

CASE 4034: Application of CHINESE  
CORPORATION FOR SALT WATER  
DISPOSAL, ROOSEVELT COUNTY.

Case Number.

4094

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Application

Transcripts.

Small Exhibits

ETC.

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

1120 SIAMAS BLVD. • P. O. BOX 1092 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

April 9, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Cayman  
Corporation for salt water  
disposal, Roosevelt County,  
New Mexico.

Case 4094

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4094, application of Cayman Corporation for salt water disposal, Roosevelt County, New Mexico.

MR. DURRETT: J. M. Durrett, appearing on behalf of the Applicant. I have one witness.

(Thereupon, Applicant's Exhibits 1, 2 and 3 was marked for identification.)

JOHN S. GOODRICH

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

DIRECT EXAMINATION

BY MR. DURRETT:

Q Will you please state your name to the Examiner?

A John S. Goodrich.

Q By whom are you employed, Mr. Goodrich, and in what capacity?

A Cayman Corporation, as an Engineer.

Q Have you previously testified before this Commission?

A No, sir, I have not.

Q Would you please briefly give us your summary of your education and experience in the oil business?

A I am a graduate of Texas University with a B.S. in petroleum engineering. I worked 7 years for Magnolia Petroleum Company in the capacity of roustabout, roughneck, engineer, foreman, superintendent; and 2 1/2 years as Engineer and Superintendent of operations for MacMillan Petroleum Corporation; and 13 years as Petroleum Consultant doing completion work in their aspects of petroleum engineering.

MR. DURRETT: Are the witness's qualification acceptable?

MR. NUTTER: Yes, they are. Where do you presently reside?

THE WITNESS: Midland, Texas.

Q What is Cayman seeking by this application in Case 4094?

A To inject water produced from the San Andres formation in the Chaveroo field under their Hondo-State lease, back into the San Andres formation in the same lease.

Q What well are you proposing to use as an injection well?

A The Hondo-State No. 1, located 1,980 feet from the North and West line of Section 31.

Q That is in Township 7 South, Range 33 East?

A Yes.

Q Please refer to your Exhibit 1, and state to the Examiner what that represents?

A That represents the wells within a 2 mile radius of Cayman Hondo-State lease. All these wells are producing only from the San Andres formation.

Q Are all the wells on this plat producing from the San Andres?

A All the wells on this plat.

Q Does this plat also show your proposed injection well there in Section 31?

A Yes, sir.

Q How is that marked?

A It is No. 1, circled with a proposed injection well noted on it.

Q Now, you show some water injection wells on some offsetting sections there, too?

A Yes, on the section that Champlan has, their No. 5 well, their State 32 lease is an injection well. To the Northeast, Section 29, their No. 12 well.

MR. NUTTER: Number what?

THE WITNESS: No. 12 well. It is also 1980 feet from the south and east line of Section 29.

Q How many wells do you have on your lease that you would be using to dispose?

A We have 6 wells presently, and we would be disposing of 5, water from 5 wells.

Q Approximately how much water would you anticipate that you would be injecting into your proposed well?

A Less than 80 barrels a day. It would range from 50 to as much as 80 barrels a day.

Q Have some of the offsetting operators contacted you informally suggesting that they might like to join your system?

A That is true. There was a system proposed for this area, and Aqua had it proposed, and various people began to drop out, and it ended up that they were not able to get their system installed because of the cost of their system; and consequently, the operators, lots

of them are having to truck their water.

Q If your application was approved, you would anticipate that you would probably have more than the 80 barrels.

A Yes, this is conceivable. Champlan on their two wells are injecting 500 barrels a day under each well, of water.

Q Let's move now to your Exhibit No. 2, Mr. Goodrich. What is that?

A This a diagrammatic well sketch of the Cayman Hondo-State No. 1 well, showing where the surface casing was set, the size of the surface casing being 8 5/8, 20 pounds, and the amount of cement used to circulate to the surface, the production string being 4 1/2 inch, 10 1/2 pound casing, and the amount of cement used to cement that casing, with the estimated top being at 3,100 feet. The estimated top of the cement which is above the top of the San Andres, at 3,468.

Also, it shows the tubing being 2 3/8, with a packer set at 4,150 feet, and the perforations, where it is located, from 4,184 to 4,274, and the plugged back depth, as well as the total depth of the well.

Q So you would be injecting produced water from the San Andres formation back into the San Andres formation?

A Directly back into it. As I understand this is what Champlan and some of the other operators have been successful in doing.

