

CASE 5853: CARL ENGWALL FOR AN EXCEP-
TION TO CASING AND CEMENTING REQUIREMENT.
OF ORDER NO. R-111-A

CASE NO.

5853

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501



DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO
May 25, 1977

STATE GEOLOGIST
EMERY C. ARNOLD

Mr. Donald G. Stevens
Attorney at Law
Post Office Box 1797
Santa Fe, New Mexico

Re: CASE NO. 5853
ORDER NO. R-5433

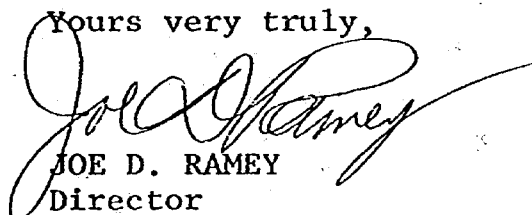
Applicant:

Carl Engwall

Dear Sir:

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

Yours very truly,


JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC X
Artesia OCC X
Aztec OCC

Other

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. 5853
Order No. R-5433

APPLICATION OF CARL ENGWALL FOR
AN EXCEPTION TO THE CASING AND
CEMENTING REQUIREMENTS OF ORDER
NO. R-111-A, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 2, 1977,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 24th day of May, 1977, 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, Carl Engwall, proposes to drill
a well to test the Yates-Seven Rivers formations in Unit L of
Section 27, Township 20 South, Range 34 East, NMPM, Lynch
Yates-Seven Rivers Pool, Lea County, New Mexico.

(3) That said well would be located in the Potash-Oil
Area as defined by Commission Order No. R-111-A, as amended,
and therefore would be subject to the casing and cementing
requirements promulgated by said order for wells drilled
within said area.

(4) That the applicant seeks approval for an exception to
the aforesaid casing and cementing requirements to permit
drilling and completing said well utilizing a short surface
casing string and no salt protection string.

-2-

Case No. 5853
Order No. R-5433

(5) That applicant's proposed exception to the surface casing requirement appears to afford adequate protection to the known water sands in the area and should be approved.

(6) That the proposed exception to the salt protection string requirement will not afford adequate protection to the potash in the subject area, could result in waste, and should be denied.

(7) That as an alternate to the casing and cementing program proposed by the applicant, the Commission should approve a program that will require the permanent installation of a minimum of casing, thereby resulting in substantial savings to the applicant, but will yet provide adequate protection to the salt section in the subject well, and will not cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That the application of Carl Engwall for an exception to the casing and cementing requirements of the Potash-Oil Area as promulgated by Order No. R-111-A, to permit the drilling of a proposed well in the NW/4 SW/4 of Section 27, Township 20 South, Range 34 East, NMPM, Lynch Yates-Seven Rivers Pool, Lea County, New Mexico, without utilizing a salt protection string is hereby denied.

(2) That the applicant, in lieu of his proposed casing and cementing program, is hereby authorized to case and cement the above-described well in the following manner, in exception to the provisions of Order No. R-111-A:

- (a) Set surface casing at 350 feet or such greater depth as may be necessary to case off any known water-bearing strata in the vicinity of said well, circulating cement on said casing back to the surface.
- (b) Set and mud-in a salt protection casing string not less than 100 feet below the base of the salt section.
- (c) If the well is to be completed as a producer, production casing shall be set on top of or through the Seven Rivers formation at an approximate depth of 3750 feet, after the reservoir has been evaluated by logging or testing. The salt protection string may be pulled after the production casing has been run.

-3-

Case No. 5853
Order No. R-5433

The production casing shall be cemented with sufficient cement to protect any pay zone and the salt section and fill the annular space behind the pipe to the surface.

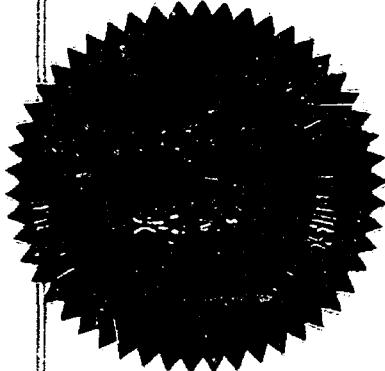
(d) All cement mixtures, cement waiting times, and testing procedures shall be in accordance with the applicable provisions of Order No. R-111-A insofar as said provisions are not inconsistent with this order.

