

CASE 3941: Application of AGUA,
INC. FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

Case Number

3941

Application

Transcripts.

Small Exhibits

ETC.



dearnley-meier reporting service, inc.

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

November 12, 1968

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Application of Agua, Inc.,)
for salt water disposal,)
Eddy County, New Mexico.)

Case No. 3941

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

RECEIVED
DEC 20 AM 8 19

MR. NUTTER: We'll call Case No. 3941.

MR. HATCH: Case 3941, application of Agua, Incorporated, for salt water disposal, Eddy County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin of Kellahin and Fox, Santa Fe, appearing for the applicant. I have one witness I'd like to have sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibits A and B were marked for identification.)

W. G. ABBOTT

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A My name is W. G. Abbott.

Q By whom are you employed, Mr. Abbott?

A Agua, Incorporated.

Q What is your position with Agua, Incorporated?

A I am a Manager.

Q Have you ever testified before the Oil Conservation Commission and made your qualifications as a petroleum engineer a matter of record?

A Yes, sir.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: They are. Please proceed.

Q Mr. Abbott, are you familiar with the application of Agua, Incorporated, in Case No. 3941?

A Yes, sir.

Q What is proposed by Agua, Incorporated, in this case?

A We propose to go back in an old abandoned dry hole in the Empire-Abo Pool. Said well is located 660 from the south line and 1980 from the east line of Section 1, Township 18 South, Range 27 East, Eddy County, New Mexico, to convert this dry hole to a salt water disposal well.

Q Now, was this well originally completed as a producing well in the Abo Formation?

A No, sir, this was drilled to the Abo, but it was a dry hole. It was drilled by Humble as their Federal Empire-Abo Well No. 3.

Q Now, referring to what has been marked as Exhibit A, would you identify that exhibit?

A Exhibit A shows the area in a two-mile radius of this proposed disposal well. The key shows there that the area colored in blue is the area of the Yates-Seven Rivers production.

The area in green is the Queen-Grayburg-San Andres production, and the area in orange is the area of Abo production. We propose to make this disposal well in the San Andres Formation.

Q Now, the nearest San Andres production to the location of that well is approximately a mile, is that correct?

A Yes, sir.

Q And does Exhibit A show all of the wells within a two-mile radius of the proposed disposal well?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit B, would you identify that exhibit?

A Exhibit B is a diagrammatic sketch of this proposed completion. It shows this well, which Agua will call our Agua-Empire-Abo SWD Well O-1. It shows the elevation to be 3630 feet, ground level. It shows eight and five-eighths-inch casing set at 1522 feet and cemented with 850 sacks of cement and the cement is circulated on it.

Then, there's a seven and seven-eighths-inch hole down to a total depth of 6365. We propose to run a five and a half-inch liner from up in the eight and five-eighths-inch and cement the liner at 2050 feet, and we'll dispose in the San Andres Formation from 2050 feet on down to, well, it's the Empire-San Andres, down to around 5400 feet.

Q Is there a flood at that point at the present time?

A Yes, sir.

Q You will then be disposing in the open-hole interval between the 2050 feet down to 5400 feet?

A Yes, we will have to drill out a 25-foot cement plug at the surface and then a plug at the 1472 feet, 1572, and then we'll wash out this bottom plug or the plug at 5400 feet.

Q Now, did this well ever produce from the Grayburg-San Andres?

A No, sir.

Q How will the well be completed for disposal purposes, now?

A We will run two and a half-inch plastic tubing string to the bottom of the liner at 2050 feet.

Q Plastic-lined tubing, is it not?

A Yes, plastic-lined tubing.

Q Will the casing tubing annulus or the annulus between the tubing and the liner be filled with an inert fluid?

A Yes, sir. We plan to fill the annulus with sweet oil.

Q Will there be a pressure gauge at the surface or will you leave it open?

A No, we will have a pressure gauge at the surface.

Q In your opinion, will the completion of this well for

the disposal of salt water you propose cause any damage to any producing zone or any fresh water zone?

A No, sir.

Q What source of water will you dispose of here?

A At the present time, we'll just have the produced water from about six wells that are producing from the Empire-Abo Pool. The volume is estimated to be about 200 barrels a day and that will be the water that we'll dispose of.

Q Will you anticipate that other wells will be connected to the disposal system?

