

CASE 3842: Appli. of CONTINENTAL
for a pressure maintenance project
Lea County, New Mexico.

Case Number

3842

Application
Transcripts.

Small Exhibits

ETC.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON M. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

September 9, 1935

3818 3848
3826 3838
3339 3817
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3843

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

Re: Case No. 3843
Order No. R-3482, 3483, 3484,
Applicant: 3485, 3487, 3488,
3489, 3490, 3491

Continental & Eugene Nearburg

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.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC R-3483 & R-3489
Aztec OCC _____
Other _____

(Case 2839 continued)

authority to institute a waterflood project by the injection of water into the Delaware formation in the perforated interval from 5073 feet to 5145 feet in its Fields Well No. 2 located in Unit M of Section 25, Township 23 South, Range 32 East, Cruz-Delaware Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3840: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Seven Rivers formation in the perforated interval from 3450 feet to 3600 feet in its Lynn "A-27" Well No. 1 located in Unit D of Section 27, Township 23 South, Range 36 East, Jalmat Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3841: Application of Continental Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Delaware formation in the perforated intervals from 4497 feet to 4507 feet in its Wilder Well No. 24 and from 4529 feet to 4535 feet in its Wilder Well No. 27 located in Units L and F, respectively, Section 26, Township 26 South, Range 32 East, El Mar-Delaware Pool, Lea County, New Mexico. In the alternative, applicant seeks to have said wells authorized for salt water disposal.

CASE 3842: Application of Continental Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Seven Rivers formation in the perforated interval from 3208 feet to 3255 feet in its Eaves "A" Well No. 10 located in Unit P of Section 19, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico, and promulgation of special rules for said project. In the alternative, applicant seeks to have said well authorized for salt water disposal.

CASE 3843: Application of Continental Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project by the injection of water into the Seven Rivers formation in the perforated interval from 3012 feet to 3110 feet in its Sholes "B-25" Well No. 5 located in Unit G of Section 25, Township 25 South, Range 36 East, Jalmat Pool, Lea County, New Mexico, and promulgation of special rules for said project. In the alternative, applicant seeks to have said well authorized for salt water disposal.

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. 3842
Order No. R-3487

APPLICATION OF CONTINENTAL OIL COMPANY
FOR A PRESSURE MAINTENANCE PROJECT, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 21, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 9th day of September, 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, Continental Oil Company, is the
owner and operator of the Eaves "A" Well No. 10, located in Unit
P of Section 19, Township 26 South, Range 37 East, NMPM,
Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico.

(3) That the applicant seeks authority to institute a pres-
sure maintenance project in the Scarborough Yates-Seven Rivers
Pool by the injection of water into the Seven Rivers formation
in the perforated interval from approximately 3208 feet to 3255
feet in its Eaves "A" Well No. 10. In the alternative, the
applicant seeks to have said well authorized for salt water
disposal.

(4) That the subject well should be classified as a salt
water disposal well.

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

-2-

CASE No. 3842

Order No. R-3487

approximately 3195 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 tubing, casing, or packer.

(6) That approval of the subject application for salt water disposal will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

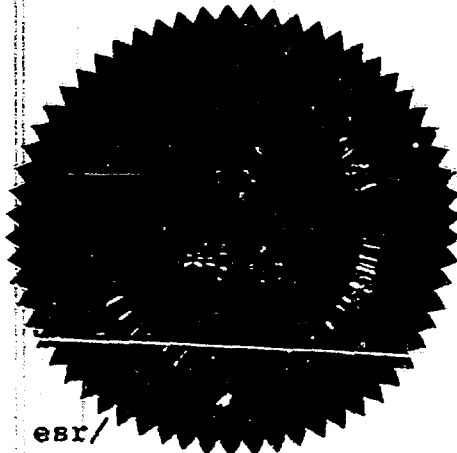
(1) That the applicant, Continental Oil Company, is hereby authorized to utilize its Eaves "A" Well No. 10, located in Unit P of Section 19, Township 26 South, Range 37 East, NMPM, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico, to dispose of produced salt water into the Seven Rivers formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 3195 feet, with injection into the perforated interval from approximately 3208 feet to 3255 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 tubing, casing, 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

Guston D. Hays
GUSTON D. HAYS, Member

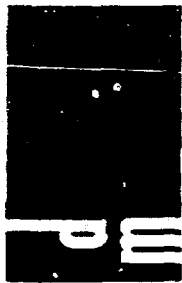
A. L. Porter, Jr.
A. L. PORTER, Jr., Member & Secretary

esr/

dearnley-meier reporting service, inc.