(e) Upon abandonment, the well shall be plugged in accordance with the provisions of Order No. R-111-A.

(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



Phil R. Lucero

PHIL R. LUCERO, Chairman

Emery C. Arnold
EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

S E A L

dr/

DAN NUTTER

Tonto 990 SL 2310 W

102 30-19-33

WLE 165-175

Sta Rca 640-~~645~~ bench

~~645~~ 700 WLE

WLE: 560-595 sand to
shly sand

Free #1 990 WL 330 NL

28 20 34

100-150

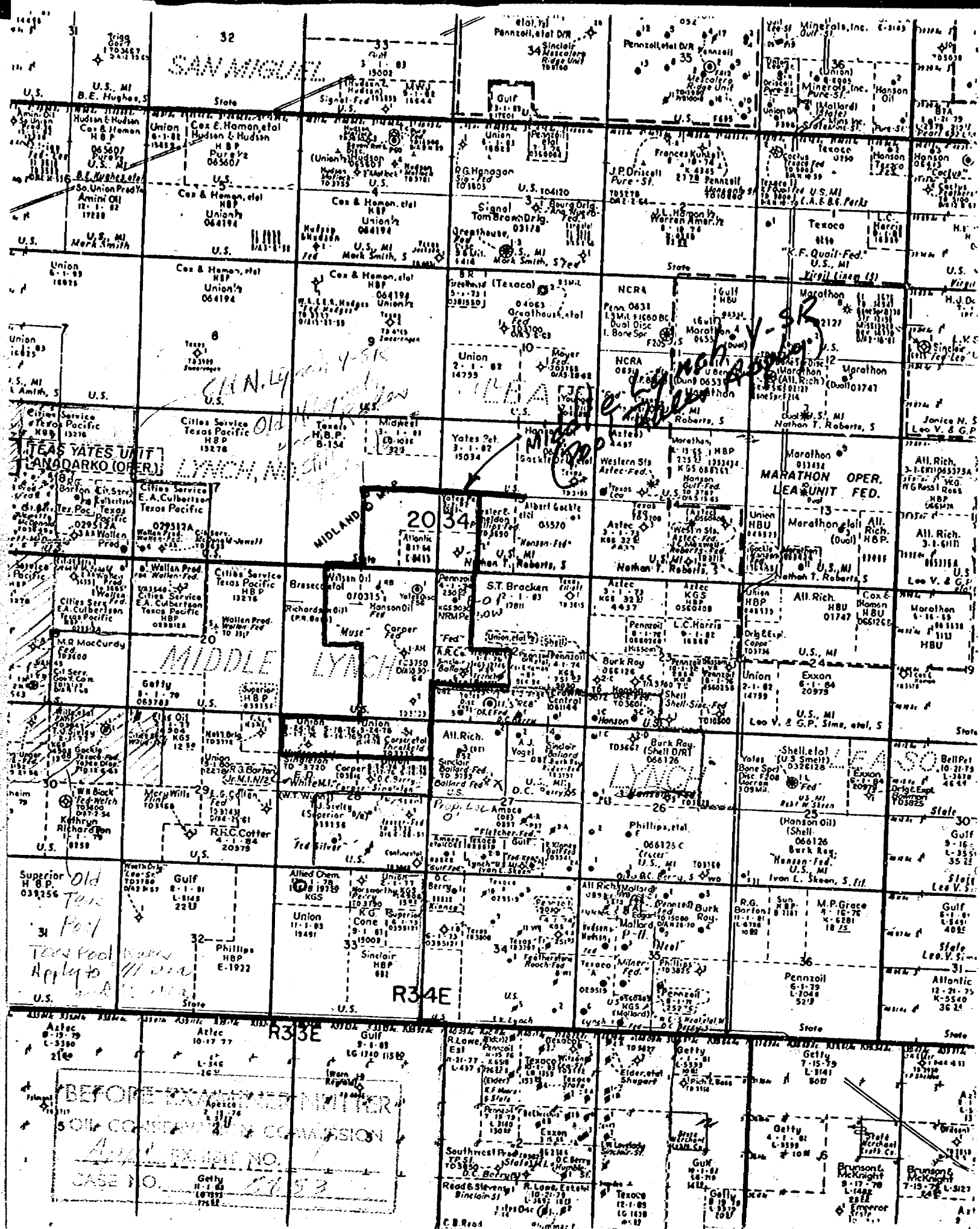
production: no fresh water sands
brackish: S.R. 880-890 good flow
sand shaling

NW 45°

1025-35 dried up

lower sand shales out

#9
3/4 mi E
PB to WLE
water for
Dantary



IV.