A Probably in the future there will, yes, sir.

Q In your opinion, will the zone in which you are disposing of the water take those volumes of water without a pump?

A We think that we can dispose of this 200 barrels a day by gravity and probably more than that.

Q Were Exhibits A and B prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time, I offer in evidence Exhibits A and B.

MR. NUTTER: Aztec's Exhibits A and B will be admitted in evidence.

(Whereupon, Applicant's Exhibits A and B were admitted in evidence.)

MR. KELLAHIN: That's all I have on direct examination, Mr. Examiner.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Abbott, as I understand your schematic diagram here, you propose to run 600 feet of five and a half-inch lining, is that correct?

A Yes, sir.

Q And so that would be set at 2050, making the top of it at 1450?

A Yes.

Q And the eight and five is at 1522, so you'll have 72 feet of overlap in your liner and your long string?

A Yes, sir.

Q I mean, your short string.

A We hope to bring the cement back up into the eight and five from the liner. We'll cement the liner in place.

Q As a matter of fact, you'd probably prefer to have the cement come right back up to the top of the liner?

A Yes, sir.

Q And then the disposal would be down tubing inserted in

that liner?

A Yes, sir.

MR. NUTTER: Are there any other questions of Mr. Abbott? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, Mr. Nutter. Thank you.

MR. NUTTER: Does anyone have anything they wish to offer in Case No. 3941? We'll take the case under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
W. G. ABBOTT	
Direct Examination by Mr. Kellahin	2
Cross Examination by Mr. Nutter	7

<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's Exhibits A and B	2	7

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, Court Reporter and 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.

Charlotte Macias
 COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Hearing of Case No. 3941, heard by me on 11/12, 1968.

Antonio, Secretary
 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

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

P. O. BOX 2088
SANTA FE

November 19, 1968


Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 3941
Order No. R-3581
Applicant:
Agua, Inc.

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. 3941
Order No. R-3581

APPLICATION OF AGUA, INC.,
FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 19th day of November, 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, Agua, Inc., is the owner and operator of the Empire-Abo SWD Well No. 01, formerly the Humble Federal Empire-Abo Well No. 3, located in Unit O of Section 1, Township 18 South, Range 27 East, NMPM, Empire-Abo Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the open-hole interval from approximately 2050 feet to 5400 feet.

(4) That the injection should be accomplished through 2 7/8-inch plastic-lined tubing; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge

-2-

CASE NO. 3941
Order No. R-3581

should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

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

IT IS THEREFORE ORDERED:

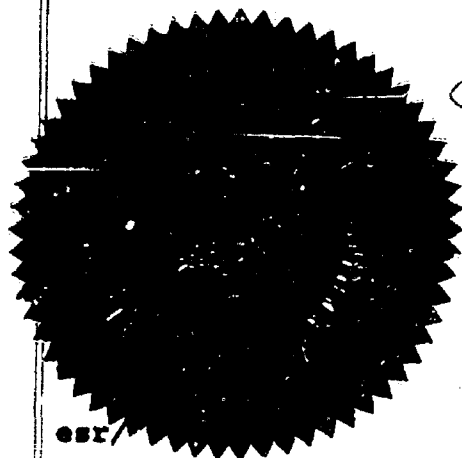
(1) That the applicant, Agua, Inc., is hereby authorized to utilize its Empire-Abo SWD Well No. 01, formerly the Humble Federal Empire-Abo Well No. 3, located in Unit 0 of Section 1, Township 18 South, Range 27 East, NMPM, Empire-Abo Pool, Eddy County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 7/8-inch tubing into the open-hole interval from approximately 2050 feet to 5400 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 at the surface in order to determine leakage in the casing, tubing, or packer.

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

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

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



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David F. Cargo
DAVID F. CARGO, Chairman

Glyton B. Hays
GLYTON B. HAYS, Member

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

(Case 3939 continued)

Township 31 North, Range 12 West

Richardson Well No. 7 - 1,584 feet from the East line
and 1,621 feet from the South line
of Section 15

East Well No. 10 1,770 feet from the North line
and 790 feet from the West line of
Section 26

East Well No. 8 790 feet from the South and East
lines of Section 26.