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

1120 SIAMAS BLDG. • P. O. BOX 1192 • PHONE 243-4491 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 21, 1968

IN THE MATTER OF:

Application of Continental Oil
Company for a pressure maintenance
project, Lea County, New Mexico.

Case No. 3842

BEFORE: D. S. NUTTER,
Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3842.

MR. HATCH: Application of Continental Oil Company
for a pressure maintenance project, Lea County, New Mexico.

MR. KELLAHIN: May the record show the same appearance
and the the witness, Mr. Roger Porter, has been sworn and
qualified.

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

* * * * *

J. ROGER PORTER, called as a witness, having been
previously duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A J. Roger Porter.

Q You are the same Mr. Porter who has testified in
the preceeding cases?

A Yes, sir.

Q Mr. Porter, are you familiar with the application
of Continental Oil Company in Case 3842?

A Yes, sir.

Q Briefly, what is proposed by Continental Oil Company
in this case?

A Case No. 3842 is the application of Continental Oil Company for authority to inject water into its Eaves "A" No. 10 well in the Scarborough Pool.

Q Referring to what has been marked as Exhibit No. 1, would you identify that exhibit, please?

A Exhibit No. 1 is a copy of the plat showing the proposed injection well circled in red at a location 660 feet from the south line and 990 feet from the east line of Section 19, Township 26 South, Range 37 East, Lea County, New Mexico. The Eaves "A" lease is shown outlined in red and is described as northwest quarter northwest quarter, south half of northwest quarter in the south half of Section 19, and the north half of north half of Section 30, Township 26 South, Range 37 East, Lea County, New Mexico. The plat shows the location and ownership of all leases and wells within a radius of two miles from the injection wells.

Q Referring to what has been marked as Exhibit No. 2, would you identify that exhibit?

A Exhibit No. 2 is a copy of the form C-108 for Eaves "A" No. 10. As shown on the form, we propose to inject produced water into the Seven Rivers Formation in the interval 3208 to 3255 feet, through 3 1/2 inch O. D. Plastic-lined tubing below a packer to be set at approximately 3195 feet.

Q Referring to what has been marked as Exhibit No. 3, would you identify that exhibit?

A Exhibit No. 3 is a schematic diagram of the well showing the eight and five-eighths-inch casing set at 379 feet, five and one-half-inch casing set at 3255 feet, three and one-half-inch O. D. plastic-lined tubing set at 3195 feet, with a packer at 3195 feet and the injection interval 3208 to 3255 feet.

Q Will you fill the casing tubing annulus with an inert fluid?

A Yes.

Q Will it be possible to put a pressure gauge on the annulus, or leave it open?

A Yes, sir.

Q Referring to what has been marked as Exhibit 4, would you identify that exhibit?

A Exhibit 4 is a copy of the radioactivity log on the Eaves "A" No. 10. The top of the Seven Rivers formation is indicated at approximately 3183 feet. The perforated interval into which water is proposed to be injected is shown at 3208 to 3255 feet.

Q Now, referring to what has been marked as Exhibit 5, would you describe what it shows?

A Exhibit No. 5 is an analysis of water produced on

this lease.

Q Is this water potable?

A It is not considered potable for humans, but suitable for livestock.

Q You are going to inject this water into the San Andres formation, is that correct?

A No, it is into the Seven Rivers.

Q Into the Seven Rivers, pardon me.

A Yes.

Q There is production in the area from the Seven Rivers formation?

A Yes, that is correct.

