

Case NO.

6573

Application

Transcripts

Small Exhibits

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico
13 June 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Mesa Petroleum Company) CASE
for directional drilling, Eddy County,) 6573
New Mexico.)

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant: Conrad Coffield, Esq.
HINKLE, COX, EATON, COFFIELD &
HENSLEY
Midland, Texas

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I N D E X

JOSEPH W. JEFFERS

Direct Examination by Mr. Coffield 3

Cross Examination by Mr. Nutter 10

MICHAEL P. HOUSTON

Direct Examination by Mr. Coffield 13

E X H I B I T S

Applicant Exhibit One, Plat 4

Applicant Exhibit Two, Map 5

Applicant Exhibit Three, Cross Section 7

Applicant Exhibit Four, Document 14

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1 MR. NUTTER: Call Case Number 6573.
2
3 MR. PADILLA: Application of Mesa Petro-
4 leum Company for directional drilling, Eddy County, New
5 Mexico.

6 MR. COFFIELD: Conrad Coffield, with the
7 Hinkle Law Firm in Midland, Texas, appearing on behalf of
8 Mesa Petroleum Company, and I have two witnesses.

9 (Witnesses sworn.)

10
11 JOSEPH W. JEFFERS
12 being called as a witness and having been duly sworn upon
13 his oath, testified as follows, to-wit:

14
15 DIRECT EXAMINATION

16 BY MR. COFFIELD:

17 Q. Mr. Jeffers, would you state your name,
18 address, occupation, and employer, please?

19 A. Joseph W. Jeffers, Midland, Texas, Mesa
20 Petroleum Company, Division Geologist.

21 Q. Have you previously testified before the
22 Division as a geologist?

23 A. I have.

24 Q. And were your qualifications made a matter
25 of record and accepted by the Division?

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A. They were.

Q. Are you familiar with Mesa's application in this case?

A. I am.

Q. And also the property and the proposed well location involved?

A. I am.

MR. COFFIELD: Is the witness considered qualified?

MR. NUTTER: Yes, he is.

Q. (Mr. Coffield continuing.) Mr. Jeffers, just basically what -- what does Mesa propose in this particular case?

A. Mesa proposes to drill a directional hole from -- from a location in Section 18, which would be 685 feet from the north line and 1295 feet from the west line, to be vertically drilled approximately 7000 feet and then directionally drilled to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the south line and 1320 feet from the west line of Section 7, all in Township 23 South, Range 30 East, Eddy County, New Mexico.

Q. All right, Mr. Jeffers, would you refer to what we've marked as Exhibit One and explain what this is and what it shows?

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1 A. This is a general plat in the Nash Unit
2 Area. It is on a scale of one inch to 2000 feet, covering
3 primarily a portion of Township 23 South, Range 29 and 30
4 East, Eddy County, New Mexico.

5 It shows the Nash Unit outlined in red
6 and other units in the area are designated by name and
7 outline.

8 In addition, it shows the ownership of
9 the oil and gas leases within the Nash Unit Area and the
10 surrounding area, the location of the Nash wells, indi-
11 cating the producing formations by color; also the location
12 of other wells in the surrounding area and original pro-
13 ducing formations is indicated.

14 The plat also shows the proposed develop-
15 ment location of the No. 7 Nash Well to have a surface
16 location as stated in the -- in the request.

17 The exhibit also shows the potash leases
18 zone by Duval, by Leland Hodges, and International Minerals
19 and Chemical Corporation, and the lands unleased for potash.
20 These are indicated in the legend by various codes.

21 Q. All right, Mr. Jeffers, look at what we
22 have marked as Exhibit Two and explain that.

23 MR. NUTTER: Before you get off that,
24 Mr. Jeffers, what is -- on my Exhibit Number One here I
25 can't tell which is the Duval leased lands. Which would

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1 those be? By the legend down here?

2 A. The Duval are the very lightly hachured
3 to the right and they're up here in Section 31 and 32 of
4 22, 30.

5 MR. NUTTER: Okay, there are some little
6 tiny marks in there.

7 A. Right.

8 MR. NUTTER: And they didn't show up on
9 mine.

10 And then the Hodges is kind of a grey.

11 A. That's correct.

12 MR. NUTTER: And the IMC is dotted.

13 A. Right, and the unleashed potash is hachured.

14 MR. NUTTER: Okay, go ahead.

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16 This is a geologic structure map contoured on the base of
17 the Atoka bank. The scale of the map is one inch equals
18 2000 feet. The map covers a portion of southeast New
19 Mexico in Eddy County, primarily Township 23 South, Range
20 29 and 30 East. The Nash Unit Area is outlined in red.

21 The map was contoured utilizing regional
22 subsurface information from well control in conjunction
23 with seismic data owned by Mesa Petroleum.

24 The well control is indicated by well
25 symbols with the correlative datum on each well. The

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1 contour interval is 50 feet. The producing formations are
2 color coded to correspond with the production legend on the
3 map. The proposed location is marked on the map.

4 Q Okay. Going now to what has been marked
5 as Exhibit Three, would you explain that?

6 A Exhibit Three is a stratigraphic cross
7 section of the Lower Pennsylvanian section of five wells
8 in the Nash Unit Area, showing the various reservoir para-
9 meters and the completion zones in each well.

10 The cross section is on a vertical scale
11 of 2-1/2 inches to 100 feet. The horizontal scale repre-
12 sents relative distances between the wells. The locations
13 of the wells are shown on the index map and the legend.

14 The portions of the logs of the wells
15 shown are the formations which will be the primary objective
16 of the proposed No. 7 Nash Well.

17 Q Mr. Jeffers, just what -- please state
18 what is the purpose of these exhibits?

19 A The purpose of the exhibits are to demon-
20 strate the reasons for the proposed well to be drilled at
21 the proposed location.

22 First, the ownership map shows the outline
23 of the unit with the potash and petroleum lease ownership.

24 Second, the structure map indicates that
25 the proposed well will bottom in Section 7 at a higher or

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1 equal structural position to the presently productive well
2 in Section 18.

3 Third, the cross section shows there are
4 a number of Atoka and Morrow Zones, sandstones, in the
5 producing wells in the Nash Unit. A well bottomed at the
6 proposed location would have a potential of numerous sand-
7 stone zones to complete from.

8 Q All right, Mr. Jeffers, would you please
9 demonstrate or show whether or not the Nash Unit wells are
10 hooked up and producing?

11 A The first gas was sold June the 5th, 1975
12 to Transwestern Pipeline Company. Since that date to
13 January 1, 1979 the Nash Unit has produced 6.3 billion
14 cubic feet of gas and 32-1/2 thousand barrels of oil from
15 all wells, and it's still producing at a rate of approxi-
16 mately 3950 Mcf of gas per day plus 13 barrels of oil per
17 day.