- (2) Surface Casing String:
(a) Propose to set 8-5/8" new or used oil field casing in good condition at about 350 feet below the surface, cemented with sufficient cement to circulate back to the surface, estimated cement required is 150 sacks.
This depth is sufficient to case off any water sands known from previous drilling in the vicinity.
(b) Cement shall be allowed to set a minimum of 12 hours before initiating tests, and 24 hours before drilling plug.
- (3) Salt Protection String:
(a) Waiver of requirement to run salt protection string of casing. Hole to be drilled with rotary tools, using brine water base mud to clean the cuttings from the bore hole.
- (5) Production String:
(a) A production string of 4-1/2" casing may be set on top of or through the Seven Rivers formation at an approximate depth of 3750' feet, after the reservoir has been evaluated by logging or testing.
(i) The production string will be cemented with sufficient cement to protect any pay zone and salt section and fill the annular space behind the pipe to the surface. Estimated amount of cement required is 1000 sacks and cement will be mixed with brine water saturated with the salts common to the zones penetrated but not less than 1% of calcium chloride by weight of cement.
(b) Cement shall be allowed to set a minimum of 12 hours before initiating tests, and 24 hours before drilling plug.

VI.

Plugging and Abandonment of Wells.

- (1) Well will be plugged and abandoned in accordance with the rules of Order R-111-A.

BEFORE EXAMINER NUTTE	
OIL CONSERVATION COMMISSION	
App 1	EXHIBIT NO. 2
CASE NO.	5853

Comparison of Costs

Cost to Comply with Order R-111-A

Surface String

9 5/8" csg. 1,600' @ 9.00/ft.	\$14,400
350 sx cement	1,500
Total	<u>\$15,900</u>

Oil String

7" csg. 3,450 @ 4.50-5.50/ft.	\$17,500
500 sx cement	2,000
4 1/2" liner, 3300-3750, 450' @ 3.00/ft.	1,350
100 sx cement	750
Total	<u>\$21,600</u>

Total Surface and Oil Strings	<u>\$37,500</u>
-------------------------------	-----------------

Cost of Exception to Order R-111-A

Surface String

8 5/8" csg. 350' @ 6.00/ft.	\$ 2,100
150 sx cement	1,000
Total	<u>\$ 3,100</u>

Oil String

4 1/2" csg. 3,750 @ 3.00/ft.	\$11,250
1,000 sx cement	3,000
Total	<u>\$14,250</u>

Total Surface and Oil Strings	<u>\$17,450</u>
-------------------------------	-----------------

Economies effected by Exception to R-111-A	<u>\$20,050</u>
--	-----------------

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
April EXHIBIT NO. 3
CASE NO. 5853

Noranda Exploration, Inc.
2136 Gulf Gate Drive
Suite 3
Sarasota, Florida 33581

noranda

Tel.: (813) 921-5711

January 10, 1977


Mr. Carl Engwall
P.O. Box 1782
Roswell, New Mexico 88201

Dear Mr. Engwall:

This letter is an answer to your telephone inquiry of January 3, 1977 concerning oil well drilling in the known potash area.

Noranda has no objection to your proposed drilling and development of an oil well in the NW 1/4 of the SW 1/4 of Section 27, Township 20 South, Range 34 East, Lea County, New Mexico.