Q Is the Scarborough Pool considered to be a waterflood prospect?

A There is a strong water drive in the Seven Rivers and Basal Yates of the Scarborough Pool. These intervals are not considered to be waterflood prospects since there is a natural water drive, or waterflood, already in existence. The Upper Yates interval is still enjoying primary production and we have not yet gathered sufficient data to determine whether or not this will be floodable.

Q What will be the effect of injecting water into the Seven Rivers?

A The injection of produced water back into the Seven Rivers Formation will have the effect of maintaining pressure in that formation.

Q Do you expect this to have any effect on the recovery of oil in this area?

A In view of the very strong water drive in the Seven Rivers formation, we do not expect any effect on oil recovery as a result of the injection. We do not expect recovery to be either increased or decreased.

Q Will the granting of this application result in waste, in your opinion?

A No, the result of this application will be that produced water which is presently produced into pits on the lease will be injected underground. There will be no effect on the oil and gas production in the area.

Q Will the granting of the application impair the correlative rights of any of the offset operators?

A In my opinion, there will be no impairment of correlative rights.

Q What is the source of the water that will be injected into this well?

A The injection water will initially be produced water from Eaves "A", Eaves "B-1" and Eaves "B-9", nineteen leases and in addition we have been contacted by nearby

operators who desire to dispose of water into our Saves "A" No. 10. This possibility is currently being considered by our company.

Q Initially, what volumes of water will you inject into the well?

A The initial injection rate is anticipated to be approximately 2,000 barrels of water a day and it may increase up to 6,000 barrels of water a day.

Q Do you think this well will have the capacity to take that volume of water?

A In our opinion, it will.

Q Were Exhibits 1 through 5 prepared by you or under your supervision?

A Yes, they were.

MR. KELLAHIN: At this time, I offer in evidence Exhibits 1 through 5 inclusive.

MR. NUTTER: Exhibits 1 through 5 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 5, inclusive, admitted in evidence.)

MR. KELLAHIN: That completes our direct examination.

MR. NUTTER: Does anyone have any questions of this witness?

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CROSS EXAMINATION

BY MR. NUTTER:

Q These perforations 3107 to 3182 which will be squeezed, are those in the Lower Yates formation?

A Yes, sir, they will be squeezed. Let me check this log; yes, sir, they are in the Lower Yates.

Q So all disposal or injection will be into the Seven Rivers formation?

A Right, the top of the Seven Rivers is approximately 3183 and we are looking at an injection interval of 3208 to 3255 feet.

Q So the lowermost perforations in the upper set go right down to the top of the Seven Rivers practically?

A Yes, sir.

Q What is the status of this well at the present time?

A It is currently temporarily shut in.

MR. NUTTER: Any further questions of this witness?
He may be excused.

(Witness excused.)

MR. KELLAHIN: That's all I have.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3842? If not, we will take the case under

advisement. I was trying to classify these as either salt water disposals or waterfloods.

Mr. Porter, in Case 3840, which is your line project, you are going into the Seven Rivers there?

THE WITNESS: Yes, sir.

MR. NUTTER: Is there a strong water drive in the Seven Rivers in this area?

THE WITNESS: Yes, sir.

MR. NUTTER: So this, you won't expect any response to the injection in this particular --

THE WITNESS: No. --

MR. NUTTER: So we will call that a S W D?

THE WITNESS: Yes, sir.

MR. NUTTER: The one in the Scarborough is a S W D?

THE WITNESS: Either S W D or pressure maintenance, either way, it actually could be.

MR. NUTTER: That's where you got your strong water drive in the Seven Rivers, isn't it?

THE WITNESS: Right.

MR. NUTTER: And over in the Triste Draw area, it could be a waterflood or disposal?

THE WITNESS: Disposal.

MR. NUTTER: If it's a waterflood, you don't have a project area to go with it, no producing well.

MR. KELLAHIN: There might be a response on that one, though.

MR. NUTTER: By someone else?

MR. KELLAHIN: Someone else, right.

MR. NUTTER: Then there was another one that was a clearcut salt water disposal case, I think.

