CASE 3801: Application of H & S
OIL COMPANY FOR AN AMERICANT TO
ORDER NO. R-3357, EDDY COUNTY.

Case Number

Se Sumber

Application
Transcripts.

Small Exhibits

L / C

BEFORE THE OIL COMBERVATION COMMISSION OF THE STATE OF NEW MEXICO

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

> CASE No. 3801 Order No. R-3357-A

APPLICATION OF H 4 S OIL COMPANY FOR AN AMENDMENT TO ORDER NO. R-3357, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 10, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 15th day of July, 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,

PINDS:

- (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 by Order No. R-3357, dated December 22, 1967, the Commission authorised the institution of the H & S West Artesia Unit Waterflood Project in the West Artesia Grayburg Unit Area, Artesia Pool, by the injection of water into the Grayburg formation through the following-described wells in Township 18 South, Range 28 East, MMPM, Eddy County, New Mexico:

Lease Name	Well No.	Unit	Section
J. E. Beddingfield - Spurk	1	Ħ	7
Cities Service - Mell	2	P	7
Tenneco - State	1	D	8
Roach and Shepard - Humble State	1	F	8
Roach and Shepard - Signal State	1	L	8
Kincaid & Watson - Signal State	1	H	8
H & S Oil Co Wilson State	1	J	8
Roach Drilling Co Leonard	1	D	17

-2-CASE No. 3801 Order No. R-3357-A

- (3) That the applicant, H & S Oil Company, seeks amendment of Order No. R-3357 to substitute six injection wells located in said Sections 7 and 8 for the eight injection wells authorized by said order.
- (4) That approval of the subject application will not violate correlative rights and will permit a more efficient water injection pattern to be maintained, thereby preventing waste.

IT IS THEREFORE ORDERED:

(1) That Order No. R-3357, dated December 22, 1967, is hereby amended to authorize, in lieu of the eight water injection wells presently authorized therein, the following-described water injection wells in Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico:

Lease Name	Well No	o. Unit	Section
Nix & Curtis _ TP State	13	I	7
Nix & Curtis - Gulf State	1	C	8
Roach & Shepard - Humble State	4	E	8
Kincaid & Watson - Marathon	6	G	8
Roach & Shepard - Signal State	11	ĸ	ਲੇ
Cities Service - Mell	1.7	M	8

(2) 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.

GUTTON B. HAY

STATE OF NEW MEXICO
OLL COMBERVATION COMMISSION

DAVID F. CARGO, Chairman

U. G. Seith,

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

OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

September 16, 1968

Mr. A. J. Losee Attorney at Law Post Office Drawer 239 Artesia, New Me/Rico 88210

Dear Sir:

Reference is made to Commission Order No. R-3357-A, recently entered in Case No. 3801, approving the revision of the H & S West Artesia Unit Waterflood Project.

Injection is to be through the six presently authorized water injection wells which shall be equipped with tubing and packers. It is our understanding that injection will be down the tubing into the Metex and Premier zones of the Grayburg, and down the annulus into the Oldfield (Loco Hills) zone of the Grayburg.

Inasmuch as each of the injection wells is equipped with at least 427 feet of surface pipe cemented in place, injection down the casing-tubing annulus should present no problem in this case.

As to allowable, our calculations indicate that when all of the authorised injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-R-3 is 714 barrels per day when the Southeast New Mexico normal unit allowable is 42 barrels per day or less.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

OIL CONSERVATION COMMISSION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

-2-Mr. A. J. Losee Attorney at Law Post Office Drawer 239 Artesia, New Mexico 88210

September 16, 1968

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

ALP/DSE/ir

cc: Oil Conservation Commission Offices in Hobbs and Artesia, N.M. Mr. D. E. Gray, State Engineer Office, Santa Fe, New Mexico

dearnley-meier reporting service, inc.

ZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, C

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 10, 1968

EXAMINER HEARING

IN THE MATTER OF:

Application of H & S Oil Company for an amendment to Order No. R-3357, Eddy County, New Mexico.

Case No. 3801

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING



MR. UTZ: Case 3801.

MR. HATCH: Case 3801: Application of H & S Oil Company for an amendment to Order No. R-3357, Eddy County, New Mexico.