18 Q Has Mesa as the unit operator made appli-
19 cation to the OCD to drill the Nash Unit Number 7 develop-
20 ment well?

21 A Application was filed May the 10th, 1979.

22 Q Has Mesa as the unit operator filed with
23 the supervisor of the USGS, as well as the Commissioner of
24 Public Lands, a plan of development and operation, as re-
25 quired by the unit agreement?

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1 A. This plan is dated June the 4th, 1979,
2 and was filed on or about that date with the supervisor
3 and Commissioner of Public Lands.

4 Q Was the plan of operation approved by
5 either or both the supervisor and commissioner?

6 A. We have no reason to believe that the
7 plan will not be approved by either the supervisor or
8 commissioner.

9 Q Now, Mr. Jeffers, just why have you
10 planned this deviated hole in order to develop the Nash
11 Unit at this subject location?

12 A. Because it was the only location we could
13 get approval to drill from the USGS and the potash lessors
14 that would enable us to develop Section 7 with a reasonable
15 spacing pattern to effectively drain that portion of the
16 Nash Unit.

17 Q Do you have anything further to add in
18 this particular matter, Mr. Jeffers?

19 A. Well, I might add that this is in the
20 R-111. We've been attempting to get this location to drill
21 in the Nash Unit for two years, over two years, and we
22 finally got a location that we can get approval from every-
23 body to drill.

24 Q In other words, this isn't necessarily the
25 number one location you would choose, but it's --

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1 A. Definitely not the number one location.

2 Q But nonetheless, it's the location, I
3 trust, that you feel is a reasonable prospect to recover
4 production in connection with the Nash Unit.

5 A. That is correct.

6 Q Mr. Jeffers, were these Exhibits One
7 through Four prepared by you or under your supervision?

8 A. They were.

9 Q And in your opinion will the approval of
10 this application by Mesa Petroleum Company prevent the
11 drilling of unnecessary wells and otherwise prevent waste
12 and protect correlative rights?

13 A. I do.

14 MR. COFFIELD: Mr. Examiner, I move the
15 admission of Exhibits One through Four.

16 MR. NUTTER: Mesa Exhibits One through
17 Four will be admitted in evidence.

18 MR. COFFIELD: I have no other questions.

19

20

CROSS EXAMINATION

21

BY MR. NUTTER:

22

23 Q Mr. Jeffers, now on the Exhibit Number
24 One it would appear that the west half of the northwest
25 quarter of Section 18 is a State lease, is that correct?

25

A. That is correct.

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1 Q So the drilling permit for this well would
2 be filed with the Oil Conservation Division.

3 Now the bottom of the hole is up here in
4 Section 7. It appears it's bottoming almost on the line
5 separating Federal land from State land, so I presume that
6 they have to have some concurrence in the drilling permit
7 also.

8 A That is correct, sir. This is in a State
9 approved unit, State and Federally approved unit.

10 Q And the drilling permit would probably
11 have to be approved by both.

12 A That's correct.

13 Q Now, what does this NDE mean on Well No.
14 6 on Exhibit Number Two?

15 A Not deep enough to penetrate the formation
16 that this structure map is constructed on.

17 Q Okay. I see a little blue well here,
18 Delaware. Was it a Delaware test or what?

19 A Yes, sir. Well No. 5 and No. 6 were
20 Delaware dry holes. No. 4 was a Delaware completion.

21 Q I see.

22 A Bell Canyon. I mean Cherry Canyon.
23 Excuse me.

24 Q Now what lands would be dedicated to this
25 well?

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A. A portion of Section 7.

Q Well now, what do we have in here, 320-acre spacing for these wells?

A. The field rules have never been promulgated for this unit.

Q So it would be on 320-acre spacing.

A. Statewide.

Q All right, so what will you dedicate, the west half of Section 7 or the south half of Section 7?

A. I think I'd go the west half of Section 7.

Q So the -- the bottom hole location, then, is -- if the west half is dedicated, the bottom hole location is unorthodox in that it is not 1980 feet from the end boundary of that unit.

A. That's correct.

MR. NUTTER: Are there any other questions of this witness?

MR. COFFIELD: I have a point of correction, Mr. Examiner. I misstated. I was talking about Exhibits One through Four. I should have said Exhibits One through Three for this particular witness.

MR. NUTTER: Exhibits One through Three are admitted.

MR. COFFIELD: We have nothing further for this witness.

1 MR. NUTTER: He may be excused.

2
3 MICHAEL P. HOUSTON

4 being called as a witness and having been duly sworn upon
5 his oath, testified as follows, to-wit:

6
7 DIRECT EXAMINATION

8 BY MR. COFFIELD:

9 Q Mr. Houston, would you please state your
10 name, address, occupation and employer?

11 A Michael P. Houston, and I live in Midland
12 and work for Mesa Petroleum, Division Engineer.

13 Q Mr. Houston, have you previously testified
14 before the Division as an engineer?

15 A Yes.

16 Q And were your qualifications accepted by
17 the Division and made a matter of record?

18 A They were.

19 Q Are you familiar with Mesa's application
20 in this case?

21 A Yes, sir.

22 Q And with the property and well involved?

23 A Yes, sir.

24 MR. COFFIELD: Is the witness considered
25 qualified?

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1 MR. NUTTER: Yes, he is.

2 Q (Mr. Coffield continuing.) All right, Mr.
3 Houston, would you please refer to what we've marked as
4 Exhibit Four and explain what this is and what it shows?

5 A Well, Exhibit Four is divided into two
6 parts. The upper part, upper portion, indicates the pro-
7 posed surface and bottom hole location of the Nash Unit
8 No. 7. The scale is one inch equals 1500 feet, with the
9 northerly direction to the righthand side of the page.

10 And below that separating line, or the
11 lower portion of Exhibit Four, is a diagrammatic sketch
12 which depicts the planned directionally drilled hole.

13 The well will be drilled vertically for
14 all practical purposes to the kickoff point of 7000 feet.
15 At that depth directional drilling will commence to build
16 a deviation angle two degrees per 100 feet until 18-1/2
17 degrees is reached at an estimated 7925 measured depth.

18 Orientation will be in a northerly direction
19 with a deviation angle of 18-1/2 degrees will be maintained
20 to a total depth of 14,295.

21 Maximum horizontal displacement will be
22 2169 at total depth if design conditions are met. The
23 wellbore should cross the common section line at approxi-
24 mately 9617 feet measured depth.

25 Q Mr. Houston, from an engineering standpoint

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1 is there anything remarkable or unusual about this parti-
2 cular project and do you anticipate any particular diffi-
3 culties for any reason?