Q What type of packer is that?

A That is a Giebersen KVL packer.

Q Let's move to your Exhibit 3, what is that?

A This is the log of the well that was proposed for an injection well, showing the tops of not only of the San Andres formation, but the top of the anhydrite as well as the top of the Yates, and also in the detail section of the log it shows the perforations.

Q In your opinion as a Petroleum Engineer, is this a standard method of disposing of produced salt water?

A Yes, it is.

Q Do you feel as a Petroleum Engineer, this would be an efficient method of --

A Yes, sir. We anticipate no problem at the moment. We anticipate it being on a vacuum at no

greater rates than we are injecting, or will need to inject water. It is conceivable we will have pressure and have to put it on a pump later.

Q But you don't anticipate that at this time?

A No.

Q Were Exhibits 1, 2, and 3 prepared by you or under your supervision?

A Yes.

MR. DURRET: I move the introduction of Exhibits 1, 2, 3.

MR. NUTTER: Applicant's Exhibits 1, 2 and 3 will be admitted into evidence.

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

MR. DURRETT: That concludes my direct examination.

MR. NUTTER: Any questions of this witness?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Goodrich, inasmuch as you will be injecting water into the producing formation adjacent to producing wells, is there a possibility this injection

water will have a detrimental production from those offsetting wells?

A It is not anticipated that would happen. It is conceivable that you would eventually be able to get some kick from this water, but we are not anticipating it at any time soon, at no greater rates than we are putting water in.

Q In fact, rather than have a detrimental effect, it could enhance it?

A That's right. If there was any effect, at all, it would enhance it.

Q Do you propose to coat this, or plastic line this tubing?

A No, sir. We intend to monitor the casing, if there is any leakage by the packer at all, to be aware of that situation and to rectify it immediately.

Q This annulus can be loaded with an inhabited liquid?

A That is true.

Q And will it be?

A Yes, sir.

Q Can it be equipped with a pressure gauge at

the surface to detect leakage?

A That is true, it can be, and it will be.

Q Now, your lease at the present time is producing from 50 to 80 barrels of water per day?

A Yes, sir, that is true.

Q And you mentioned that you might take water from other operators. Do you have any idea as to how much eventual disposal or injection might be made into this well?

A No, sir, we don't. We will be governed on not only our history, but Champlan's and other operators, and as to the feasibility of us taking other operators' water. Tom Snyder in this section would like to get in. I think Western States may be available.

Q Snyder has a one well lease?

A Yes, sir, a one well lease. He is producing about 10 barrels a day, and I talked to him this week.

Q Who was the other operator you mentioned?

A Western States just to the North.

Q And they have apparently about 4 wells on their lease? And as far as you know, those are the only two?

Those are the only two, other than those trucking in water, and we would like to produce about 800 barrels a day, if we would make a deal with them.

MR. NUTTER: Any further questions of Mr. Goodrich? You may be excused. Do you have anything further, Mr. Durrett?

MR. DURRETT: No.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4094? We will take the case under advisement, and call Case 4095.

I N D E XWITNESSPAGE

JOHN S. GOODRICH

Direct Examination by Mr. Durrett

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Cross Examination by Mr. Nutter

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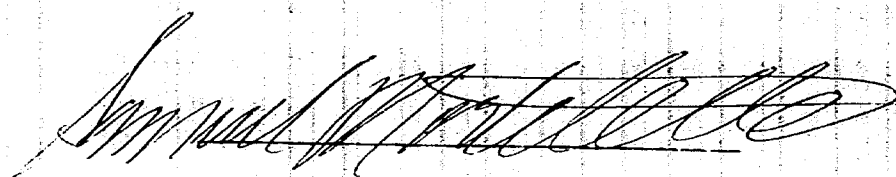
EXHIBITSMARKEDADMITTED IN  
EVIDENCEApplicant's Exhibits  
1, 2 and 3

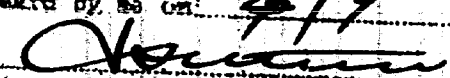
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STATE OF NEW MEXICO     )  
                                  ) ss.  
COUNTY OF BERNALILLO    )

I, SAMUEL MOITELETTE, Court Reporter in and  
for the County of Bernalillo, State of New Mexico, do  
hereby certify that the foregoing and attached Transcript  
of Hearing before the New Mexico Oil 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.