MR. LOSEE: A. J. Losee, Artesia, representing the applicant, H & S Oil Company. I have one witness, Mr. Heinsch.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 3 were marked for identification.)

MR. UTZ: Would you give the reporter and me your full name?

MR. HEINSCH: Rupert H-e-i-n-s-c-h.

MR. LOSEE: Let me, before I start, Mr. Examiner, correct one thing in my application, which was the application is actually correct as written, in my transmittal I mentioned that we would furnish the logs and diagrammatic sketches at a supplemental date. I left then on a vacation and although the Commission and State Engineer were furnished with the diagrammatic sketches, they were not furnished with the logs until today.

RUPERT HEINSCH

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

DIRECT EXAMINATION

BY MR. LOSEE:

- Q Would you state your name and residence?
- A Rupert Heinsch, Carlsbad, New Mexico.
- Q What's your occupation, Mr. Heinsch?
- A Oil operator.
- Q You are a partner in H & S Oil Company?
- A Yes, sir.
- Q Have you previously testified before the Commission in Case Number 3699?
 - A Yes, sir.
- Q And was that the case which authorized a waterflood project for your West Artesia-Grayburg Unit?
 - A Yes, sir.
- Q Now, that order authorized injection into how many wells?
 - A Eight wells.
- Q And the purpose of this application is to change the proposed injection pattern?
 - A Yes, sir.
- Q Please refer to what has been marked Exhibit 1 and tell me whether the first, whether the well shown as the C. H. Roach Leonard Fee Well 18, located in the Northwest Quarter,

Northwest Quarter is correctly shown as an injection well.

A No, sir, it isn't. It should be in the Southwest of the Southwest, Section 8, Well Number 17.

- Q And that was the Well 17 was the well that was covered in your application, was it not?
 - A Yes, sir.

MR. UTZ: I thought you would probably want to correct that.

- Q (By Mr. Losee) Now, does this exhibit show the wells that were authorized in the existing Order 3357?
 - A Yes, sir. Those that have triangles around them.
- Q Those eight wells with triangles are presently authorized?
 - A Yes, sir.
 - Q Does the exhibit also show the proposed new pattern?
- A Yes, sir. Those connected by the line in the center of the map.
- Q And the map also shows the offset operators and the offset producing wells?
 - A Yes, sir.
 - Q Injection was authorized into what formation?
 - A The Grayburg formation.
 - Q What zones or members of that formation?

- A The Oldfield Pay, the Metex and the Premier, all members of the Grayburg formation.
 - Q Are those zones open in every case in all --
 - A No, but we intend to open them up.
- Q Would you explain to the Examiner why you feel it is necessary to change this injection pattern?
- A In the injection well, original injection well

 Number 3 we found that the pipe was parted and also the same
 in injection Well Number 15 on Section 7, and it's a matter

 of economics, and also we found that this was, we get a

 better sweep, or felt we would get a better sweep by changing
 the pattern as we have it set out on this plat.
- Q Please refer to what has been marked as Exhibit Number 2 and explain what is shown by that exhibit.
- A Exhibit 2 are electric logs of the proposed injection wells.
- Q Now, there is no log at present on this Cities Service Well 17, is there?
 - A No, sir.
- Q These logs show the pay intervals in the injection wells?
 - A Yes.
 - Q Please refer to what has been marked as Exhibit 3

and explain what is shown by this exhibit.

A This is a schematic diagram of the hole and shows the perforations and intervals that are open in the proposed injection well.

- Q Now, again, this is true for all of the proposed injection wells except Well 17?
 - A Yes, sir.
- Q Are you familiar with the completion on this Cities Service well?
- A Yes, sir. That well was completed around the time that the rest of the field, the newer part of the field was completed and new pipe was put in this particular well. Now, the other wells, the injection wells I am quite familiar with. I either worked on these wells or own part of them myself.
- Q How far on the average is the cement, the calculated top of the cement as shown on these diagrams above the uppermost perforations?
 - A Approximately 400 feet. It may vary 50 feet.
- Q Well, there are some of them that are actually just 300 feet?
 - A Yes.
 - Q But in most cases they are 400?
 - A 400, that's right.