4 A. We anticipate nothing being unusual and
5 do not anticipate any complicated problems.

6 Q. It's a routine approach to the problem
7 involved?

8 A. Right.

9 Q. Do you have anything further to add in
10 connection with the engineering aspects of this?

11 A. I do not.

12 Q. Was this Exhibit Four prepared by you or
13 under your supervision?

14 A. Yes, it was.

15 Q. In your opinion will the approval of the
16 application of Mesa prevent drilling of unnecessary wells
17 and otherwise prevent waste and protect correlative rights?

18 A. Yes.

19 MR. COFFIELD: I move the admission of
20 Exhibit Four, Mr. Examiner.

21 MR. NUTTER: Mesa Exhibit Four will be
22 admitted in evidence.

23 MR. COFFIELD: I have no more questions of
24 the witness.

25 MR. NUTTER: Are there any questions of

1 Mr. Houston? He may be excused.

2 Do you have anything further, Mr. Coff-
3 field?

4 MR. COFFIELD: No, sir.

5 MR. NUTTER: Does anyone have anything
6 they wish to offer in Case Number 6573?

7 We'll take the case under advisement.

8
9 (Hearing concluded.)
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REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

SALLY WALTON BOYD
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I do hereby certify that the foregoing is
a complete and correct transcript of the proceedings in
the Examiner hearing of Case No. 65B
heard by me on 6/13 1979.

[Signature], Examiner
Oil Conservation Division

STATE OF NEW MEXICO
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19 cation to the OCD to drill the Nash Unit Number 7 develop-
20 ment well?

21 A Application was filed May the 10th, 1979.

22 Q Has Mesa as the unit operator filed with
23 the supervisor of the USGS, as well as the Commissioner of
24 Public Lands, a plan of development and operation, as re-
25 quired by the unit agreement?

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3020 Plaza Blanca (606) 471-2462
Santa Fe, New Mexico 87501

1 A This plan is dated June the 4th, 1979,
2 and was filed on or about that date with the supervisor
3 and Commissioner of Public Lands.

4 Q Was the plan of operation approved by
5 either or both the supervisor and commissioner?

6 A We have no reason to believe that the
7 plan will not be approved by either the supervisor or
8 commissioner.

9 Q Now, Mr. Jeffers, just why have you
10 planned this deviated hole in order to develop the Nash
11 Unit at this subject location?

12 A Because it was the only location we could
13 get approval to drill from the USGS and the potash lessors
14 that would enable us to develop Section 7 with a reasonable
15 spacing pattern to effectively drain that portion of the
16 Nash Unit.

17 Q Do you have anything further to add in
18 this particular matter, Mr. Jeffers?

19 A Well, I might add that this is in the
20 R-111. We've been attempting to get this location to drill
21 in the Nash Unit for two years, over two years, and we
22 finally got a location that we can get approval from every-
23 body to drill.

24 Q In other words, this isn't necessarily the
25 number one location you would choose, but it's --

1 Q Definitely not the number one location.

2 A But nonetheless, it's the location, I
3 trust, that you feel is a reasonable prospect to recover
4 production in connection with the Nash Unit.

5 A That is correct.

6 Q Mr. Jeffers, were these Exhibits One
7 through Four prepared by you or under your supervision?

8 A They were.

9 Q And in your opinion will the approval of
10 this application by Mesa Petroleum Company prevent the
11 drilling of unnecessary wells and otherwise prevent waste
12 and protect correlative rights?

13 A I do.

14 MR. COFFIELD: Mr. Examiner, I move the
15 admission of Exhibits One through Four.

16 MR. NUTTER: Mesa Exhibits One through
17 Four will be admitted in evidence.

18 MR. COFFIELD: I have no other questions.

19

20

CROSS EXAMINATION

21

BY MR. NUTTER:

22

23 Q Mr. Jeffers, now on the Exhibit Number
24 One it would appear that the west half of the northwest
25 quarter of Section 18 is a state lease, is that correct?

25

A That is correct.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3020 Plaza Blanca (SOS) 471-2462
Santa Fe, New Mexico 87501

Q So the drilling permit for this well would be filed with the Oil Conservation Division.

A Now the bottom of the hole is up here in Section 7. It appears it's bottoming almost on the line separating Federal land from State land, so I presume that they have to have some concurrence in the drilling permit also.

A That is correct, sir. This is in a State approved unit, State and Federally approved unit.

Q And the drilling permit would probably have to be approved by both.

A That's correct.

Q Now, what does this NDE mean on Well No. 6 on Exhibit Number Two?

A Not deep enough to penetrate the formation that this structure map is constructed on.

Q Okay. I see a little blue well here, Delaware. Was it a Delaware test or what?

A Yes, sir. Well No. 5 and No. 6 were Delaware dry holes. No. 4 was a Delaware completion.

Q I see.

A Bell Canyon. I mean Cherry Canyon. Excuse me.

Q Now what lands would be dedicated to this well?

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3020 Plaza Blanca (606) 471-2462
Santa Fe, New Mexico 87501

1 A. A portion of Section 7.
2 Q. Well now, what do we have in here, 320-
3 acre spacing for these wells?
4 A. The field rules have never been promulgated
5 for this unit.
6 Q. So it would be on 320-acre spacing.
7 A. Statewide.
8 Q. All right, so what will you dedicate, the
9 west half of Section 7 or the south half of Section 7?
10 A. I think I'd go the west half of Section 7.
11 Q. So the -- the bottom hole location, then,
12 is -- if the west half is dedicated, the bottom hole loca-
13 tion is unorthodox in that it is not 1980 feet from the
14 end boundary of that unit.
15 A. That's correct.
16 MR. NUTTER: Are there any other questions
17 of this witness?
18 MR. COFFIELD: I have a point of correction,
19 Mr. Examiner. I misstated. I was talking about Exhibits
20 One through Four. I should have said Exhibits One through
21 Three for this particular witness.
22 MR. NUTTER: Exhibits One through Three
23 are admitted.
24 MR. COFFIELD: We have nothing further
25 for this witness.

1 MR. COFFIELD: He may be excused.

2
3 MICHAEL P. HOUSTON

4 being called as a witness and having been duly sworn upon
5 his oath, testified as follows, to-wit:

6
7 DIRECT EXAMINATION

8 BY MR. COFFIELD:

9 Q Mr. Houston, would you please state your
10 name, address, occupation and employer?

11 A Michael P. Houston, and I live in Midland
12 and work for Mesa Petroleum, Division Engineer.

13 Q Mr. Houston, have you previously testified
14 before the Division as an engineer?

15 A Yes.

16 Q And were your qualifications accepted by
17 the Division and made a matter of record?

18 A They were.

19 Q Are you familiar with Mesa's application
20 in this case?

21 A Yes, sir.

22 Q And with the property and well involved?

23 A Yes, sir.

24 MR. COFFIELD: Is the witness considered
25 qualified?

SALLY WALTON BOYD
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3020 Plaza Blanca (606) 471-2462
Santa Fe, New Mexico 87501

1 MR. KILBURN: Yes, he is.

2 Q (Mr. Coffield continuing.) All right, Mr.
3 Houston, would you please refer to what we've marked as
4 Exhibit Four and explain what this is and what it shows?