Very truly yours,



Frank Condon
Project Engineer

cc: USGS - Carlsbad
J.M. Gordon

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Appl EXHIBIT NO. 4
CASE NO. 5953

- CASE 5845: Application of Texaco Inc. for an unorthodox location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Navajo Tribe "BS" Well No. 5 to be drilled 1340 feet from the South line and 1300 feet from the West line of Section 23, Township 26 North, Range 18 West, Tootie Dome Penn "D" Pool, San Juan County, New Mexico.
- CASE 5846: Application of Harvey E. Yates Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its South Empire Deep Unit Well No. 13 to be drilled 660 feet from the South line and 1597 feet from the West line of Section 30, Township 17 South, Range 29 East, South Empire Field, Eddy County, New Mexico, the S/2 of said Section 30 to be dedicated to the well.
- CASE 5810: (Continued from the January 19, 1977, Examiner Hearing)
Application of Yates Petroleum Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Stonewall "EP" Com Well No. 1, located in Unit F of Section 30, Township 20 South, Range 28 East, Eddy County, New Mexico, to produce gas from the North Burton Flat-Wolfcamp Gas Pool and an undesignated Morrow gas pool.
- CASE 5847: Application of Yates Petroleum Corporation for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Gossett "EU" Well No. 1, located in Unit K of Section 26, Township 17 South, Range 25 East, Eddy County, New Mexico, in such a manner as to produce gas from the Lower Wolfcamp or Upper Pennsylvanian and the Lower Pennsylvanian formations through the casing-tubing annulus and tubing, respectively.
- CASE 5848: Application of Yates Petroleum Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Pipkin HE Well No. 1 to be drilled 660 feet from the South and West lines of Section 4, Township 18 South, Range 25 East, Eddy County, New Mexico, the S/2 of said Section 4 to be dedicated to the well.
- CASE 5849: Application of King Resources Company for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Long Canyon Unit Area comprising 18,880 acres, more or less, of State and Federal lands in Townships 19 and 20 South, Ranges 19 and 20 East, Chaves County, New Mexico.
- CASE 5850: Application of Pennzoil Company for adoption of pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the adoption of pool rules for the North Mesalero-Cisco Pool, Lea County, New Mexico, including provision for a special gas-oil ratio limit of 4,500 to one.
- CASE 5117: (Reopened)
In the matter of Case 5117 being reopened pursuant to the provisions of Order No. R-4691-A, which order extended the temporary special pool rules for the North Dagger Draw-Upper Pennsylvanian Pool, Eddy County, New Mexico. All interested parties may appear and show cause why said North Dagger Draw-Upper Pennsylvanian Pool should not be developed on less than 160-acre proration units and why the special depth bracket allowable should be retained.
- CASE 5851: Application of Jerome P. McHugh for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Tapacito-Pictured Cliffs, Blanco Mesaverde, and Basin-Dakota production in the wellbore of his Tribal Wells Nos. 1 and 2 located in Unit D of Section 16 and Unit L of Section 9, respectively, Township 26 North, Range 3 West, Rio Arriba County, New Mexico.
- CASE 5852: Application of Jerome P. McHugh for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Wildhorse-Callup and Basin-Dakota production in the wellbore of his Apache Wells Nos. 3 and 4, located in Units D and L, respectively, of Section 19, Township 26 North, Range 3 West, Rio Arriba County, New Mexico.
- CASE 5853: Application of Carl Engwall for an exception to casing and cementing requirements of Order No. R-111-A, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the casing and cementing requirements of Order No. R-111-A to eliminate the salt protection casing string in a well he proposes to drill in Unit L of Section 27, Township 20 South, Range 34 East, Lynch-Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 5854: Application of Palmer Oil and Gas Company for an unorthodox location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Stevenson Well No. 2 to be drilled 1850 feet from the North line and 1150 feet from the West line of Section 8, Township 26 North, Range 2 West, Blanco-Mesaverde Pool, Rio Arriba County, New Mexico, the N/2 of said Section 8 to be dedicated to the well.

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

INRE: APPLICATION FOR AN)
EXCEPTION TO CASING AND)
CEMENTING REQUIREMENTS OF)
NEW MEXICO OIL CONSERVATION)
COMMISSION ORDER R-111-A)

No. 5853

APPLICATION

COMES NOW, Carl Engwall, Applicant, and shows unto the Commission that:

1. Applicant proposes to drill a well in search of oil and gas in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 27, Township 20 South, Range 34 East (1650' FSL and 660' FWL), N.M.P.M., Lea County, New Mexico, to a depth of approximately 3750 feet. Said location is within the LYNCH Field, Lea County, New Mexico.

2. In lieu of the requirements of the Oil Conservation Commission Order No. R-111-A, pertaining to casing and cementing, Applicant proposes to proceed as set forth in Exhibit "A" attached hereto.