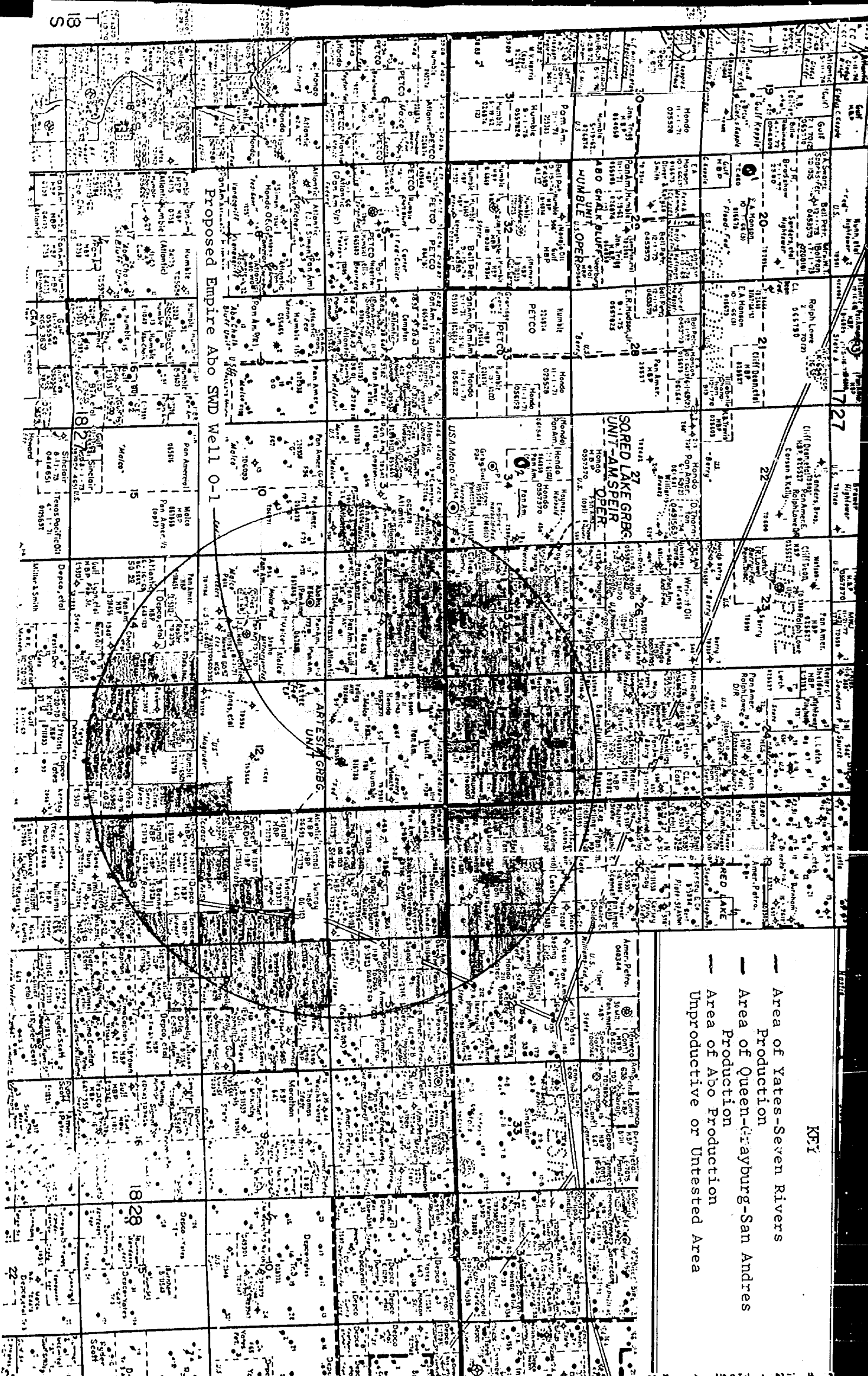
CASE 3940: Application of Shell Oil Company for an amendment to Order No. R-2808, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2808 to permit the dedication of a non-standard proration unit authorized therein to its Livingston Wells Nos. 7 and 2 located in Units V and W, respectively, of Section 3, Township 21 South, Range 37 East, Tubb Gas Pool, Lea County, New Mexico. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