- Now, referring first to the Gulf Well Number 1, which is in the Northeast, Northwest, the diagrammatic sketch, there is a notation of perforations without a footage interval on it up the hole.
 - A Yes, sir.
 - Q Is that a proposed perforation?
 - A Yes, sir.
- Q Can you advise the Examiner approximately what depth those perforations are?
 - A Approximately 2100 feet.
- Q So that, again, they will be 400 feet above the calculated top of the cement?
 - A Yes, sir.
- Q How do you propose to inject into these producing intervals?
- A We plan to set a packer below the Oldfield Pay, or which some people call the Loco Hills Pay, and inject down the annulus and then inject simultaneously down tubing into the Metex and the Premier.
- Q So that your injection will be selective as to separating the Oldfield, which will be injecting through the annulus?
 - A Yes, sir.

- Q And the Metex and Premier through the tubing?
- A Yes, sir.
- Q Do you know the condition of the pipe when it was run in these old --
 - A All new pipe and all new tubing.
 - Q What is the source of water for your project?
- A It's Ogallala water. Comes from the Caprock, from Double Eagle Corporation.
- Q At what pressures do you propose to inject the water, the maximum pressure?
- A We anticipate a pressure from 800 to a thousand p.s.i.
 - Q What would be your rate of water?
- A Around 200 barrels, approximately 200 barrels per well.
- Q So that a combination between all three zones would have 200 barrels?
 - A Yes, sir.
- Q Are you setting the system up as a closed system to recycle water?
 - A Yes, sir.
- Q Do you have an opinion as to whether the change in the injection pattern in this flood will prevent waste and

protect correlative rights?

A Yes, sir. We feel it will be the most efficient pattern.

- Q Will it protect correlative rights?
- A Yes, sir.
- Q Were Exhibits 1 through 3 prepared by you or under your direction?
 - A Yes, sir.

MR. LOSEE: The applicant will move the introduction of Exhibits 1 through 3.

MR. UTZ: Without objection, Exhibits 1, 2 and 3 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits 1, 2 & 3 were offered and admitted in evidence.)

MR. LOSEE: I have no further questions, Mr. Examiner, at this time.

CROSS EXAMINATION

BY MR. UTZ:

- Q In all cases on these new injection wells that you have requested, you will inject fresh water under a packer?
 - A Yes, sir.
 - Q Into what did you call it?
 - A The Oldfield or Loco Hills.

- Q Oldfield, Metex and Premier?
- A Yes, sir.

MR. LOSEE: Mr. Examiner, if the question was as

I understood it, the answer is not correct. The injection
through the tubing will be into the lower two zones, the Metex
and the Premier.

THE WITNESS: Yes, that's correct.

MR. LOSEE: The Oldfield, which is the uppermost producing interval, injection will be through --

THE WITNESS: The annulus.

MR. LOSEE: -- the annulus.

- Q (By Mr. Utz) So, in all of these wells you are going to inject selectively through both the annulus and the tubing?
 - A And the tubing.
 - Q When were these wells completed, approximately?
 - A A rough date, '56, '57.
- Q This 200 barrels per well, will that be for both the annulus and tubing?
 - A Yes, that's what we plan on at this point.
- Q So, other than the tubing and packer and the designation of the zones in the Grayburg, these plats would be correct?

- A Yes, sir.
- Q Now, have you converted any of these old injection wells or these wells in Order Number 3357 to injection wells?
 - A No, sir.
 - Q So none of them --
 - A No, sir, we have checked the wells out.
- Q So these six that you request here will replace the eight in the previous order?
 - A Yes, sir.
- Q And the names of the wells in your application, the six wells that you requested here, all those locations and names are correct?
 - A Yes, sir, they are correct.
- Q Are you going to continue to call them by the names listed in the application?
 - A Yes, sir.

MR. UTZ: Are there any other questions? The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in the case? The case will be taken under advisement.

INDEX

WITNESS	PAGE
RUPERT HEINSCH	
Direct Examination by Mr. Losee	2
Cross Examination by Mr. Utz	9

EXHIBIT	MARKED	ADMITTED_
Applicant's 1, 2, 3	2	9

STATE OF NEW MEXICG)

COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 18th day of July, 1968.