3. Noranda Exploration, Inc. owns the Potash Lease in said Section 27, and is the only owner of Potash Leases within a one mile radius of the proposed well location.

4. Noranda Exploration, Inc., has been contacted about Applicant's request before this commission and does not oppose Applicant's request.

5. If Applicant is permitted to proceed as requested, such procedure will result in a substantial economic savings.

WHEREFORE, Applicant prays that the Commission set the matter down for hearing before one of its examiners, to publish notices as required by law, and after hearing, issue its order authorizing Applicant to proceed as requested.

Respectfully Submitted

Carl Engwall

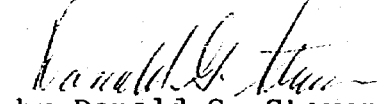

by Donald G. Stevens
Attorney for Applicant
P.O. Box 1797
Santa Fe, New Mexico 87501

EXHIBIT "A"

IV.

- (2) Surface Casing String:
 - (a) Propose to set 8-5/8" new or used oil field casing in good condition at about 350 feet below the surface, cemented with sufficient cement to circulate back to the surface, estimated cement required is 150 sacks.
This depth is sufficient to case off any water sands known from previous drilling in the vicinity.
 - (b) Cement shall be allowed to set a minimum of 12 hours before initiating tests, and 24 hours before drilling plug.
- (3) Salt Protection String:
 - (a) Waiver of requirement to run salt protection string of casing. Hole to be drilled with rotary tools, using brine water base mud to clean the cuttings from the bore hole.
- (5) Production String:
 - (a) A production string of 4-1/2" casing may be set on top of or through the Seven Rivers formation at an approximate depth of 3750' feet, after the reservoir has been evaluated by logging or testing.
 - (i) The production string will be cemented with sufficient cement to protect any pay zone and salt section and fill the annular space behind the pipe to the surface. Estimated amount of cement required is 1000 sacks and cement will be mixed with brine water saturated with the salts common to the zones penetrated but not less than 1% of calcium chloride by weight of cement.
 - (b) Cement shall be allowed to set a minimum of 12 hours before initiating tests, and 24 hours before drilling plug.

VI.

Plugging and Abandonment of Wells.

- (1) Well will be plugged and abandoned in accordance with the rules of Order R-111-A.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 2, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Carl Engwall for an
exception to casing and cementing
requirements of Order No. R-111-A,
Lea County, New Mexico.

CASE
5853

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil
Conservation Commission:

Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant:

Donald G. Stevens, Esq.
Attorney at Law
214 Old Santa Fe Trail
Santa Fe, New Mexico

sid morish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I N D E XPageCARL ENGWALL

Direct Examination by Mr. Stevens

3

Cross Examination by Mr. Nutter

7

EXHIBIT INDEXOfferedAdmitted

Applicant's Exhibit One, Plat

4

7

Applicant's Exhibit Two, Proposal

4

7

Applicant's Exhibit Three, Cost Comparison

5

7

Applicant's Exhibit Four, Letter

6

7

sid morrish reporting serviceGeneral Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 MR. NUTTER: We will call next Case Number 5853.

2 MS. TESCHENDORF: Case 5853, application of Carl
3 Engwall for an exception to casing and cementing requirements
4 of Order No. R-111-A, Lea County, New Mexico.

5 MR. STEVENS: Mr. Examiner, I'm Don Stevens, attorney
6 in Santa Fe, representing the applicant in this case and we have
7 one witness to be sworn.

8 (THEREUPON, the witness was duly sworn.)

9
10 CARL ENGWALL

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

13
14 DIRECT EXAMINATION

15 BY MR. STEVENS:

16 Q Will you state your name and residence?

17 A Carl Engwall, Roswell, New Mexico.

18 Q And your occupation?

19 A I'm an independent consulting geologist.

20 Q And are you the applicant in this case?

21 A Yes, sir.

22 Q Have you previously testified before and had your
23 qualifications accepted by this Commission?

24 A Yes, sir.

25 MR. STEVENS: Are the witness' qualifications

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 acceptable, Mr. Examiner?

2 MR. NUTTER: Yes, they are.

3 Q (Mr. Stevens continuing.) Briefly state what you
4 seek in this application, Mr. Engwall?

5 A We seek an amendment or an exception to the Order
6 R-111-A of setting the salt protection or potash protection
7 string in a proposed well.