5 A Well, Exhibit Four is divided into two
6 parts. The upper part, upper portion, indicates the pro-
7 posed surface and bottom hole location of the Nash Unit
8 No. 7. The scale is one inch equals 1500 feet, with the
9 northerly direction to the righthand side of the page.

10 And below that separating line, or the
11 lower portion of Exhibit Four, is a diagrammatic sketch
12 which depicts the planned directionally drilled hole.

13 The well will be drilled vertically for
14 all practical purposes to the kickoff point of 7000 feet.
15 At that depth directional drilling will commence to build
16 a deviation angle two degrees per 100 feet until 18-1/2
17 degrees is reached at an estimated 7925 measured depth.

18 Orientation will be in a northerly direction
19 with a deviation angle of 18-1/2 degrees will be maintained
20 to a total depth of 14,295.

21 Maximum horizontal displacement will be
22 2169 at total depth if design conditions are met. The
23 wellbore should cross the common section line at approxi-
24 mately 9617 feet measured depth.

25 Q Mr. Houston, from an engineering standpoint

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Santa Fe, New Mexico 87501

1 is there anything remarkable or unusual about this partic-
2 cular project and do you anticipate any particular diffi-
3 culties for any reason?

4 A We anticipate nothing being unusual and
5 do not anticipate any complicated problems.

6 Q It's a routine approach to the problem
7 involved?

8 A Right.

9 Q Do you have anything further to add in
10 connection with the engineering aspects of this?

11 A I do not.

12 Q Was this Exhibit Four prepared by you or
13 under your supervision?

14 A Yes, it was.

15 Q In your opinion will the approval of the
16 application of Mesa prevent drilling of unnecessary wells
17 and otherwise prevent waste and protect correlative rights?

18 A Yes.

19 MR. COFFIELD: I move the admission of
20 Exhibit Four, Mr. Examiner.

21 MR. NUTTER: Mesa Exhibit Four will be
22 admitted in evidence.

23 MR. COFFIELD: I have no more questions of
24 the witness.

25 MR. NUTTER: Are there any questions of

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3020 Plaza Blanca (605) 471-2462
Santa Fe, New Mexico 87501

1 Mr. Houston? He may be present.
2 Do you have anything further, Mr. Coff-
3 field?
4 MR. COFFIELD: No, sir.
5 MR. NUTTER: Does anyone have anything
6 they wish to offer in Case Number 6573?
7 We'll take the case under advisement.
8
9 (Hearing concluded.)
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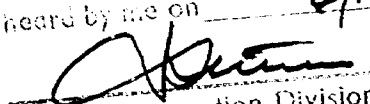
SALLY WALTON BOYD
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REPORTER'S CERTIFICATION

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY
CERTIFY that the foregoing and attached Transcript of
Hearing before the Oil Conservation Division was reported
by me; that said transcript is a full, true, and correct
record of the hearing, prepared by me to the best of my
ability, knowledge, and skill, from my notes taken at the
time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examined Hearing of Case No. 6573
heard by me on 6/13 1979.
 Examiner
Oil Conservation Division



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

June 29, 1979

POST OFFICE BOX 2008
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 07501
(505) 827-2434

Re: Mr. Conrad E. Coffield
Hinkle, Cox, Raton, Coffield
& Hensley
Attorneys at Law
P. O. Box 3580
Midland, Texas 79702

Applicant:

Mesa Petroleum Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC	<u>X</u>
Artesia OCC	<u>X</u>
Aztec OCC	

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6573
Order No. R-6042

APPLICATION OF MESA PETROLEUM COMPANY
FOR DIRECTIONAL DRILLING, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13, 1979,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 26th day of June, 1979, the Division
Director, 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 Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Mesa Petroleum Company, seeks
approval for the directional drilling of its Nash Unit Well
No. 7, the surface location of which would be 685 feet from
the North line and 1295 feet from the West line of Section 18,
to be vertically drilled to approximately 7,000 feet, and then
directionally drilled to a bottom hole location in the Morrow
formation within 400 feet of a point 1315 feet from the South
line and 1320 feet from the West line of Section 7, all in
Township 23 South, Range 30 East.

(3) That the applicant should be required to determine the
subsurface location of the kick-off point prior to directional
drilling, and to determine the subsurface location of the bottom
of the hole by means of a continuous multi-shot directional
survey conducted subsequent to said directional drilling, if
said well is to be completed as a producing well.

(4) That said well is located in the Oil-Potash Area as
defined by Order R-111-A, as amended; and the proposed direc-
tional drilling will afford protection to known potash reserves,

-2-

Case No. 6573

Order No. R-6042

may recover otherwise unrecoverable gas reserves, thereby preventing waste, will not impair but will protect correlative rights, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mesa Petroleum Company, is hereby authorized to directionally drill its Nash Unit Well No. 7, the surface location of which would be 685 feet from the North line and 1295 feet from the West line of Section 18, vertically to approximately 7,000 feet, and then directionally to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the South line and 1320 feet from the West line of Section 7, all in Township 23 South, Range 30 East.

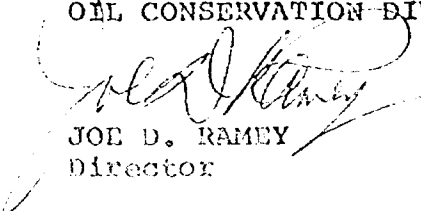
PROVIDED HOWEVER, that subsequent to the above-described directional drilling, should said well be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Artesia District Office of the date and time said survey is to be commenced.

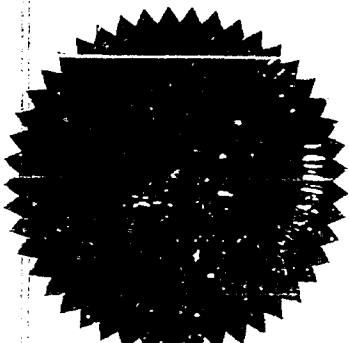
(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director


S E A L
fd/

LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

1000 FIRST NATIONAL BANK TOWER

Post Office Box 3580

MIDLAND, TEXAS 79702

(915) 683-4891

OF COUNSEL

CLARENCE E. HINKLE

W. E. BONDURANT, JR. (1914-1973)

ROSWELL, NEW MEXICO OFFICE

600 HINKLE BUILDING

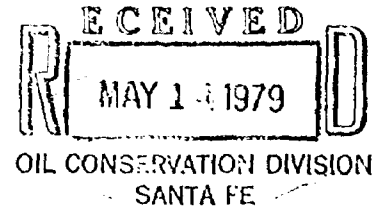
(505) 622-6510

ONLY ATTYS. COFFIELD, MARTIN, BOZARTH,
BOHANNON, FOSTER, ALLEN, ALLEN & BURFORD
LICENSED IN TEXAS

LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
STUART D. SHANOR
C. D. MARTIN
PAUL J. KELLY, JR.
JAMES H. BOZARTH

DOUGLAS L. LUNSFORD
PAUL M. BOHANNON
J. DOUGLAS FOSTER
K. DOUGLAS PERRIN
C. RAY ALLEN
JACQUELINE W. ALLEN
T. CALDER EZZELL, JR.
WILLIAM B. BURFORD
JOHN S. NELSON
RICHARD E. OLSON