I do hereby certify that the foregoing is  
as complete record of the proceedings in  
the Examiners' Hearing of Case No. 10994  
heard by me on 4/9 1929  
 Examiner  
New Mexico Oil Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87801

April 15, 1969

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX. J. ARMijo  
MEMBER

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

Mr. James Durrett  
Rhodes, McCallister & Durrett  
Attorneys at Law  
500 Oak N. E.  
Albuquerque, New Mexico 87106

Re: Case No. 4094  
Order No. B-3728  
Applicant:

Cayman Corporation

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X

Artesia OCC       

Aztec OCC       

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE No. 4094  
Order No. R-3728

APPLICATION OF CAYMAN CORPORATION  
FOR SALT WATER DISPOSAL, ROOSEVELT  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 9, 1969,  
at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 15th day of April, 1969, 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, Cayman Corporation, is the owner  
and operator of the Hondo-State Well No. 1, located in Unit F  
of Section 31, Township 7 South, Range 33 East, NMPM, Chaveroo-  
San Andres Pool, Roosevelt County, New Mexico.

(3) That the applicant proposes to utilize said well to  
inject produced salt water into the San Andres formation, with  
injection into the perforated interval from approximately 4184  
feet to 4274 feet.

(4) That the subject well should be classified as a pilot  
waterflood project injection well.

(5) That the injection should be accomplished through  
2 3/8-inch tubing installed in a packer set at approximately

-2-

CASE No. 4094  
Order No. R-3728

4150 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(6) 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, Cayman Corporation, is hereby authorized to institute a pilot waterflood project by utilizing its Hondo-State Well No. 1, located in Unit F of Section 31, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to inject produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4150 feet, with injection into the perforated interval from approximately 4184 feet to 4274 feet;

**PROVIDED HOWEVER,** 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 monthly progress reports of the pilot waterflood project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

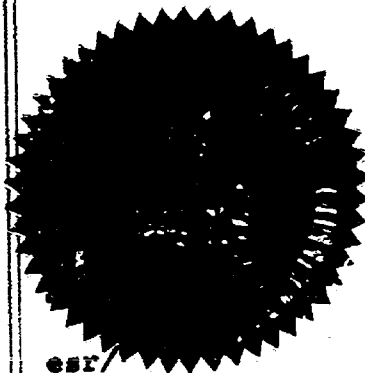
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX O. ARMILLO, Member

A. L. PORTER, Jr., Member



Docket No. 10-69

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 9, 1969

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

The following cases will be heard before Daniel S. Nutter, Examiner, or  
Elvis A. Utz, Alternate Examiner:

CASE 4092: Application of Phillips Petroleum Company for a capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of a capacity allowable to its U. S. Minerals Well No. 4 located in the SW/4 SE/4 of Section 30, Township 17 South, Range 33 East, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico. Said well offsets a waterflood project operated by Cities Service Oil Company.

CASE 4093: Application of BTA Oil Producers for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the intervals from approximately 12,240 feet to 12,275 feet in its State "E" Well No. 1 and from approximately 12,088 feet to 12,164 feet in its State "E" Well No. 2 located, respectively, in Units F and C of Section 5, Township 10 South, Range 36 East, adjacent to the West Crossroads-Devonian Pool, Lea County, New Mexico.

CASE 4094: Application of Cayman Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4184 feet to 4274 feet in its Hondo-State Well No. 1 located in Unit F of Section 31, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.

CASE 4095: Application of Tom Schneider for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Rustler formation in the perforated interval from approximately 1320 feet to 1340 feet in his SWD Well No. 1 located in Unit O of Section 16, Township 23 South, Range 36 East, Jalmat Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 4096: Application of Kersey & Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project

Examiner Hearing - April 9, 1969

-2-

Docket No. 10-69

(Case 4096 continued)

