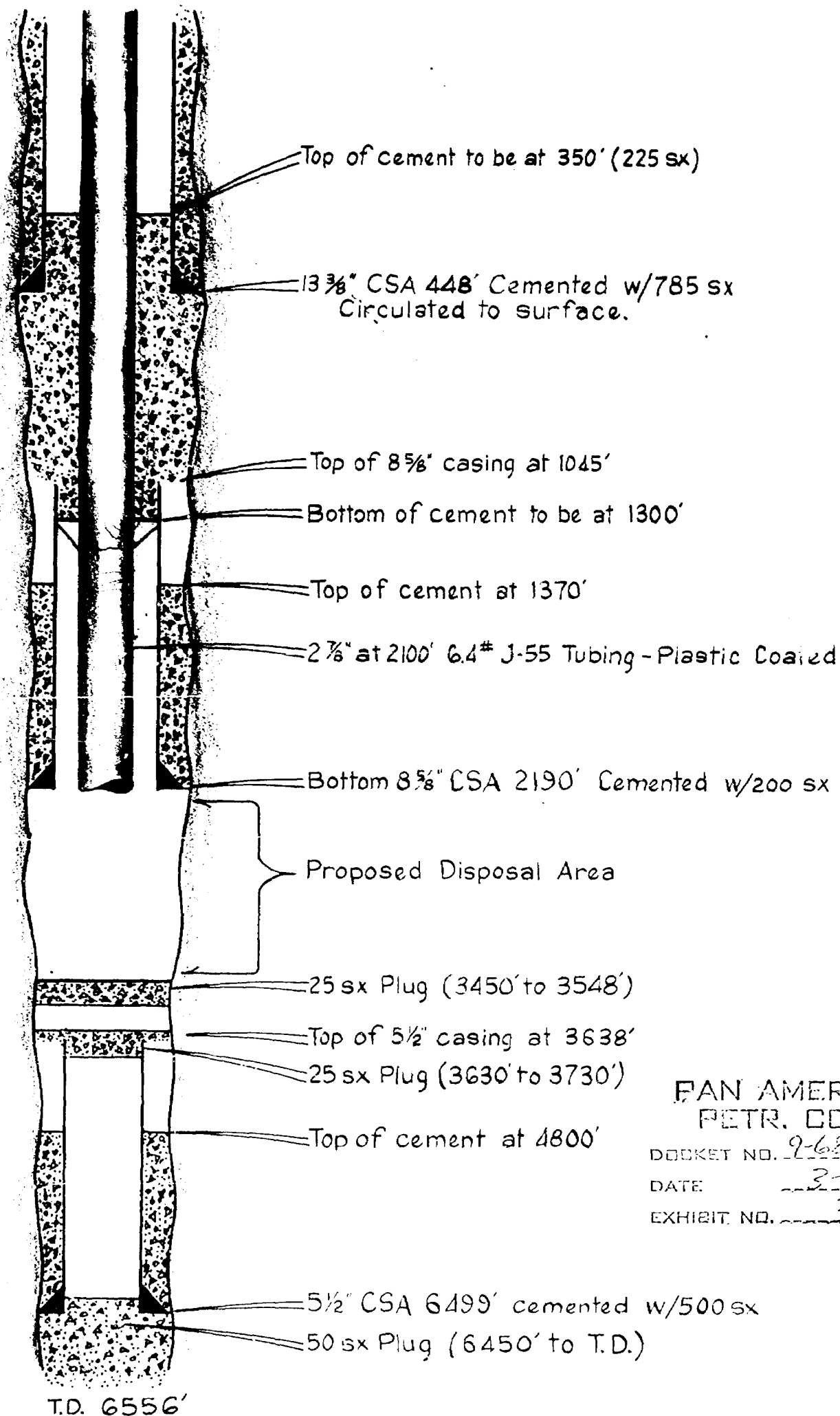
II. Fluid to be Injected

- A. Type: Produced Water with a Chloride Content of Approximately 26,000 PPM
- B. Volume: 500-550 Barrels Per Day
- C. Source: Pan American State "CF" Well No. 4
Completed in the Chisom (Devonian) Field

PAN AMERICAN
PETR. CORP.

DOCKET NO. 9-68 CBE 3738
DATE 3-20-68
EXHIBIT NO. 2

PROPOSED SWD WELL
State "CF" Well No. 3
Unit I, Sec 13, T-11-S, R-27-E
Chaves Co, N.M.
Elevation: 3757' G.L.



FAN AMERICAN
PETR. CORP.

DOCKET NO. 9-68 CAB 3738
DATE 3-20-68
EXHIBIT NO. 3