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NEW MEXICO OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
STATE OF NEW MEXICO
CASE NOS. 10807, 10808, 10809
Consolidated Cases

IN THE MATTERS OF:

10807 The Application of Kinlaw Oil
 Corporation for a High Angle/
 Horizontal Directional Drilling Pilot
 Project, Special Operating Rules
 Therefor, a Non-Standard Oil Proration
 Unit, an Unorthodox Well Location,
 and a Special Project Oil Allowable,
 Lea County, New Mexico.

10808 The Application of Kinlaw Oil
 Corporation for a High Angle/
 Horizontal Directional Drilling Pilot
 Project and Special Operating Rules
 Therefor, Lea County, New Mexico.

10809 The Application of Kinlaw Oil
 Corporation for a High Angle/
 Horizontal Directional Drilling Pilot
 Project, Special Operating Rules
 Therefor, a Non-Standard Oil Proration
 Unit, an Unorthodox Well Location,
 and a Special Project Oil Allowable,
 Lea County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

Thursday, September 23, 1993

REPORTED BY:
CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

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FOR THE APPLICANT:

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BY: **WILLIAM F. CARR, ESQ.**

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1 EXAMINER STOGNER: At this time, I'll
2 call Case No. 10807.

3 MR. STOVALL: Application of Kinlaw Oil
4 Corporation for a high-angle/horizontal
5 directional drilling pilot project, special
6 operating rules therefor, a non-standard oil
7 production unit, an unorthodox well location, and
8 a special project oil allowable, Lea County, New
9 Mexico.

10 EXAMINER STOGNER: Call for
11 appearances.

12 MR. CARR: May it please the Examiner,
13 my name is William F. Carr with the Santa Fe law
14 firm Campbell, Carr, Berge & Sheridan. We
15 represent Kinlaw Oil Corporation in this case,
16 and I have one witness.

17 I would also request at this time that
18 this case be consolidated, for purposes of
19 hearing, with Case 10808 and 10809. These are
20 also applications of Kinlaw for horizontal
21 drilling. They immediately offset each other,
22 and the testimony in these cases will be
23 virtually identical.

24 EXAMINER STOGNER: If there are no
25 objections, I'll call Cases 10808 and 10809 at

1 this time.

2 MR. STOVALL: Case No. 10808 is the
3 application of Kinlaw Oil Corporation for a
4 high-angle/horizontal directional drilling pilot
5 project and special operating rules therefor, Lea
6 County, New Mexico. Case No. 10809 is the
7 application of Kinlaw Oil Corporation for a
8 high-angle/horizontal directional drilling pilot
9 project, special operating rules therefor, a
10 non-standard oil production unit, an unorthodox
11 well location, and a special project oil
12 allowable, Lea County, New Mexico.

13 EXAMINER STOGNER: I'll call for any
14 additional appearances other than the Applicant
15 Kinlaw in these matters at this time.

16 These cases will be consolidated for
17 purposes of testimony. Mr. Carr.

18 **MICHAEL ROBERT HILL**

19 Having been first duly sworn upon his oath, was
20 examined and testified as follows:

21 EXAMINATION

22 BY MR. CARR:

23 Q. Would you state your name for the
24 record, please.

25 A. Michael Robert Hill.

1 Q. Mr. Hill, where do you reside?

2 A. In Austin, Texas.

3 Q. By whom are you employed and in what
4 capacity?

5 A. Kinlaw Oil Corporation as petroleum
6 geologist.

7 Q. Have you previously testified before
8 this Division?

9 A. Yes, I have.

10 Q. At the time of that testimony, were
11 your credentials as a petroleum geologist
12 accepted and made a matter of record?