8 Q Referring to what has been marked as Exhibit Number
9 One would you explain that for the Commission?

10 A This is a portion of a land plat showing the
11 proposed location in the northwest quarter of the southwest
12 quarter of Section 27, Township 20 South, Range 34 East, Lea
13 County, New Mexico in the Lynch Field area.

14 Q Is that marked in red on this plat?

15 A The proposed location is marked in red, sir.

16 Q And this is within the postash area?

17 A Yes, it is.

18 Q Referring to what has been marked as Exhibit Number
19 Two and explain it, please?

20 A Exhibit Number Two is a proposal to set and cement
21 to surface eight and five-eighths inch casing at about three
22 hundred and fifty feet below the surface with a hundred and
23 fifty sacks of cement, waive the requirements to run the
24 salt protection string of casing and if production is
25 indicated, set a production string of four and a half inch

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 casing at approximately thirty-seven hundred and fifty feet,
2 cement with sufficient quantity to circulate to surface,
3 an estimated amount of a thousand sacks of cement.

4 Q This also provides for circulation in the case of
5 the surface string, does it not?

6 A Yes, sir.

7 Q And points out that brine water will be used when
8 drilling through the salt zones?

9 A Yes, a brine mud will be used to drill down to the
10 top of the salt and have a saturated brine solution drilling
11 through the entire salt zone into the proposed pay zone.

12 Q Referring to what has been marked as Exhibit Number
13 Three would you explain that and also point out the differences
14 in the rules as required in Rule 111-A and what you are
15 proposing through this application?

16 A This is a comparison of cost of complying with
17 R-111-A, setting nine and five-eighths inch surface casing at
18 sixteen hundred feet, cementing back to surface, setting a
19 salt protection string of seven inch casing approximately
20 thirty-four hundred and fifty feet, cementing that with five
21 hundred sacks of cement, running four and a half inch liner
22 from approximately thirty-three hundred feet to thirty-seven
23 hundred feet and cementing that with a hundred sacks of cement
24 for a total estimated cost of casing and cementing services
25 of thirty-seven thousand, five hundred dollars.

sid morrison reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 The cost of the exception I'm asking for to Order
2 R-111-A, setting eight and five eighths inch casing at approxi-
3 mately three hundred and fifty feet, cementing with a hundred
4 and fifty sacks and running the oil string, four and a half
5 inch casing to approximately thirty-seven hundred and fifty
6 feet, cementing with a thousand sacks of cement for an
7 estimated total cost of seventeen thousand, four hundred and
8 fifty dollars.

9 The difference economically is twenty thousand and
10 fifty dollars in saving during the drilling and completion
11 attempt in the proposed location.

12 Q In your opinion will this exception substantially
13 protect the potash in the area as much as would the original
14 order, substantially?

15 A Yes, I believe it will.

16 Q Referring to what has been marked as Exhibit Number
17 Four, would you explain that, please?

18 A This is a copy of a letter received from Mr. Condon
19 with the Aranda Company who has the potash lease under the
20 proposed location and surrounding area in answer to a telephone
21 call to him telling him of my proposal to drill a well at the
22 location and to waive the salt string. He wrote back and said
23 he had no objection to the proposed drilling. He was very
24 nice on the phone and he said he would be glad to furnish us
25 that, that he could see that it would not damage their position

sid morish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

sid morrish reporting service
General Court Reporting Service
 825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
 Phone (505) 982-9212

1 with regard to potash.

2 Q Are there any other leases within one mile of this
 3 location?

4 A No, sir.

5 Q Potash leases, that is?

6 A No, sir.

7 Q In your opinion will the granting of this application
 8 tend to prevent waste and protect correlative rights?

9 A Yes, sir.

10 Q Were Exhibits One through Four prepared by you or
 11 under your direction?

12 A Yes, sir.

13 MR. STEVENS: We move the introduction of Exhibits
 14 One through Four, Mr. Examiner, and we have no other questions
 15 on direct.

16 MR. NUTTER: Applicant's Exhibits One through Four
 17 will be admitted into evidence.

18 (THEREUPON, Applicant's Exhibits One
 19 through Four will be admitted into
 20 evidence.)