Jaa Dearnley NOTARY PUBLIC

My Commission Expires: June 19, 1971.

I do hereby certify that the foregoing is

3861

New Mexico Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

788 Jun 19 Am 8 7

IN THE MATTER OF THE APPLICATION OF H & S OIL COMPANY FOR AMENDMENT TO THE ORDER OF THE OIL CONSERVATION COMMISSION AUTHORIZING A WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO

NO. 380/

APPLICATION

Rupert L. Heinsch and Herbert R. Spencer, by its attorney,
A. J. Losee, and states:

- 1. That heretofore on December 22, 1967, the Oil Conservation Commission of New Mexico, (the "Commission") entered its order No. R-3357 in Case No. 3699, authorizing the Applicant to institute a waterflood project in its West Artesia Grayburg Unit Area, Artesia Pool, by the injection of water into the Grayburg formation through eight wells.
- 2. Since the entry of this Order, the Applicant has determined that it is mechanically impractical to inject water into two of the authorized injection wells, and it would be in the interest of conservation to completely change the pattern of injection wells in the West Artesia Grayburg Unit Area, Eddy County, New Mexico.
- 3. That Applicant would propose to amend Order No. R-3357 to permit the injection of water into the producing intervals of the Grayburg formation in the following wells located within the West Artesia Grayburg Unit Area, Eddy County, New Mexico, to-wit:

Lease Name	Well No.	Location		
Nix and Curtis - Gulf State	1. 1.	NE/4 NW/4, Sec. 8'-		
Roach & Shepard - Humble State .	4,	SW/4 NW/4, Sec. 8'		
Nix and Curtis - TP State	13	NE/4 SE/4, Sec. 7~		
Cities Service - Mell	17	SW/4 SW/4, Sec. 8 //.		
Roach & Shepard - Signal State	11 —	NE/4 SW/4, Sec. 8		
Kincaid & Watson - Marathon	6 —	SW/4 NE/4, Sec. 8-		

- 4. There is attached hereto and by reference made a part hereof a plat showing the location of the proposed new injection wells and the location of other wells adjoining the proposed project area.
- 5. There is attached hereto and by reference made a part hereof electric logs on all of the proposed injection wells.
- 6. There is attached hereto and by reference made a part hereof a diagrammatic sketch of the six proposed injection wells.
- 7. That the amendment of Order No. R-3357 of the Commission will be in the interest of conservation and will prevent waste and protect correlative rights.
- 8. That a copy of this Application and all exhibits attached hereto have been sent to the State Engineer's Office, attention Mr. Frank Irby, Capitol Building, Santa Fe, New Mexico, certified mail, return receipt requested.

WHEREFORE, Applicant prays that an order be entered amending Commission Order No. R-3357, changing the injection well pattern in the West Artesia Grayburg Unit Area, Eddy County, New Mexico, and for such other relief as may be just in the premises.

H & S OIL COMPANY

A I I TOO

P. O. Drawer 239

Artesia, New Mexico

GOVERNOR DAVID F. CARGO CHAIRMAN

State of New Mexico Bil Conservation Commission

LAND COMMISSIONER GUYTON B. HAYS MEMBER



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

P. O. BOX 2088 SANTA FE

July 15, 1968

Mr. A. J. Losee Attorney at Law Post Office Drawer 239 Artesia, New Mexico 88210	Re:	Case No	3801
	Re.	Order No	R-3357-A
		H & S Oil	Company

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

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 state Engineerx

Other____

LAW OFFICES

A. J. LOSEE JOEL M. CARSON

CARPER BUILDING - P. O. DRAWER 239 ARTESIA, NEW MEXICO 88210

June 18, 1968

AREA CODE BOS

Care 380/

168 Jun 19 An 8 112

Mr. A. L. Porter, Jr. Secretary-Director Oil Conservation Commission of New Mexico P. O. Box 2088 Santa Fe, New Mexico

Dear Mr. Porter:

Enclosed herewith you will please find triplicate copies of Application of H & S Oil Company for Amendment to Order No. R-3357. We understand in a conversation with your Mr. Dan Nutter that this will be set for examiner's hearing on July 10, 1968.

With a copy of this letter, we are furnishing Mr. Irby with a copy of the Application. We will submit the logs and diagrammatic sketches prior to the hearing.