13 A. Yes, they were.

14 Q. Are you familiar with the applications
15 filed on behalf of Kinlaw in each of these cases?

16 A. Yes, I am.

17 Q. Are you familiar with the proposed
18 horizontal drilling for each of the wells in the
19 subject area?

20 A. Yes, I am.

21 MR. CARR: Mr. Stogner, are the
22 witness's qualifications acceptable?

23 MR. STOGNER: They are.

24 Q. Mr. Hill, would you briefly state what
25 Kinlaw seeks in each of these cases?

1 A. Kinlaw seeks approval to horizontally
2 directionally drill the following wells: V.F.
3 Petroleum Huber State No. 1, the Shell Oil
4 Company SDA No. 1, the Shell SDA No. 2, by
5 reentering an existing borehole and kicking off
6 the top of Devonian and drilling approximately
7 500 to 700 feet lateral to the top of Devonian.

8 Q. Is Kinlaw seeking exemptions from
9 existing Division well location requirements?

10 A. At this time we are not. We hope to
11 not be needing exemptions, but it's going to
12 depend on where our bottomhole locations fall
13 after running gyro surveys on these reentry
14 wells.

15 Q. So you'll reenter, drill out the plugs,
16 things of that nature, and then survey?

17 A. That's correct.

18 Q. That will affect where the actual
19 terminus of the horizontal portion of the well is
20 actually located?

21 A. That's correct.

22 Q. Are you seeking an exemption from the
23 acreage dedication requirements?

24 A. Once again, at this time, we hope not
25 to need that, but it's going to depend on where

1 the bottomhole location falls.

2 Q. On two of the wells, the Huber and the
3 Shell SDA No. 1, you're proposing 80-acre units.
4 Is that correct?

5 A. That's correct.

6 Q. If you're able to keep the wellbores on
7 the 40 acres on which the hole was actually
8 located, you won't need those additional 40-acre
9 tracts, is that right?

10 A. That's correct.

11 Q. You're not seeking a special oil
12 allowable for these wells?

13 A. Not at this time.

14 Q. Mr. Hill, you, in fact, testified four
15 weeks ago in Case 10806, did you not?

16 A. That's correct.

17 Q. That was the case in which Kinlaw was
18 seeking authority to horizontally drill its New
19 Mexico "N" No. 1 well?

20 A. That's correct.

21 Q. Could you advise the Examiner what's
22 happened since that time to the New Mexico "N"
23 No. 1?

24 A. Since that time, we received permission
25 to reenter that well. We reentered to a

1 depth of approximately 9700 feet and, after
2 attempting a squeeze job on some perfs at that
3 depth, we were coming back into the hole and
4 found that the casing had parted in both the
5 9-5/8 and the 10-5/8" casing. So, at that time,
6 a decision was made to replug this well.

7 Q. And that has been done?

8 A. That's correct.

9 Q. The Commission has approved the
10 plugging program?

11 A. That's correct.

12 Q. Let's go to what has been marked Kinlaw
13 Exhibit No. 1. I would ask you to identify and
14 review this for Mr. Stogner.

15 A. This is an outline, in yellow, of the
16 acreage that Kinlaw currently has under lease
17 with the location of the wells that we plan to
18 reenter.

19 Q. Could you briefly identify the three
20 wells which are involved in this hearing and
21 then point out the acreage which will be
22 dedicated to those wells?

23 A. The well that we are attempting to
24 reenter first and foremost will be the V.F.
25 Petroleum Huber State No. 1, which is located in

1 the northeast quarter of Section 5. It's
2 designated by a dry hole symbol.

3 The other well would be the No. 1 SDA.
4 which is in the southwest quarter of the
5 southwest section of 36. The 80 acres that we
6 might need on that well would be the southwest of
7 the southwest of 36, and the southeast of the
8 southeast of 35.

9 Going back to the V.F. Petroleum well.
10 the 80 acres that we might need to designate on
11 that well would be that stand-up 80 on the east
12 half of the northeast quarter of Section 5.

13 The third well would be the Shell Oil
14 SDA No. 2, which is in the southeast quarter of
15 the southwest quarter of Section 36, and that
16 would be just a 40-acre designation.