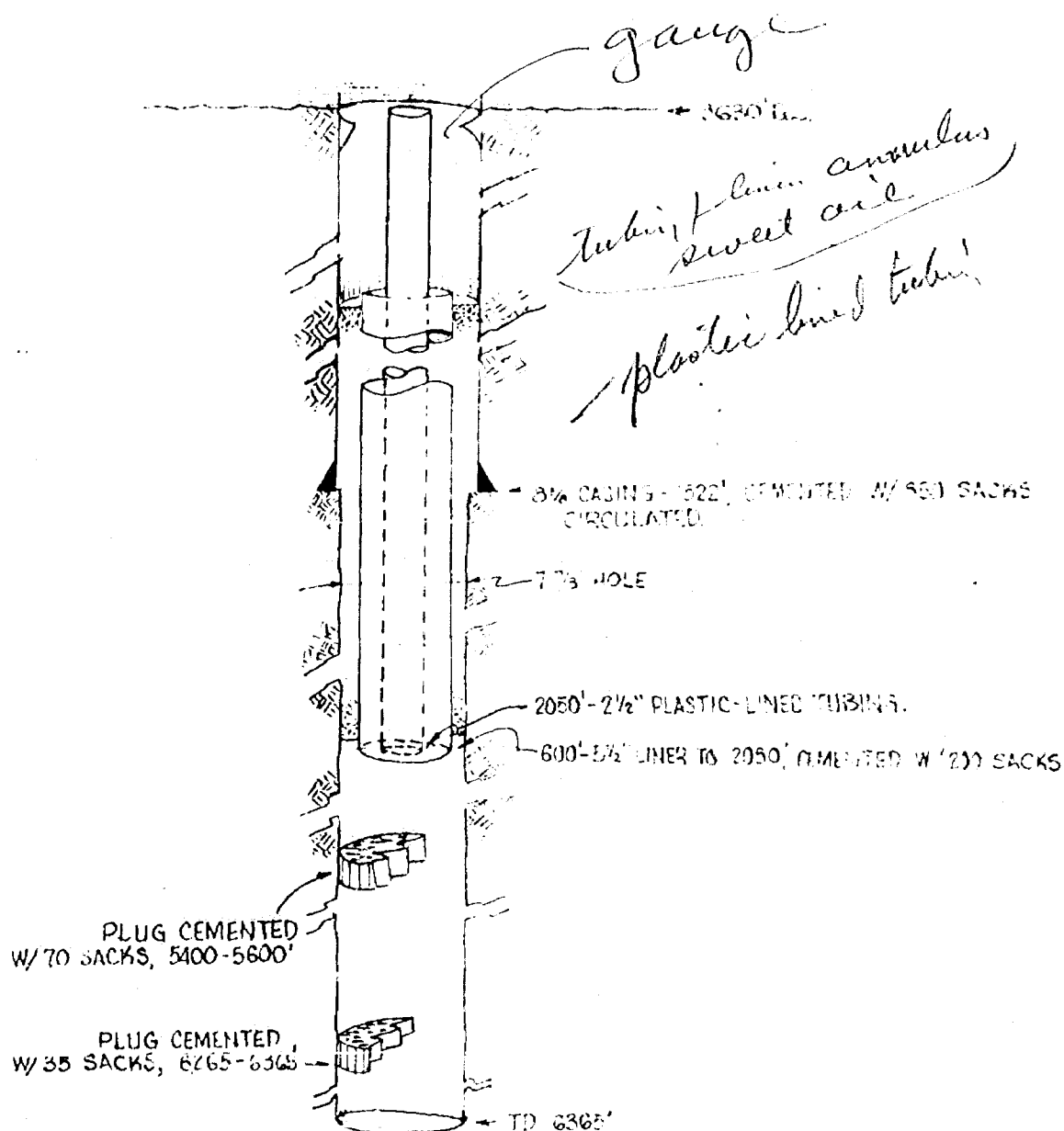
CASE 3941: Application of Agua, Inc., for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, proposes to dispose of produced salt water into the San Andres formation in the open-hole interval between the casing shoe set at 2050 feet and a cement plug at 5400 feet after cleaning out and acidizing the well between 2050 feet and 3600 feet in its Empire-Abo SWD Well No. 01, formerly the Humble Federal Empire-Abo Well No. 3, located in Unit O of Section 1, Township 18 South, Range 27 East, Empire-Abo Field, Eddy County, New Mexico.