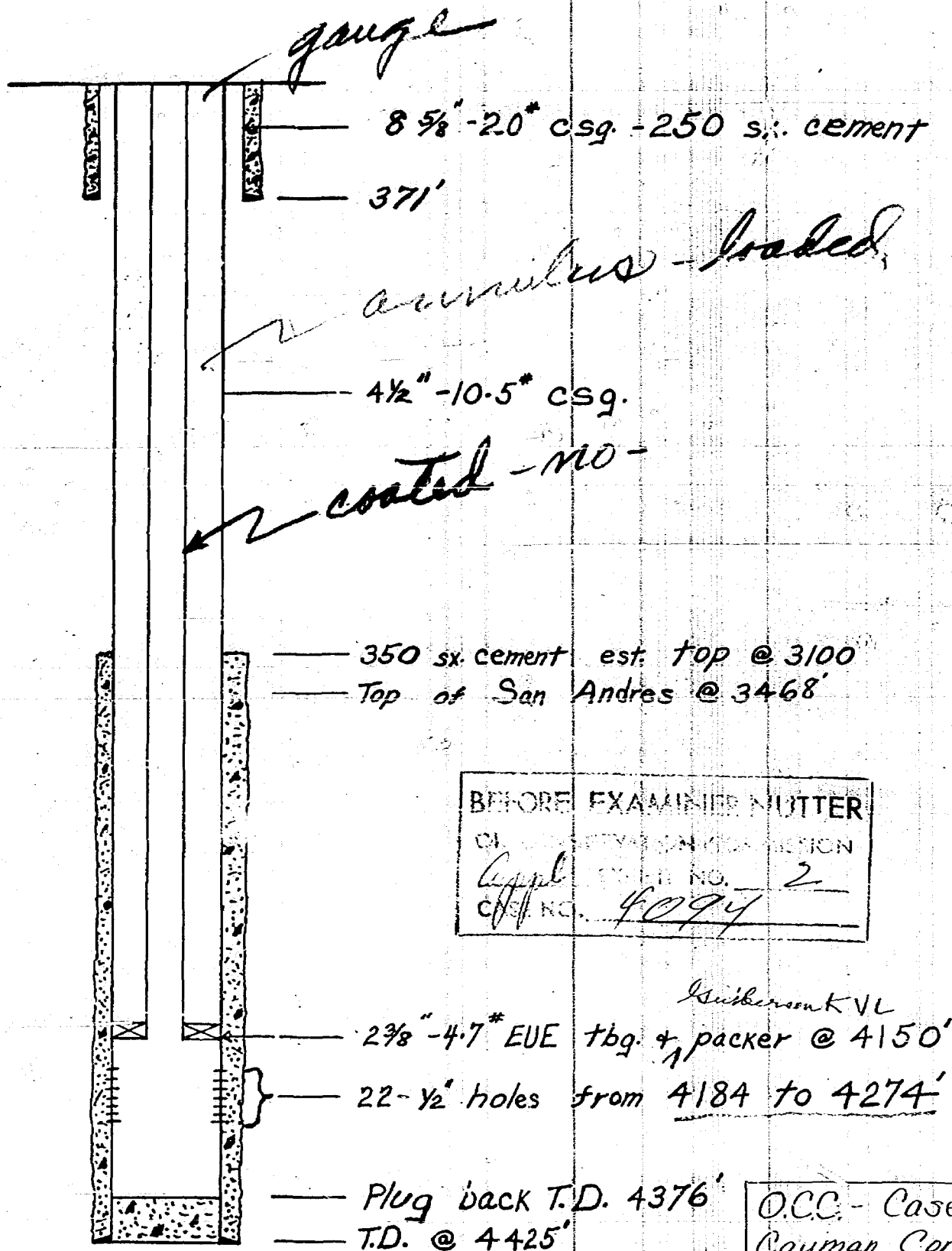
by the injection of water into the Seven Rivers formation through four wells located in Units C, D, and F of Section 25, Township 17 South, Range 28 East, Aid (Yates-Seven Rivers) Pool, Eddy County, New Mexico.

CASE 4097: Application of Western States Producing Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Smelting-State Well No. 1, located in Unit F of Section 9, Township 12 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the East Bagley-Pennsylvanian Pool and the disposal of produced salt water through the intermediate casing-production casing annulus into the San Andres, Glorieta, Tubb, Abo, and possibly other formations in the interval from approximately 4199 feet to 8931 feet.

CASE 4098: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Walter J. Nelson and all other interested parties to appear and show cause why the Walter J. Nelson Lee Burns "A" Well No. 1 located in Unit P of Section 31, Township 6 North, Range 8 East, Torrance County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 4078: (Continued from the March 26, 1969 Examiner Hearing)  
Application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Devils Fork-Gallup Pool and an undesignated Mesaverde oil pool in the well-bore of his NCRA State Well No. 3 located in Unit L of Section 16, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

Diagramatic Well Sketch  
 Cayman Corporation - Hondo - State No. 1  
 Chaveroo Field  
 Roosevelt County, New Mexico



BEFORE EXAMINER NOTED
OF INVESTIGATION
Appl. NO. <u>2</u>
CASE NO. <u>4094</u>

*Kniberson KVL*

O.C.C. - Case 4094  
 Cayman Corp.  
 Exhibit No. 2

RHODES, McCALLISTER & DURRETT  
ATTORNEYS AT LAW

JERRY P. RHODES  
ORVILLE C. McCALLISTER, JR.  
J. M. DURRETT, JR.