May 10, 1979



Mr. Dan Nutter
Chief Engineer
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Mesa Petroleum Co.
Application for Approval
of Directional Drilling

Dear Dan:

Transmitted herewith you will find triplicate executed copies of an Application for Mesa Petroleum Co. for approval of directional drilling in Sections 7 and 18, Township 23 South, Range 30 East, N.M.P.M., EdCty County, New Mexico.

It is my understanding that the docket setting for June 13 is still available for this matter, and accordingly, we request that it be heard on that date.

I trust that the enclosed copies of the Application are all that is needed in order for this to be set for the June 13 hearing. However, if anything is needed in addition, please let me know.

Very truly yours,

HINKLE, COX, EATON,
COFFIELD & HENSLEY


Conrad E. Coffield

CEC:rf
Enclosures

xc: Mr. Marion Causey
xc: Mr. John B. Huckabay, Jr.

BEFORE THE OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.
FOR APPROVAL OF DIRECTIONAL
DRILLING

Case 6573

Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

COMES NOW Mesa Petroleum Co., with offices at Midland, Texas, acting by and through the undersigned attorneys and hereby makes application for approval of the directional drilling of Well No. 7 in the Nash Unit to be located 685 feet from the north line and 1295 feet from the west line of Section 18, Township 23 South, Range 30 East, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a proposed target of 1315 feet from the south line and 1320 feet from the west line of Section 7, Township 23 South, Range 30 East to test the Morrow formation, and in support thereof respectfully shows:

1. Applicant has heretofore filed with the Division Form C-101, Application for Permit to Drill. The proposed well is a development well in the Nash Unit, which is in the designated potash area, and the surface location is on lands of the State of New Mexico leased for oil and gas, which lease has been committed to the Nash Unit. The surface location in Section 18 has heretofore been determined by core tests not to be underlain by commercial deposits of potash. The application provides that the well is to be drilled vertically to a depth of approximately 7,000 feet and then directionally drilled toward the north to a proposed target area of 1315 feet from the south line and 1320 feet from the west line of Section 7, Township 23 South, Range 30 East. The target area has a radius of 400 feet from the center of the SW $\frac{1}{4}$ said Section 7. The SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 7 is in the same state lease as the surface location; however, the N $\frac{1}{2}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 7 are federal lands and the well could either be bottomed on state or federal lands. Because of this situation, a similar application has been made to the United States Geological Survey.

2. The potash leases covering the W $\frac{1}{2}$ NW $\frac{1}{4}$ Section 18, as well as the rest of Section 18, are owned by Leland A. Hodges. The potash leases covering the W $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$ and NE $\frac{1}{4}$ Section 7 are owned by International Minerals & Chemical Corporation. The NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ and W $\frac{1}{2}$ NW $\frac{1}{4}$ Section 7 are unleased for potash. The owners of the potash leases were furnished copies of the Applications for Permit to Drill by registered mail, return receipt requested, as required by

Order R-111-A of the Oil Conservation Commission. It is anticipated through contacts with owners of the potash leases, that there will be no objection to the drilling of the proposed development well.

3. This application is being filed pursuant to the provisions of Rule R-111(b) and applicant will make a directional survey in connection with the well so that the well will be drilled to the target area, and upon completion of the well a complete directional survey will be filed with the Division, as requested by the regulations.

4. Due to the fact that all of Sections 7 and 18, Township 23 South, Range 30 East are committed to the Nash Unit, there is no problem involved by reason of the fact that the well may be bottomed either on state or federal lands.

5. Applicant requests that this matter be set for hearing before an examiner at the earliest possible time.

Dated this 10th day of May, 1979.

Respectfully submitted,

MESA PETROLEUM CO.

By:



HINKLE, COX, EATON, COFFIELD
& HENSLEY

Post Office Box 3580
Midland, Texas 79702
Attorneys for Applicant

BEFORE THE OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.
FOR APPROVAL OF DIRECTIONAL
DRILLING

Case 6923

Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

COMES NOW Mesa Petroleum Co., with offices at Midland, Texas, acting by and through the undersigned attorneys and hereby makes application for approval of the directional drilling of Well No. 7 in the Nash Unit to be located 685 feet from the north line and 1295 feet from the west line of Section 18, Township 23 South, Range 30 East, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a proposed target of 1315 feet from the south line and 1320 feet from the west line of Section 7, Township 23 South, Range 30 East to test the Morrow formation, and in support thereof respectfully shows:

1. Applicant has heretofore filed with the Division Form C-101, Application for Permit to Drill. The proposed well is a development well in the Nash Unit, which is in the designated potash area, and the surface location is on lands of the State of New Mexico leased for oil and gas, which lease has been committed to the Nash Unit. The surface location in Section 18 has heretofore been determined by core tests not to be underlain by commercial deposits of potash. The application provides that the well is to be drilled vertically to a depth of approximately 7,000 feet and then directionally drilled toward the north to a proposed target area of 1315 feet from the south line and 1320 feet from the west line of Section 7, Township 23 South, Range 30 East. The target area has a radius of 400 feet from the center of the SW $\frac{1}{4}$ said Section 7. The SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 7 is in the same state lease as the surface location; however, the N $\frac{1}{2}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 7 are federal lands and the well could either be bottomed on state or federal lands. Because of this situation, a similar application has been made to the United States Geological Survey.

2. The potash leases covering the W $\frac{1}{2}$ NW $\frac{1}{4}$ Section 18, as well as the rest of Section 18, are owned by Leland A. Hodges. The potash leases covering the W $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$ and NE $\frac{1}{4}$ Section 7 are owned by International Minerals & Chemical Corporation. The NE $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ and W $\frac{1}{2}$ NW $\frac{1}{4}$ Section 7 are unleased for potash. The owners of the potash leases were furnished copies of the Applications for Permit to Drill by registered mail, return receipt requested, as required by

Order R-111-A of the Oil Conservation Commission. It is anticipated through contacts with owners of the potash leases, that there will be no objection to the drilling of the proposed development well.

3. This application is being filed pursuant to the provisions of Rule R-111(b) and applicant will make a directional survey in connection with the well so that the well will be drilled to the target area, and upon completion of the well a complete directional survey will be filed with the Division, as requested by the regulations.