Very truly yours

AJL:mlw

cc: Certified Mail Return Receipt Requested W/Enclosures Mr. Frank Irby, Chief Water Rights Division State Engineer's Office P. O. Box 1079 Santa Fe, New Mexico

DOCKET MAILED

Date_6-27-68

Care. 3801 Veard 7-10-68 Red. 7-10-68. Krank # + D. O it la permission to change location of injection wells for their West Certeria-Krayhan Detite amend R-3357 by deleting the 8 wells shown in the Order and. opproving the 6 wells listed their application. Dresh water is to be injected then pro ludion stung, (the). annulus, Sainto the Loco Wille, 30 down 2" tubing would rouder a parker into the Thetex

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. 3699 Order No. R-3357

APPLICATION OF H & S OIL COMPANY FOR A WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 20, 1967, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 22nd day of December, 1967, 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, H & S Oil Company, seeks permission to institute a waterflood project in its West Artesia Grayburg Unit Area, Artesia Pool, by the injection of water into the Grayburg formation through eight injection wells in Sections 7, 8, and 17, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico.
- (3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.
- (4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby prevenuing waste.

-2-CASE No. 3699 Order No. R-3357

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, H & S Oil Company, is hereby authorized to institute a waterflood project in its West Artesia Grayburg Unit Area, Artesia Pool, by the injection of water into the Grayburg formation through the following-described wells in Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico:

Lease Name	Well No.	Unit	Section /
	,		
J. E. Beddingfield - Spurk	1	H	7. Level
Cities Service - Mell	2	P	7 6 16
Tenneco - State	1	D	8 XXX
Roach and Shepard - Humble State	1	F	8 ///
Roach and Shepard - Signal State	1	L	8
Kincaid & Watson - Signal State	1 - 1	Ħ	8
H & S Oil Co Wilson State	1	J	8//0
Roach Drilling Co Leonard	1 .	D	of office.

PROVIDED HOWEVER, that the above-described J. E. Beddingfield-Spurk Well No. 1 shall not comprise any part of said waterflood project until such time as the SE/4 NE/4 of Section 7, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, is committed to the West Artesia Grayburg Unit.

- (2) That the subject waterflood project is hereby designated the H & S West Artesia Unit Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.
- (3) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deam necessary.

-3-CASE No. 3699 Order No. R-3357

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

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

SEAL

LAW OFFICES A. J. LOSEE CARPER BUILDING - P. O. DRAWER 239 ARTESIA, NEW MEXICO 88210 JOEL M. CARSON 28 June 1968 Mr. A. L. Porter, Jr. New Mexico Oil Conservation Commission Secretary-Director P. O. Box 2088 Santa Fe, New Mexico Dear Mr. Porter:

AREA CODE BOS 746-3508

Care 3801

*68 JUL 1 AN 8 05

Following up Mr. Losee's letter to you of June 18, submitting Application of H & S Oil Company for Amendment to Order No. R-3357, we enclose the logs and diagrammatic sketches of the six proposed injection wells.

With a copy of this letter, we are also furnishing Mr. Trby with copies of the logs and diagrammatic sketches.

Very truly yours,

Secretary to Mr. Losee

Enclosures

cc: Certified Mail Mr. Frank Irby, Chief Water Rights Division State Engineer's Office P. O. Box 1079 Santa Fe, New Mexico

H & S OIL COMPANY OPERATOR West Artesia Grayburg Unit. Gulf D-1
MEL NWT Sec 8 T18S R28E
Eddy County, New Mexico Elev. 3560 G. L. T/ cement 8 5/8" casing, calculated 55' at 455 w/50 sx T/cement 5 calculated 15 lb. Injection to be fresh water down 2" pipe, w/packer_ Perforations 2254-2264 TD 2294, $5\frac{1}{2}$ ", W/150 sx 40 Exhibit 3