500 P. OAK, N. E.  
(CORNER ROME AND INTERSTATE 25)  
ALBUQUERQUE, NEW MEXICO 87106  
TELEPHONE 243-9744

March 11, 1969

*Case 4094*

New Mexico Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.  
Secretary-Director

Gentlemen:

I enclose an Application for salt water disposal for Cayman Corporation. Will you please docket this application on your next regularly scheduled examiner hearing. Please note that the plat which is attached to the application does not show the formation from which offset wells are producing. I would certainly appreciate it if you would go ahead and docket this application. I have written Cayman requesting a plat showing the formation from which the wells are producing and will forward the same to you in the near future.

Thank you very much for your assistance.

Very truly yours,

Rhodes, McCallister & Durrett

By

*J. M. Durrett, Jr.*  
J. M. Durrett, Jr.

JMD:ap  
encls.

DOCKET MAILED

Date *3/27/69*

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

63 FEB 12 AM 8 17

APPLICATION of  
CAYMAN CORPORATION

for Salt Water Disposal,  
Roosevelt County, New Mexico

Case No. 4094

APPLICATION

COMES NOW the applicant, Cayman Corporation, by  
and through its attorneys, Rhodes, McCallister & Durrett, and re-  
spectfully states:

I.

The applicant is the owner and operator of the Cayman  
Corporation Hondo State Well No. 1 located in the Chaveroo Field,  
1980 feet from the north line and 1980 feet from the west line of  
Sec. 31, Township 7 South, Range 33 East, NMPM, Roosevelt County,  
New Mexico.

II.

The applicant seeks authority to inject approximately  
80 barrels of produced salt water daily into the San Andres Formation  
in said well through 2-3/8" tubing set in a packer located at approxi-  
mately 4150 feet.

III.

The perforations in the San Andres Formation are  
approximately 4184 feet to 4274 feet and the plug back total depth  
in said well is approximately 4376 feet.

IV.

The salt water which the applicant proposes to dispose of will be produced from the San Andres Formation on the same lease on which the proposed salt water disposal well is located.

V.

A plat showing the location of the proposed injection well, the location of all other wells within a radius of two miles from the proposed injection well, the formation from which said wells are producing or have produced, and lessees within said two mile radius is attached hereto and incorporated herein by reference.

VI.

A Gamma Ray-Neutron log of the proposed injection well is attached hereto and incorporated herein by reference.

VII.

A diagrammatic sketch of the proposed injection well is attached hereto and incorporated herein by reference.

VIII.

The applicant submits that the proposed salt water disposal is feasible and in accord with good conservation practices.

WHEREFORE, the applicant requests the Commission to enter its order approving salt water disposal into the subject well as set out above.

Rhodes, McCallister & Durrett

By

  
J. M. Durrett, Jr.

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE No. 4094

Order No. R-3728

APPLICATION OF CAYMAN CORPORATION  
FOR SALT WATER DISPOSAL, ROOSEVELT  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 9, 1969,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this        day of April, 1969, 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, Cayman Corporation  
is the owner and operator of the Hondo-State Well No. 1  
located in Unit F of Section 31, Township 7 South, Range  
33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt  
County, New Mexico.

(3) That the applicant proposes to utilize said well to  
~~dispose of~~ <sup>inject</sup> produced salt water into the San Andres  
formation, with injection into the perforated interval  
from approximately 4184 feet to 4274 feet.

(5) That the injection should be accomplished through  
2 3/8-inch ~~plastic lined~~ tubing installed in a packer set at

(4) That the subject well should be classified as  
a pilot waterflood project injection well.  
That the wells in the area are in a advanced state  
of depletion and should properly be classified as stripper  
wells.  
That

approximately 4150 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.

(6) ~~That~~ 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, Cayman Corporation, *institute a pilot water flood project by utilizing* is hereby authorized to ~~use~~ its Hondo-State Well No. 1, located in Unit F of Section 31, Township 7 South, Range 33 East, NMPM, Chaveroo-San Andres Pool, Roosevelt County, New Mexico, to ~~dispose of~~ *inject* produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4150 feet, with injection into the perforated interval from approximately 4184 feet to 4274 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.

*that monthly progress reports of the pilot injection water flood project be in accordance shall be submitted to the Commission*  
(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.