21

22

CROSS EXAMINATION

23 BY MR. NUTTER:

24 Q Mr. Engwall, you would not run the salt protection
 25 string at all. Now, from the point that you cemented your

1 surface pipe, which would be at three hundred and fifty feet.
2 you would be drilling another thirty-four hundred feet?

3 A. Yes, sir.

4 Q. And the salt would be exposed to the drilling fluid
5 at all times. Now, I realize that you stated you would be
6 using a brine water base mud?

7 A. Yes, sir.

8 Q. But what effect is this drilling activity going to
9 have on the salt section while it's being exposed to it?

10 A. With the brine based mud, saturated brine, we
11 anticipate no excessive wash outs. The drilling fluid should
12 cake the side of the hole while we are drilling, protecting
13 any fluid loss into the salt section or the potash section and
14 whether we drill through it and then run a salt protection
15 string and then drill the other three hundred and fifty feet
16 or so after that or whether we just drill it without the salt
17 protection string, we are exposing the salt and potash to
18 about three more days of drilling at total and it's going to
19 be well protected while we are drilling the hydrostatic head
20 of the mud column will hold back any formation fluids from the
21 prospective pay zone by approximately seven hundred pounds
22 differential.

23 Q. Now, you state here in item five of Exhibit Two-A
24 that a production string would maybe be set on top of or
25 through the Seven Rivers. Now, when we talk about setting it

sid morrison reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 through the Seven Rivers that would mean that you would drill
2 through the pay and not have any casing in the well except
3 the surface pipe?

4 A. Yes, sir.

5 Q. And if you had a blowout and had to confine the well
6 the salt would be subject to the pressures from that blowout,
7 wouldn't it?

8 A. The pressures of the formations out there are very
9 low in this known field and there could be an excessive --
10 nothing in excess of twelve hundred pounds maximum or mud
11 weight at that depth will exceed nineteen hundred pounds.
12 There are no known large gas volumes. The offset wells have
13 very low GOR's, indicating no high gas pressures and most of
14 them are on the pump, indicating no excessive formation
15 pressures.

16 Q. Do you recall, Mr. Engwall, two years ago when
17 Southern California Petroleum thought there was no pressure
18 and one of these little wells blew out that they were drilling
19 under an exception to the potash rules?

20 Now, there is provision in the potash rules for
21 running a string of pipe and tacking it and then later on
22 pulling it.

23 A. Yes.

24 Q. Have you given consideration to that?

25 A. Well, I did and you drill it and tack it and it adds

1 about eight to ten thousand dollars to your cost and if you
2 pull it you've got the formation that you drill through
3 exposed to it while you are running your production string,
4 which is about the same thing as what I'm proposing.

5 Q You haven't shown that alternative as being one
6 of the economic routes to go?

7 A No, I didn't. I know that has been done and I
8 talked with the USGS, Mr. Brown in Hobbs, and he said that
9 really to him it didn't look like there was any difference in
10 this proposal, running, tacking and then having to go in and
11 cut that string and take the chance of getting stuck while you
12 are pulling it and expose your salt to some sort of damage
13 more than just drilling it under this proposal. We did
14 discuss it, yes, sir, but he thought we were probably in more
15 chance of having something go wrong when you tack it and try
16 to cut it and try to pull it back out than if you drill it
17 straight on down.

18 Q Now this Mr. Condon, the project engineer for
19 Naranda, in writing this letter of January 10th, he says he
20 has no objection to your proposed drilling and development of
21 the oil well, he doesn't say he has no objection to the
22 exception to the casing program, however?

23 A I talked to him about that and told him what I
24 planned and this is the letter he wrote back.

25 Q Does he know what the rules are regarding casings in

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

sid morrison reporting service
General Court Reporting Service
 825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
 Phone (505) 982-9212

1 this area?

2 A. Yes, he does.

3 Q. And you explained to him that you were seeking an
 4 exception to the rule?

5 A. Right, yes, sir. In fact, I told him that I would
 6 send him a copy of what came out of our hearing. I agreed to
 7 furnish him anything he wanted with regard to the well and
 8 told him we would keep in contact and him well informed as to
 9 our progress.

10 Q. Now, how many wells have you got out here in this
 11 area; have you done any previous drilling in this Middle Lynch
 12 area?