4. Due to the fact that all of Sections 7 and 18, Township 23 South, Range 30 East are committed to the Nash Unit, there is no problem involved by reason of the fact that the well may be bottomed either on state or federal lands.

5. Applicant requests that this matter be set for hearing before an examiner at the earliest possible time.

Dated this 10th day of May, 1979.

Respectfully submitted,

MESA PETROLEUM CO.

By:


HINKLE, COX, EATON, COFFIELD
& HENSLEY

Post Office Box 3580
Midland, Texas 79702
Attorneys for Applicant

BEFORE THE OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.
FOR APPROVAL OF DIRECTIONAL
DRILLING

Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

COMES NOW Mesa Petroleum Co., with offices at Midland, Texas, acting by and through the undersigned attorneys and hereby makes application for approval of the directional drilling of Well No. 7 in the Nash Unit to be located 685 feet from the north line and 1295 feet from the west line of Section 18, Township 23 South, Range 30 East, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a proposed target of 1315 feet from the south line and 1320 feet from the west line of Section 7, Township 23 South, Range 30 East to test the Morrow formation, and in support thereof respectfully shows:

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5. Applicant requests that this matter be set for hearing before an examiner at the earliest possible time.

Dated this 10th day of May, 1979.

Respectfully submitted,

MESA PETROLEUM CO.

By:


HINKLE, COX, EATON, COFFIELD
& HENSLEY

Post Office Box 3580
Midland, Texas 79702
Attorneys for Applicant

Dockets Nos. 24-79 and 25-79 are tentatively set for hearing on June 27 and July 11, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - WEDNESDAY - JUNE 6, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 6495: (DE NOVO)

Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-111-A to extend the boundaries of the Potash-Oil Area by the inclusion of certain lands in Sections 23 and 24, Township 19 South, Range 29 East, Sections 1, 4, 5, 6, 7, 11, 12, 13, 14, 19, 20, 23, 24, and 29, Township 19 South, Range 30 East, and Sections 7, 8, 17, 18, and 19, Township 19 South, Range 31 East, all in Eddy County, New Mexico.

Upon application of Amax Chemical Corporation this case will be heard De Novo pursuant to the provisions of Rule 1220.

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 13, 1979

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

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for July, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
- (2) Consideration of the allowable production of gas for July, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 6560: Application of Exxon Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (combination) of its "AB" State Well No. 4 located in Unit A of Section 16, Township 24 South, Range 37 East, to produce gas from the Langlie Mattix Pool and oil from the Fowler-Upper Yeso Pool, through parallel strings of casing cemented in a common well bore.

CASE 6561: Application of Amoco Production Company for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, proposes to directionally drill its State "HC" Well No. 1 located 1980 feet from the South and West lines of Section 21, Township 16 South, Range 35 East, Townsend Field, to a bottom hole location within 100 feet of a point 990 feet from the South line and 2310 feet from the East line of said Section 21, the S/2 of said Section 21 to be dedicated to the well.

CASE 6562: Application of Orla Petco, Inc. for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation through the open hole interval from 2498 feet to 2508 feet in its Courley-Federal Well No. 4 located in Unit J of Section 31, Township 22 South, Range 28 East, Herradura Bend-Delaware Pool.

CASE 6563: Application of Roy L. McKay for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for his North Woolworth Ranch Unit Area, comprising 1,280 acres, more or less, of State lands in Township 23 South, Range 35 East.

CASE 6564: Application of Herndon Oil & Gas Co. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its O. A. Woody Well No. 1 in the center of Unit E, Section 35, Township 16 South, Range 38 East, Knowles-Devonian Pool.

CASE 6565: Application of Lewis B. Burleson, Inc. for compulsory pooling, a non-standard gas proration unit, and an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalpat Gas Pool underlying the W/2 SE/4 of Section 20, Township 25 South, Range 37 East, to form an 80-acre non-standard gas proration unit to be dedicated to a well to be drilled at an unorthodox location 1650 feet from the South and East lines of said Section 20. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 6566: Application of Lewis B. Burleson, Inc. for an unorthodox well location and a non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit comprising the SW/4 of Section 10, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled 2310 feet from the South and West lines of said Section 10.
- CASE 6567: Application of Mewbourne Oil Company for an unorthodox well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State 25 Com Well No. 1 660 feet from the South line and 1650 feet from the West line of Section 25, Township 14 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, the S/2 of said Section 25 to be dedicated to the well.
- CASE 6568: Application of Dallas McCasland for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of his Woolworth Well No. 5 located in Unit P of Section 28, Township 24 South, Range 37 East, Jalmat Gas Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.
- CASE 6569: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Lockhart A-17 Well No. 2 located in Unit I of Section 17, Township 21 South, Range 37 East, to produce gas from the Eumont Gas Pool through the casing-tubing annulus and oil from the Blinbry Oil and Gas Pool through tubing.
- CASE 6570: Application of Continental Oil Company for a non-standard gas proration unit and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 228-acre non-standard gas proration unit comprising the SW/4 and S/2 SE/4 of Section 18, Township 21 South, Range 36 East, Eumont Gas Pool, to be simultaneously dedicated to applicant's Lockhart A-18 Wells Nos. 2, 3, and 4, located in Units O, K, and M, respectively, of said Section 18.
- CASE 6571: Application of Continental Oil Company for vertical pool limit redefinition, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order extending the vertical limits of the Langlie Mattix Pool to include the lowermost 165 feet of the Seven Rivers formation and the concomitant contraction of the vertical limits of the Jalmat Gas Pool underlying the following described lands: SW/4 W/2 SE/4 and SE/4 SE/4 of Section 35, Township 23 South, Range 36 East; and NW/4, W/2 NE/4, and SE/4 NE/4 of Section 1, Township 24 South, Range 36 East.
- CASE 6537: (Continued from May 9, 1979, Examiner Hearing)
- Application of Harper Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its West Ranger Lake Unit Area, comprising 1,120 acres, more or less, of State lands in Township 12 South, Range 34 East, Lea County, New Mexico.
- CASE 6553: (Continued from May 23, 1979, Examiner Hearing)
- Application of The Atlantic Richfield Company for approval of infill drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the Division waived existing well-spacing requirements and found that the drilling of additional wells was necessary to effectively and efficiently drain those portions of the proration units in the Empire Abo Unit located in Townships 17 and 18 South, Ranges 27, 28 and 29 East, which could not be so drained by the existing wells.
- CASE 6572: Application of ARCO Oil and Gas Company to drill a horizontal drainhole, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval to drill and complete its Empire Abo Unit Well No. K-142, located in Unit K of Section 2, Township 18 South, Range 27 East, Empire-Abo Pool, with a single horizontal drainhole of about 200 feet in length in the Abo formation.
- CASE 6573: Application of Mesa Petroleum Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the directional drilling of its Well No. 7 in the Nash Unit, the surface location of which would be 685 feet from the North line and 1295 feet from the West line of Section 18, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the South line and 1320 feet from the West line of Section 7, all in Township 23 South, Range 30 East.
- CASE 6574: Application of Texas Oil & Gas Corp. for an unorthodox gas well location and compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Morrow formations underlying the E/2 of Section 6, Township 17 South, Range 35 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South and East lines of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6535: (Continued from May 23, 1979, Examiner Hearing)

Application of Torreon Oil Company for a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the San Luis-Mesaverde Pool by the injection of water into the Menefee formation through two wells located in Section 21, Township 18 North, Range 3 West, Sandoval County, New Mexico.