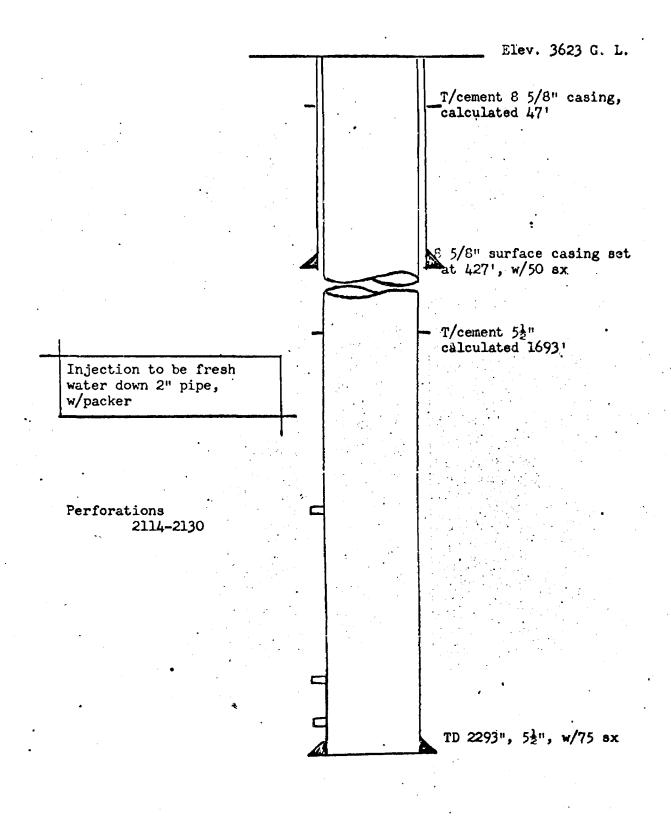
H & S OIL COMPANY OPERATOR West Artesia Grayburg Unit TP State NE¹/₄ SE¹/₄ Sec 7 T18S R28E Eddy County, New Mexico Elev. 3619 G. L. T/cement 8 5/8" casing, calculated 57' 8 5/8" surface casing set at 457!, w/50 sx T/cement 5½" calculated 1685' Injection to be fresh water down 2" pipe, w/packer Perforations 2164-2172 2186-2190 2200-2208 TD 2285, 5½" w/100 sx

H & S OIL COMPANY OPERATOR West Artesia Grayburg Unit E8 Can 380/ Humble # 2 SWt NWt Sec 8 T 18S R28E Eddy County, New Mexico Elev. 3628 G. L. T/cement 8 5/8" casing, calculated 41' 8 5/8" surface casing set at 441', w/50 sx T/cement 5½', calculated 1685' Injection to be fresh water down 2" pipe, w/packer Perforations 2196-2206 2220-2226 2234-2238 TD 2285', w/100 sx

H & S OIL COMPANY OPERATOR West Artesia Grayburg Unit

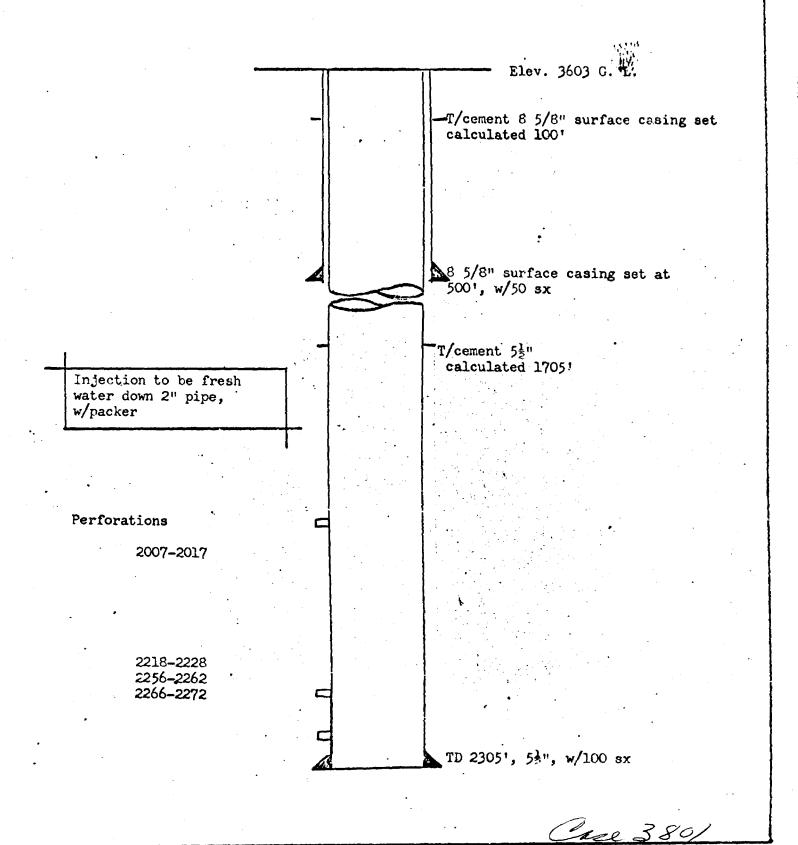
Marathon State SW1 NEt Sec 8 T18S R28E Eddy County, New Mexico