MR. KELLAHIN: The one we just completed.

THE WITNESS: The El Mar.

MR. NUTTER: The El Mar is definitely a waterflood.

MR. KELLAHIN: Right.

MR. NUTTER: If there is nothing further in Case 3842, we will take the case under advisement.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
<u>J. ROGER PORTER</u>	
Direct Examination by Mr. Kellahin	2
Cross Examination by Mr. Nutter	8

EXHIBITSMARKEDOFFERED AND
ADMITTED

Applicant's 1 through 5	2	7
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STATE OF NEW MEXICO)
) SS
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my hand and seal this 5th day of September, 1968.

Ada Dearnley
 ADA DEARNLEY

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3842, heard by me on 8/21, 1968.
James Examiner
 New Mexico Oil Conservation Commission

RECORD EXAMINER NUTTER

CONSERVATION COMMISSION

EXHIBIT NO. 3

CASE NO. 36112

Eaves A No. 10

990' PBL & 660' PSL, Sec. 19, T-26S, R-37E

Elev. 2943'

"0" pt. 10' above LF

Tension Packer set
at 3195'.

3255'

8 5/8" OD, 24#/ft., J-55
csg. set at 379'. Cmt
w/300 sx to surface. Cmt.
circulated.

5 1/2" OD, 14#/ft., J-55.
csg. set at 3255'. Cmt
w/860 sx w/8% gel and 75 sx
neat to surface. Cmt circ.

3 1/2" OD, 9.3#/ft., J-55
tbg. set at 3195'. Tubing
is to be plastic lined.

Perf. interval: 3107, 3118,
3129' w/2SPF, and 3156-64',
3174-82' w/4 SPF. To be
squeezed w/100 sx cement.

Disposal Interval (proposed
3208-3255' w/4 SPF.

New TD 3410

3

EAVES A NO. 10

3100

TOP of SEVEN RIVERS

3200

INTERVAL
To BE
PERF.
3208'-
3255'

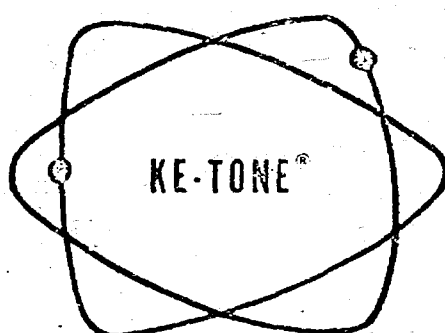
3.00 C.S.S.

BEFORE EXAMINER NUTTER

EXAMINATION

EXHIBIT NO. 38
CASE NO. 38

TELEPHONE: HOBBS 393-6215



UNITED CHEMICAL CORPORATION

OF NEW MEXICO

601 NORTH LEECH

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Company Continental Oil Company

Field Jalmat Pool HMFU

Lease Eaves #12

Sampling Date 5/23/68

Type of Sample _____

WATER ANALYSIS

IONIC FORM	me/l *	mg/l *
Calcium (Ca++)	11.98	240
Magnesium (Mg++)	11.43	139
Sodium (Na+) (cal.)	89.93	2067
Iron		
Bicarbonate (HCO ₃)	30.79	1878
Carbonate (CO ₃ -)	NOT FOUND	
Hydroxide (OH-)	NOT FOUND	
Sulphate (SO ₄ -)	0.77	37
Chloride (Cl-)	81.78	2900
7.5 pH c @ 68° F		
Dissolved Solids on Evap. at 103° - 105° C		
Hardness as Ca CO ₃	23.41	1171
Carbonate Hardness, as CaCO ₃ (temporary)	30.79	1540
Non-Carbonate Hardness as CaCO ₃ (permanent)		
Alkalinity as CaCO ₃	30.79	1540
Specific Gravity c 68° F	1.000	

* mg/l = milligrams per Liter
* me/l = milliequivalents per Liter

BEFORE EXAMINER NUTTER

CIL CORPORATION
ANALYST NO. 5
CAL. NO. 3842

Makes Water Work

5