CASE 6575: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, contracting the vertical limits, and extending the horizontal limits of certain pools in Eddy, Lea, and Roosevelt Counties, New Mexico:

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Wolfcamp production and designated as the Cass Draw-Wolfcamp Gas Pool. The discovery well is Black River Corporation Miller Com Well No. 1 located in Unit C of Section 10, Township 23 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 27 EAST, NMPM
Section 10: N/2

(b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Abo production and designated as the Runyan Ranch-Abo Gas Pool. The discovery well is Mesa Petroleum Company Runyan Federal Com Well No. 1 located in Unit E of Section 17, Township 19 South, Range 23 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 23 EAST, NMPM
Section 17: NW/4

(c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Runyan Ranch-Morrow Gas Pool. The discovery well is Mesa Petroleum Company Gardner State Well No. 1 located in Unit K of Section 8, Township 19 South, Range 23 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 23 EAST, NMPM
Section 8: W/2

(d) EXTEND the Austin-Mississippian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 36 EAST, NMPM
Section 16: SE/4
Section 17: NE/4

(e) EXTEND the Avalon-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 28: N/2

(f) EXTEND the Avalon-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 21: SW/4
Section 28: N/2

(g) EXTEND the Buffalo-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM
Section 6: N/2

(h) EXTEND the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM
Section 12: S/2
Section 13: N/2

(i) EXTEND the Chaveroo-San Andres Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 32 EAST, NMPM
Section 34: SW/4

(j) EXTEND the South Culebra Bluff-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 22: N/2
Section 35: N/2

- (k) EXTEND the Diamond Mound-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 27 EAST, NMPM
Section 12: N/2

- (l) EXTEND the Dublin Ranch-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM
Section 21: E/2

- (m) EXTEND the East Eagle Creek Atoka-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
Section 13: S/2

- (n) EXTEND the South Empire-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 19: S/2

- (o) EXTEND the Eumont Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 36 EAST, NMPM
Section 32: W/2

- (p) EXTEND the Hardy-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM
Section 2: E/2 SE/4 and SW/4 SE/4

- (q) EXTEND the Herradura Bend-Delaware Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 5: E/2 NW/4

- (r) EXTEND the Indian Flats-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 28 EAST, NMPM
Section 25: S/2
Section 36: W/2

- (s) EXTEND the Kennedy Farms-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 26 EAST, NMPM
Section 10: S/2
Section 11: S/2
Section 16: E/2

- (t) EXTEND the East Lake-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 32: W/2

- (u) EXTEND the Logan Draw-Cisco Canyon Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 27 EAST, NMPM
Section 28: W/2

- (v) EXTEND the West Malaga-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 28 EAST, NMPM
Section 16: N/2

- (w) EXTEND the Penasco Draw-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 24 EAST, NMPM
Section 25: N/2

- (x) EXTEND the South Peterson-Fusselman Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 5 SOUTH, RANGE 33 EAST, NMPM
Section 31: NW/4

(y) CONTRACT the vertical limits of the Shoe Bar-Pennsylvanian Gas Pool in Lea County, New Mexico, to the Atoka formation only and redesignate said pool as the Shoe Bar-Atoka Gas Pool, and extend the horizontal limits of said pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 34: SW/4

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 3: NW/4

(z) EXTEND the Teague-Abo Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Section 22: S/2
Section 27: NE/4

(aa) EXTEND the Todd-Wolfcamp Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 35 EAST, NMPM
Section 22: NE/4

(bb) EXTEND the Tomahawk-San Andres Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 32 EAST, NMPM
Section 30: W/2

(cc) EXTEND the West Tonto-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM
Section 7: NW/4

(dd) EXTEND the Turkey Track-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM
Section 14: W/2
Section 15: E/2
Section 23: All
Section 24: W/2

(ee) EXTEND the Wantz-Granite Wash Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 3: SE/4
Section 10: NE/4

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits. Otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



RETURN
TO

Heinkel Corp et al
(Name of Sender)

Box 10
(Street or P. O. Box)

Roseville, N.M. 88201
(City, State, and ZIP Code)

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

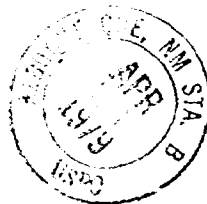
Print your name, address, and ZIP Code in the space below.

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PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, \$300



RETURN
TO



Heinkel Corp et al
(Name of Sender)

Box 10
(Street or P. O. Box)

Roseville, N.M. 88201
(City, State, and ZIP Code)

PS Form 3811, Aug. 1978

2. SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one):
☐ Show to whom and date delivered _____
☐ Show to whom, date, and address of delivery _____
☐ RESTRICTED DELIVERY
 Show to whom and date delivered _____
☐ RESTRICTED DELIVERY
 Show to whom, date, and address of delivery \$ _____
 (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Walter Mayer
Am C

3. ARTICLE DESCRIPTION:
 REGISTERED NO. *8635* CERTIFIED NO. _____ INSURED NO. _____
 (Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE ☐ Addressee ☐ Authorized agent
Elaine Hutchinson

4. DATE OF DELIVERY *4-30-79* POSTMARK _____

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: _____ CLERK'S INITIALS _____

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆ GPO: 1978-272-382

PS Form 3811, Aug. 1978

2. SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one):
☐ Show to whom and date delivered _____
☐ Show to whom, date, and address of delivery _____
☐ RESTRICTED DELIVERY
 Show to whom and date delivered _____
☐ RESTRICTED DELIVERY
 Show to whom, date, and address of delivery \$ _____
 (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Leland Beauman

3. ARTICLE DESCRIPTION:
 REGISTERED NO. *8634* CERTIFIED NO. _____ INSURED NO. _____
 (Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE ☐ Addressee ☐ Authorized agent
X Stephen

4. DATE OF DELIVERY _____ POSTMARK *APR 30 1979 ALBUQUERQUE*

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: _____ CLERK'S INITIALS _____

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆ GPO: 1978-272-382

LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
STUART D. SHANOR
C. D. MARTIN
PAUL J. KELLY, JR.
JAMES H. BOZARTH

600 HINKLE BUILDING

POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

(505) 622-6510

OF COUNSEL

CLARENCE E. HINKLE

W. E. BONDURANT, JR. (1914-1973)

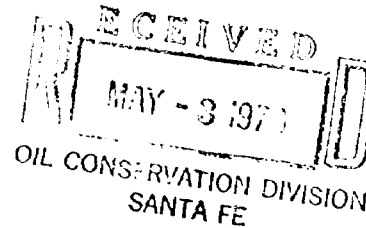
MIDLAND, TEXAS OFFICE

1000 FIRST NATIONAL BANK TOWER
(915) 683-4691

LICENSED IN
TEXAS ONLY

May 2, 1979

DOUGLAS L. LUNSFORD
PAUL M. BOHANNON
J. DOUGLAS FOSTER
K. DOUGLAS PERRIN
C. RAY ALLEN
JACQUELINE W. ALLEN
T. CALDER EZZELL, JR.