CASE 3942: Application of Cities Service Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates and Seven Rivers formations in the perforated interval from approximately 3790 feet to 3834 feet in its Closson "B" Well No. 18 located in Unit M of Section 19, Township 22 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.

KEY

- Area of Yates-Seven Rivers Production
- Area of Queen-Grayburg-San Andres Production
- Area of Abo Production
- Unproductive or Untested Area





BEFORE EXAMINER NUTTER

OIL CONSERVATION COMMISSION

Appli EXHIBIT NO. *D*

CASE NO. *3941*

EMPIRE ABO SALT WATER DISPOSAL SYSTEM

AGUA WELL 0-1

660' FSL & 1980' FSL, SECTION 1: T-18-S, R-27-E

EDDY COUNTY,

NEW MEXICO

OWN	F.B.	10-68

AGUA, INC.

Hobbs, New Mexico

SCALE
NONE

DWG. NO.
A-62

BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

APPLICATION OF AGUA, INC., FOR
APPROVAL OF A SALT WATER
DISPOSAL SYSTEM, EDDY COUNTY,
NEW MEXICO

Case 3941

A P P L I C A T I O N

Comes now AGUA, INC., and applies to the Oil Conservation Commission of New Mexico for approval of a salt water disposal system in the Empire-Abo Field, Eddy County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to convert the Humble Federal Empire-Abo Well No. 3 to salt water disposal, redesignating said well as Agua, Inc., Empire-Abo SWD No. 01.

2. The subject well, located 660 feet from the South line and 1980 feet from the East line of Section 1, Township 18 South, Range 27 East, N.M.P.M., Eddy County, New Mexico, was completed as a dry hole on November 8, 1959, at a total depth of 6365 feet. The 8 5/8-inch casing is set at 1522 feet, and cemented with 850 sacks of cement, the cement circulated. The well was drilled 7 7/8-inch open hole to total depth. At the present there is a 25-foot cement plug at the surface, and the well is plugged from 1472 to 1572 feet, from 5400 to 5600 feet, and a bottom plug from 6265 feet to 6365 feet.

3. Applicant proposes to drill the first two plugs; run a 5 1/2-inch liner to 2050 feet, clean out the well bore to 3600 feet and acidize with 10,000 gallons of acid. Disposal through the open hole will be into the San Andres Formation.

4. The well will be completed for injection by running a 2 1/2-inch plastic-lined tubing to 2050 feet, and an oil

DOCKET MAILED

Date 11-1-68

blanket will be utilized behind the tubing.

5. The well will be utilized for the disposal of an anticipated 200 barrels of produced water per day.

6. The zone in which water is ~~p~~urposed to be injected is productive of oil, and it is therefore necessary that this application be set for hearing.