17 Q. Now, Mr. Hill, the Huber well in
18 Section 5, is an unorthodox location, is that
19 correct?

20 A. That's correct.

21 Q. That location has been previously
22 approved by the Division?

23 A. That's correct.

24 MR. CARR: Mr. Examiner, that location
25 was approved in Case 7173, and it was Order No.

1 R-6608, February 25, 1981.

2 Q. Mr. Hill, is there other Devonian
3 development within a mile of these wells?

4 A. No, there is not.

5 Q. Are there unleased minerals in the area
6 that we're talking about?

7 A. Yes, there are.

8 Q. Are those State of New Mexico
9 properties?

10 A. That's correct.

11 Q. Have you reviewed this proposal with
12 the New Mexico State Land Office?

13 A. Yes, we have. We talked to a Mr.
14 Albers at the State Land Office. He had no
15 objection, and stated that we would need a
16 commercial lease on state-owned surface
17 underneath this acreage.

18 Q. In fact, he wrote Mr. Stogner with that
19 recommendation, did he not?

20 A. That's correct.

21 Q. Does Kinlaw have any objection to the
22 orders that result from this hearing requiring
23 that, where needed, Kinlaw will obtain business
24 leases from the New Mexico State Land Office?

25 A. No, we don't.

1 Q. Is the acreage you propose to dedicate
2 to the wells, actually state land?

3 A. That is correct.

4 Q. What is the status of the royalty
5 ownership in this area?

6 A. The royalty ownership is all the same,
7 identical under each tract.

8 Q. Is the working interest all in Kinlaw
9 at this time?

10 A. That's correct.

11 Q. What is the current status of the
12 development on each of these tracts?

13 A. At the present time, there is no
14 current development except for the V.F. Petroleum
15 well, which we did receive permission to reenter
16 and we are, at the present time, attempting to
17 drill out the plugs.

18 Q. Why don't we describe just briefly the
19 general characteristics of the formation. You
20 did this four weeks ago and so I don't think you
21 don't need to go into particular detail, but I
22 think it would be useful, at this point, just to
23 summarize the characteristics of the Devonian in
24 this area.

25 A. The Devonian is a shallow water

1 carbonate, consisting of a dense, crystalline
2 dolomite, very little primary porosity. It does
3 exhibit good secondary porosity in the way of
4 fractures and vugs.

5 Q. Let's go to Exhibit No. 2. Would you
6 identify that, please.

7 A. Exhibit No. 2 is a structure map on the
8 top of Devonian. It basically shows anticlinal
9 feature bounded by three faults, with the apex of
10 the structure in and around the Kelly State No. 1
11 at a subsea of minus 9079.

12 The three wells in question here are
13 the V.F. Petroleum well, which has a subsea of
14 minus 9101, and the Shell SDA No. 1 which is a
15 minus 9179, and the SDA No. 2, which is the
16 lowest of the three, at a minus 9328.

17 Q. Actually these are at the top of
18 structure, are they not?

19 A. Two out of the three are. There is a
20 SDA No. 2 is not the lowest well in the
21 structure, but it is about the third.

22 Q. If you horizontally drill all these
23 wells, what order would you anticipate taking
24 them in?

25 A. Well, we would drill this V.F.

1 Petroleum well first, the SDA No. 1, and then the
2 SDA No. 2.

3 Q. Let's move now to Exhibit No. 3, the
4 isopach. Would you review that for Mr. Stogner?

5 A. Exhibit 3 is a net pay isopach of the
6 Devonian. It's showing a range of 109 feet of
7 net pay, on the low end; up to 411 feet of net
8 pay on the high end.

9 The V.F. Petroleum Huber State well has
10 approximately 389 feet of net pay, the Shell SDA
11 No. 1 has 311 feet, and the SDA No. 2 has 162
12 feet of net pay.