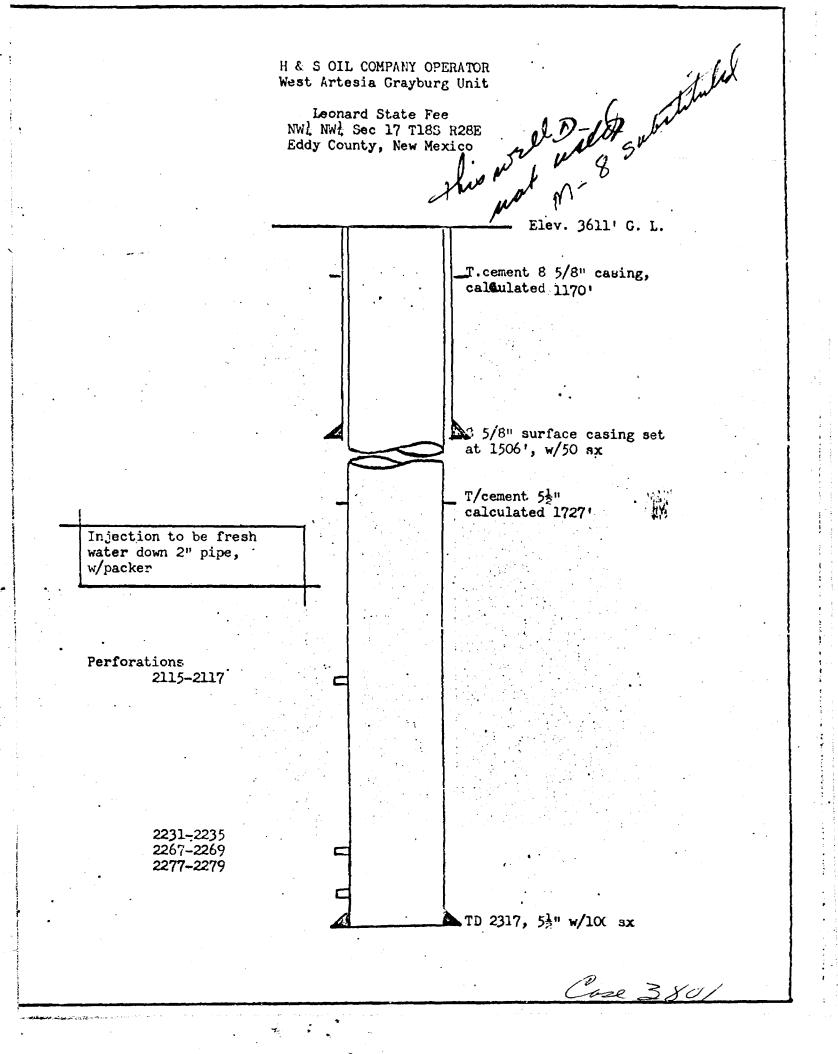
G-8 Cher 380/



H & S OIL COMPANY OPERATOR West Artesia Grayburg Unit

Signal #2 NE¹/₄ SW¹/₄ Sec 8 T18S R28E Eddy County, New Mexico K8





CIL CUITERVATION COMMISSION BEFORE EXAMINER UTZ EXHIBIT NO T-18-S - (A) R-28-E WEST ARTESIA GRAYBURG UNIT E-11000 LEASE NUMBER (2) UNIT TRACT NUMBER H AND S EXHIBIT 'A' ဖ Z