13 A. No, I have not.

14 Q. Or the Lynch?

15 A. No.

16 Q. Are some of the wells out here cased in such a
 17 manner that the casing is set on top of the pay and then it's
 18 an open hole completion or drilled through the pay after the
 19 casing has been set?

20 A. Well, they have made several types of completions,
 21 that's one type. They have drilled down to the top of the
 22 Seven Rivers and gotten their production set at the top of
 23 the Seven Rivers and then bridged it and then set on top of
 24 the bridge and then drilled it out, open hole completion.
 25 Others have set through and perforated and some of them have

1 perforated in the Yates and that is always, as far as I know,
2 a perforation type of completion. The Seven Rivers has been,
3 as you mentioned earlier, sometimes set on top of it, an open
4 hole.

5 MR. NUTTER: Are there any further questions of
6 Mr. Engwall? He may be excused.

7 (THEREUPON, the witness was excused.)

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

9 MR. STEVENS: Nothing, Mr. Examiner.


10 MR. NUTTER: Does anyone have anything they wish to
11 offer in Case Number 5853? We will take the case under
12 advisement.

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
do hereby certify that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and correct record
of the said proceedings to the best of my knowledge, skill and
ability.


Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5853
heard by me on 2/2, 1977.

, Examiner
New Mexico Oil Conservation Commission

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

DRAFT

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. 5853

Order No. R-5433

APPLICATION OF CARL ENGWALL FOR
AN EXCEPTION TO THE CASING AND
CEMENTING REQUIREMENTS OF ORDER
NO. R-111-A, LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 2, 1977
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this May day of 1977, 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, Carl Engwall, proposes
to drill a well to test ^{the} Yates-Seven Rivers formations
in Unit L of Section 27, Township 20 South, Range 34
East, NMPM, Lynch Yates-Seven Rivers Pool, Lea County,
New Mexico.

(3) That said well would be located in the
Potash-Oil Area as defined by Commission Order
No. R-111-A, as amended, and therefore would be
subject to the casing and cementing requirements
promulgated by said order for wells drilled within
said area.

-2-
CASE NO. 5853
Order No. R-

(4) That the applicant seeks approval for an exception to the aforesaid casing and cementing requirements to permit drilling and completing said well utilizing a short surface casing string and no salt protection string.

(5) That applicant's proposed exception to the surface casing requirement appears to afford adequate protection to the known water sands in the area and should be approved.

(6) That the proposed exception to the salt protection string requirement will not afford adequate protection to the potash in the subject area, could result in waste, and should be denied.

(7) That as an alternate to the casing and cementing program proposed by the applicant, the Commission should approve a program that will require the permanent installation of a minimum of casing, thereby resulting in substantial savings to the applicant, but will yet provide adequate protection to the salt section in the subject well, and will not cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

(1) That the application of Carl Engwall for an exception to the casing and cementing requirements of the Potash-Oil Area as promulgated by Order No. R-111-A, to permit the drilling of a proposed well in the NW/4 SW/4 of Section 27, Township 20 South, Range 34 East, NMPM, Lynch Yates-Seven Rivers Pool, Eddy County, New Mexico, without utilizing a salt protection string is hereby denied.

-3-
Case No. 5853
Order No. R-

(2) That the applicant, in lieu of his proposed casing and cementing program, is hereby authorized to case and cement the above-described well in the following manner, in exception to the provisions of Order No. R-111-A:

- (a) Set surface casing at 350 feet or such greater depth as may be necessary to case off any known water-bearing strata in the vicinity of said well, circulating cement on said casing back to the surface.
- (b) Set and mud-in a salt protection casing string not less than 100 feet below the base of the salt section.
- (c) If the well is to be completed as a producer, production casing shall be set on top of or through the Seven Rivers formation at an approximate depth of 3750 feet, after the reservoir has been evaluated by logging or testing. The salt protection string may be pulled after the production casing has been run.

indent [The production casing shall be cemented with sufficient cement to protect any pay zone and the salt section and fill the annular space behind the pipe to the surface.

- (d) All cement mixtures, cement waiting times, and testing procedures shall be in accordance with the applicable provisions of Order No. R-111-A insofar as said provisions are not inconsistent with this order.
- (e) Upon abandonment, the well shall be plugged in accordance with the provisions of Order No. R-111-A.

~~-4-~~
Case No. 5853
Order No. R-

(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 Mexicc, on the day and year hereinabove designated.