13 Q. From a geological perspective, is this
14 a good candidate for a horizontal drain hole?

15 A. Yes, it is.

16 Q. You wouldn't see any problem in being
17 able to keep the wellbore within the Devonian
18 formation?

19 A. No, we do not.

20 Q. Let's go to Exhibit No. 4, and I would
21 ask you to review that for the Examiner.

22 A. Exhibit No. 4 is a cumulative
23 production map of the wells in the South Devonian
24 field, with a well-by-well cumulative underneath
25 each well.

1 Q. What is really your hope with this
2 horizontal program?

3 A. With this horizontal program, we hope
4 to go in and recover reserves that have been left
5 behind by virtually drilling this formation.

6 Q. If you are successful with the Huber
7 well, do you have an idea as to how soon you might
8 be reentering other wells?

9 A. Within, I would say, three to six
10 months of the Huber State.

11 Q. Huber State has a dry hole symbol. Why
12 is that?

13 A. The Huber State was drilled as an
14 infill well in approximately 1981. The well
15 tested free oil with no water on a drill stem
16 test. At the time the well was drilled, there
17 was only one other well which was producing in
18 the field, which was the highest well in the
19 field, and that well was producing in the range
20 of 3,000 barrels of water a day and a hundred
21 barrels of oil.

22 Once a decision was made to run pipe on
23 the Huber State, after having a water-free drill
24 stem test, the well was acidized and only
25 recovered a small amount of oil. We feel like it

1 has to do with the way the Kelly State, on the
2 highest most well in the field was being pulled
3 at the time, and also had to do with the type of
4 acid job they did on it.

5 Q. What conclusions can you reach from
6 your geologic study of this area?

7 A. We feel like we have a small Devonian
8 field which is well-suited for horizontal
9 drilling. We believe we can adequately drain
10 left-behind reserves from this reservoir.

11 Q. Let's go to Kinlaw Exhibit No. 5. Can
12 you identify that, please?

13 A. Exhibit 5 is the wellbore diagram of
14 the V.F. Petroleum Huber State No. 1. It
15 basically shows what we're going to attempt to do
16 on this well. This well has 12-3/4" surface
17 casing set at 282 feet. The 8-5/8 casing was
18 shot off at approximately 251 feet.

19 Initially, we'll attempt to tie back
20 into this 8-5/8 casing, drill out the plugs No. 3
21 and 4 on the diagram. At that point, we will
22 move in a drilling rig and drill out test casing
23 and drill out plugs 5, 6 and 7, and attempt to
24 tie into 5-1/2 at 11,008 feet.

25 If that proves unsuccessful, at that

1 time we will sidetrack the 5-1/2" casing that's
2 currently in this well, and drill new hole back
3 down to the top of Devonian and kickoff there at
4 a short radius.

5 Q. At what depth do you anticipate kicking
6 off in the Devonian formation in this well?

7 A. We anticipate kicking off approximately
8 12,915 feet.

9 Q. It might be slightly shallower than
10 that if you have trouble tying into that lower
11 string?

12 A. That's correct. It could be anywhere
13 between 12,878 and 12,915.

14 Q. That would be in the Devonian?

15 A. That's correct.

16 Q. What would be the kickoff depths in the
17 State SDA 1 and 2?

18 A. The SDA No. 1 kickoff point would be at
19 12,958. The SDA No. 2 would be at 13,110.

20 Q. Now, as to the horizontal drilling
21 portion of the hole, will Kinlaw be using the
22 identical procedure that was reviewed on August
23 the 26th by Mr. Dave Phillips in Case 10806?

24 A. That's correct.

25 Q. You will be using a small-angle

1 horizontal radius, and staying within the
2 Devonian?

3 A. That's correct.

4 MR. CARR: Mr. Stogner, at this time we
5 would request that the testimony of David
6 Phillips in Case 10806, presented on August 26th,
7 be incorporated into the record of this
8 proceeding.

9 EXAMINER STOGNER: The record in Case
10 10806 will be incorporated at this time in this
11 consolidated matter.

12 Q. Mr. Hill, do you anticipate that the
13 acreage dedicated to each of these wells will, in
14 fact, be drained by the wells, if they are
15 successful?