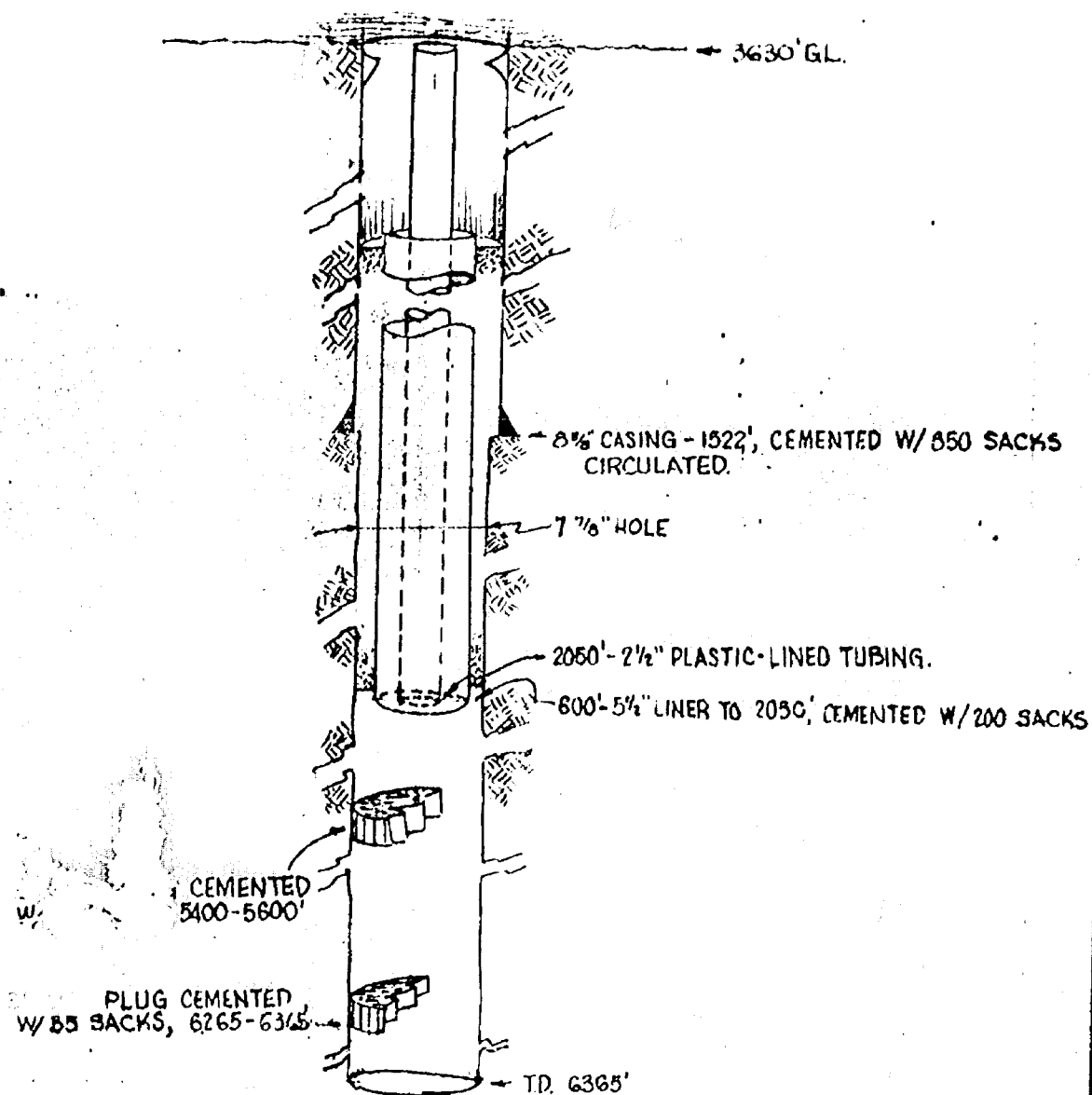
WHEREFORE, applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as required by law, the Commission enter its order approving the applicant's proposed salt water disposal system as applied for.

Respectfully submitted,

AGUA, INC.

BY: Jason W. Kellahin
KELLAHIN & FOX
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO

ATTORNEYS FOR APPLICANT



EMPIRE ABO SALT WATER DISPOSAL SYSTEM
AGUA WELL O-1

650' FSL & 1980' FEL; SECTION 1; T-18-S, R-27-E

EDDY COUNTY,

NEW MEXICO

OWN F.B. 10-68

AGUA, INC.