16 A. Yes, I do.

17 Q. Do you anticipate any excessive
18 drainage from offsetting tracts?

19 A. No, I do not.

20 Q. In fact, if there was, it would still
21 be tracts that have identical ownership with the
22 dedicated acreage, is that right?

23 A. That's correct.

24 Q. If the wells are successful, do you
25 have a guess or a hope as to how long they might

1 be able to produce?

2 A. We're anticipating seven to 10 years.

3 Q. At the conclusion of the drilling, as
4 well as after you drill out the plugs, will you
5 be running a directional survey on each of the
6 wells?

7 A. That's correct.

8 Q. Will copies of these surveys be
9 provided to the Oil Conservation Division?

10 A. Yes, they will.

11 Q. How soon does Kinlaw hope to commence
12 this effort?

13 A. As soon as we're authorized to do so.

14 MR. CARR: Mr. Stogner, I have prepared
15 proposed orders in these cases, and I have them
16 on floppy disk, but Mr. Hill this morning pointed
17 out some errors in footages. I'll have them
18 revised, and we'll submit them to you later
19 today, if that's all right with you.

20 EXAMINER STOGNER: That would be good.
21 I appreciate that.

22 Q. Now, Mr. Hill, in your opinion, will
23 approval of each of these applications be in the
24 best interest of conservation, the prevention of
25 waste, and the protection of correlative rights?

1 A. Yes, they will.

2 Q. If these applications are granted and
3 the wells are successful, will oil be recovered
4 that otherwise will be left in the ground?

5 A. Yes, it will.

6 Q. Were Exhibits 1 through 5 prepared by
7 you?

8 A. Yes, they were.

9 MR. CARR: At this time, Mr. Stogner,
10 we move the admission of Kinlaw Exhibits 1
11 through 5.

12 EXAMINER STOGNER: Exhibits 1 through 5
13 will be admitted into the record at this time.

14 MR. CARR: That concludes my direct
15 examination of Mr. Hill

16 EXAMINATION

17 BY EXAMINER STOGNER:

18 Q. Mr. Hill, in your conversations with
19 the State Land Office, was the matter discussed
20 of the first well, I'm referring to the one in
21 Case 10807, in which you're proposing to dedicate
22 perhaps 80 acres, a portion of Section 36 and a
23 portion of Section 35, their concern that that's
24 two different leases?

25 A. Yes, they did mention that there was

1 some concern there. They said if we could get
2 approval through this hearing, that that would be
3 okay with them that we did what we're talking
4 about.

5 Q. If it was approved at this level, what
6 would the State Land Office require of Kinlaw to
7 communitize or whatever had to be done to connect
8 those two 40s?

9 A. They really didn't tell us.

10 MR. CARR: Mr. Stogner, we would have
11 to communitize the state leases. I have been
12 involved in those discussions with them. If the
13 surface is a state surface, a business lease
14 would be required, they said.

15 Q. Mr. Hill, since I don't have the record
16 in front of me in Case 10806, even though we
17 incorporated those, can you enlighten me again
18 what the maximum horizontal distance you're
19 hoping that can be accomplished with this type of
20 short radius horizontal drilling?

21 A. Approximately 700 feet.

22 Q. That will be max?

23 A. Yes, sir.

24 Q. Now, should the well in Case 10807 not
25 reach that maximum 700 foot horizontal extension

1 but, in fact, stop short of Section 35. then
2 you're proposing only a 40-acre pronation unit be
3 dedicated?

4 A. That's correct. As I stated earlier,
5 it would depend on where the bottomhole location
6 falls. And if it's actually a little bit closer
7 to Section 35 than where the surface hole
8 location was staked, we would need to go over
9 there into the other 40 acres.

10 Q. Have you taken a reading or do you know
11 about what the natural drift of those old
12 original vertical wells were, and what direction?

13 A. If I can recall correctly, I believe
14 the one that we looked at initially had around
15 five to six degrees of deviation; but, in what
16 direction, I'm not sure. I believe there was
17 around 300-and-some-odd feet total.

18 Of course, it was done by a single
19 shot, and it didn't give the exact bottomhole
20 location. It would depend on whether all that
21 deviation was in one direction or whether it was
22 going a number of different directions.

23 Q. Now, let's refer to the well in Case
24 10809. That's your Huber State Well No. 1 on the
25 Huber State Well No. 1.

1 There again, the same mechanics of your
2 proposed horizontal drilling would be set a
3 hundred foot max, is that true?

4 A. That's correct.

5 Q. And you're proposing to go in a
6 southern direction and connect the two, I call
7 them Lots 1 and 8, being that shaded area on your
8 Exhibit No. 1 in Section 5, is that correct?

9 A. That's correct.

10 Q. According to my calculations, that 700
11 foot wouldn't even connect that 40-acre portion
12 to the south?

13 A. That's correct. At that time, it would
14 depend on what type of allowable we needed and so
15 forth. That's the main reason for going for 80s
16 on that particular well. If we needed to come
17 back and request a larger allowable, we might
18 need to incorporate those two 40-acre units.

19 Q. Our policy is, if you connect the two
20 with the horizontal portion, then you're entitled
21 to that, but if you're just drilling toward it,
22 that doesn't entitle you to that other 40. Are
23 you proposing that you're requesting this just to
24 get a higher allowable, but not actually
25 connecting the two 40s?

1 A. No. My understanding was that we would
2 have to have two 40-acre proration units in order
3 to get a higher allowable, and at this point
4 we're not asking for one but I said, in the
5 future, if we needed to, we might need to add
6 those two.

7 Q. Why would you need a higher allowable?

8 A. At this time we don't know. We would
9 have to drill the well, potential it, and see
10 what draw-down pressures we were getting from
11 producing this well, and checking bottomhole
12 pressures, so on and so forth. We felt like we
13 weren't hurting the reservoir, producing it at a
14 higher than the depth bracket allowable, and at
15 some point we might request a higher allowable.

16 Q. What is that depth bracket allowable at
17 the present time?

18 A. It's around 430 barrels a day.

19 Q. I know you're hoping for that, but are
20 you anticipating it being over 430?

21 A. Not at this time. That's why we're not
22 currently requesting it.

23 Q. There again, with our policy, the same
24 restriction on Case 10809 would be put on set or
25 written in as in 10807. It's possible that you

1 could connect the two, and that's what you're
2 requesting today, and, if an order is issued,
3 we'll stipulate that.

4 However, if the two actual 40s are not
5 connected, then you would not be entitled to hold
6 the two 40-acre tracts, and only that one 40-acre
7 tract could be written in or incorporated. And
8 then, once the well is drilled or once the survey
9 is established, then the proration unit could
10 then be, how would you say, set, or drawn, or set
11 out, whatever the case may be.

12 EXAMINER STOGNER: I have no other
13 questions of Mr. Hill at this time. Are there
14 any other questions, Mr. Carr?

15 MR. CARR: We have nothing further in
16 this case, Mr. Stogner.

17 EXAMINER STOGNER: Does anybody else
18 have anything further in Cases 10807, 10808 or
19 10809?

20 Then these cases will be taken under
21 advisement.

22 (And the proceedings concluded.)

23

24

25

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case Nos. 10807, 10808, 10809
heard by me on 23 July, 1993.


Oil Conservation Division

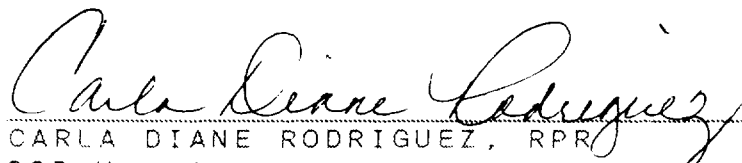
CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Carla Diane Rodriguez, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL September 30, 1993.


CARLA DIANE RODRIGUEZ, RPR
CCR No. 4