SCALE
NONE

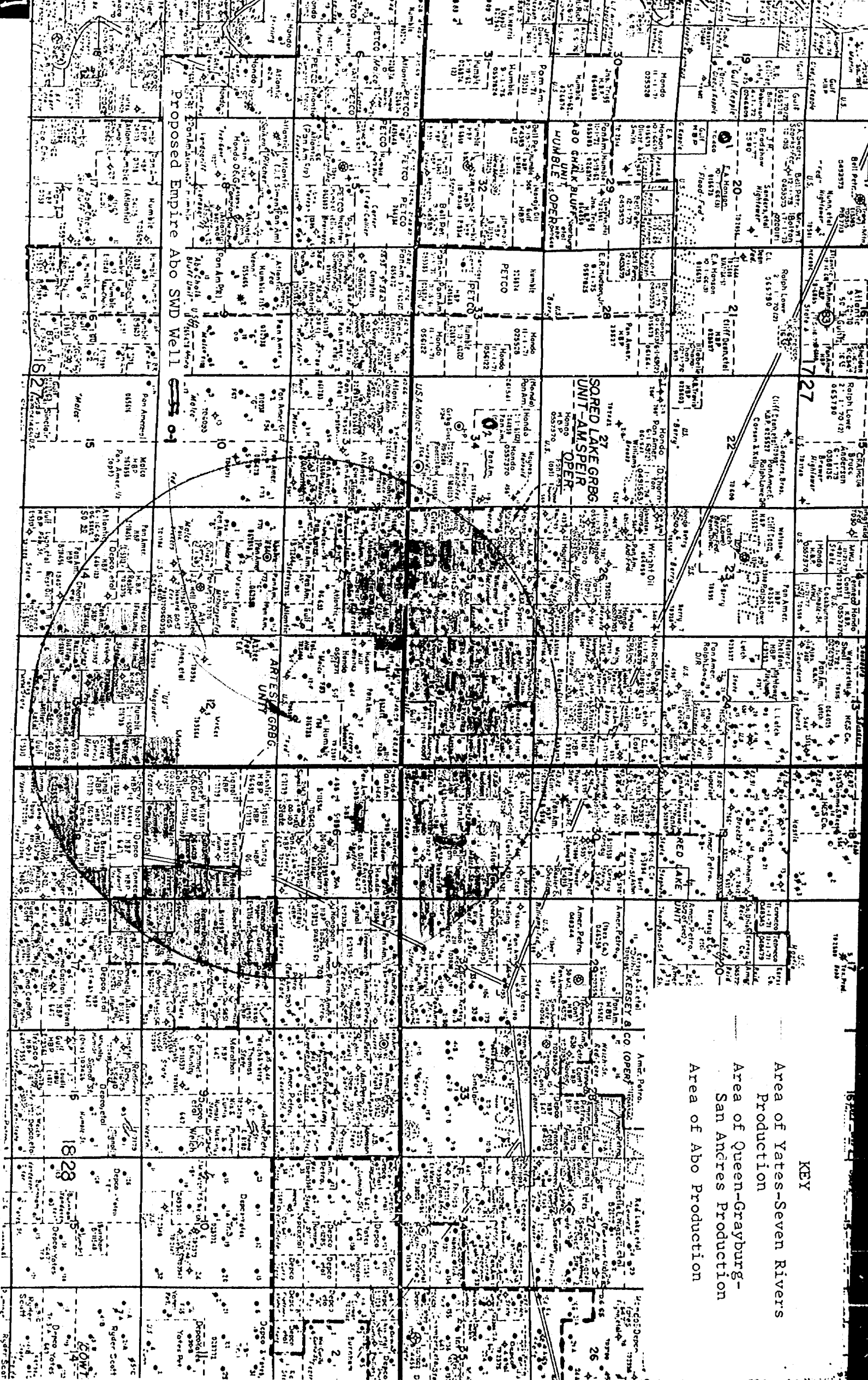
Hobbs, New Mexico

DWG. NO.
A-66

Case 3941

Area of Yates-Seven Rivers
Production

San Andres Production



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:

*Application of Aqua, Inc.,
For Salt Water Disposal,
Eddy County, New Mexico*

CASE No. 3941

Order No. R-3581

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this day of November, 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, Aqua, Inc.,
is the owner and operator of the Empire - 2bo SWD Well No. 01,
~~formerly the Humble Federal Empire - 2bo Well No. 3,~~
located in Unit Q of Section 1, Township 18 South, Range
27 East, NNPM, Empire - 2bo SWD, Eddy
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the San Andres
formation, with injection into the open-hole interval
from approximately 2050 feet to 5400 feet.

(4) That the injection should be accomplished through
2 1/2-inch plastic-lined tubing installed in a packer set at

CASE No. _____

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

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Agua, Inc.,
is hereby authorized to utilize its Empire - Abo SW D Well No. 01,
~~formerly the Humble Federal Empire - Abo No. 13,~~
located in Unit 0 of Section 1, Township 18 South, Range
27 East, NMPM, Empire - Abo Field, Eddy
County, New Mexico, to dispose of produced salt water into the
San Andres formation, injection to be accomplished through
2 1/2-inch tubing installed in a packer set at approximately
_____ feet, with injection into the open-hole interval
from approximately 2050 feet to 5400 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined;
that the casing-tubing annulus shall be filled with an inert
fluid; and that a pressure gauge shall be attached to the annulus
~~or the annulus left open~~ at the surface in order to determine
leakage in the casing, tubing, or packer.

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

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

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