Mr. Joe D. Ramey
Secretary-Director
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Development well - Nash Unit

Dear Mr. Ramey:

We enclose in triplicate From C-101, the application of Mesa Petroleum Co., the operator of the Nash Unit, for permit to drill development well No. 7. We also enclose copy of a similar application being filed with the United State Geological Survey, together with all the supporting data required by the Department of Interior regulations.

The proposed well is to be located 685 feet from the north line and 1295 feet from the west line of Section 18, Township 23 South, Range 30 East, which is on state lease L-3558. It is proposed to drill the well vertically to a depth of approximately 7,000 feet and then directionally drill the well to a target area which would be within a radius of 400 feet from the center of the SW $\frac{1}{4}$ Section 7, Township 23 South, Range 30 East. The W $\frac{1}{2}$ SW $\frac{1}{4}$ Section 7 is state land and the remainder of the section is federal land. The well could therefore be bottomed on either state or federal land and for that reason we have deemed it necessary to file an application for permit to drill with the United States Geological Survey.

On behalf of Mesa Petroleum Co., the unit operator, we have had correspondence with Walter E. Thayer, Production Manager for International Minerals & Chemical Corporation at Carlsbad, relative to the drilling of the proposed well. We enclose copy of letter dated February 21 from Mr. Thayer in reply to our letter of January

31, in which he advises that IMC will not object to a location in Section 18, Township 23 South, Range 30 East east of a point 1320 feet from the west line and at least 685 feet from the north line. The location conforms to this with the exception that we had to move the location 50 feet to the west in order to avoid drilling the well on the property line between state and federal land.

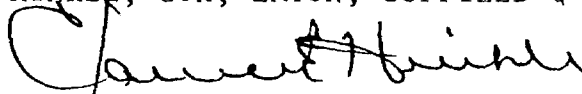
We have also had correspondence with Ben Donegan who represents Leland A. Hodges and Leonard Resources, who are the owners of the potash leases covering Section 18. We enclose copy of letter from Mr. Donegan on behalf of Leland A. Hodges dated March 26 advising that they will not object to the well location.

On April 26, we sent to Walter E. Thayer and Ben Donegan, by registered mail, copies of the proposed applications and other instruments referred to herein. We received return receipts from Ben Donegan dated April 28 and from International Minerals and Chemical Corporation dated April 30, copies of which are enclosed.

After a lapse of 10 days from April 30, if there are no protests, we will file with you Mesa's application for approval of the directional drilling of the well as required by the rules and will request that an examiner's hearing be held as soon as possible.

Yours sincerely,

HINKLE, COX, EATON, COFFIELD & HENSLEY



Clarence E. Hinkle

CEH:cs

Enc.

cc: Mr. Marion Causey

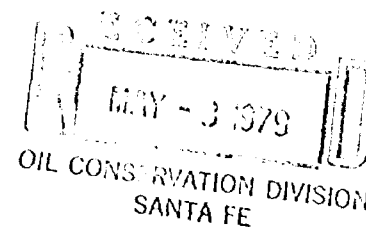
cc: Mr. Conrad E. Coffield

RECEIVED

AN EQUAL OPPORTUNITY EMPLOYER

FEB 23 1979

HINKLE, COX, EATON,
COFFIELD & HENSLEY
ROSWELL, NEW MEXICO



INTERNATIONAL MINERALS & CHEMICAL CORPORATION

February 21, 1979

Mr. Clarence Hinkle
Hinkle, Cox, Eaton, Coffield & Hensley
600 Hinkle Building
P. O. Box 10
Roswell, New Mexico 88201

Dear Sir:

In response to your letter dated January 31, 1979, IMC does object to the proposed well location (Section 18, Township 23 South, Range 30 East, Eddy County, 330 feet from the west line and 550 feet from the north line). However, IMC will not object to a location in Section 18, Township 23 South, Range 30 East; east of a point 1320 feet from the west line and at least 685 feet from the north line, provided the well will be drilled vertically 7,000 feet, then deviated to the north to the center of Section 7, also subject to other contingencies which may arise from the final details of the well design or other matters not yet discussed.

Sincerely yours,

Walter E. Thayer

Walter E. Thayer
Production Manager

WET:dh

cc: Potash Company of America
P. O. Box 31
Carlsbad, New Mexico 88220

Mr. Ben Donegan
3202 Candelaria Road, NE
Albuquerque, New Mexico 87107

LEONARD RESOURCES

3202 CANDELARIA N. E.
ALBUQUERQUE, NEW MEXICO 87107

505-346-5553

March 26, 1979

R

MAR 28 1979

HINKLE, COX, EATON,
COFFIELD & HENSLEY
ROSWELL, NEW MEXICO

Mr. Clarence Hinkle
Hinkle, Cox, Eaton, Coffield & Hensley
600 Hinkle Building
P. O. Box 10
Roswell, New Mexico 88201

Dear Mr. Hinkle:

With reference to your letter of March 14, 1979 we do not object to your drilling a development well in the Nash Draw Unit at a location 1295 feet from the west line and 685 feet from the north line of Section 18, T. 23 S., R. 30 E.

Very truly yours,

Leland A. Hodges

By:

Ben Donegan
Ben Donegan

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. State Lease L-3358	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Mesa Petroleum Co.		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR 1000 Vaughn Building, Midland, Texas 79701		8. FARM OR LEASE NAME Nash Unit	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) At surface 685' FNL and 1295' FWL of Sec 18, T23S, R30E on State Lse L-3358 At proposed prod. zone 1315' FSL & 1320' FWL of Sec 7, T23S, R30E on State Lse L-3358		9. WELL NO. 7	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 10 miles ENE of Loving, New Mexico		10. FIELD AND POOL, OR WILDCAT Nash Draw Morrow	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. at bottomhole - 1315' (Also to nearest drilg. unit line, if any)		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 7 & 18, T23S, R30E	
16. NO. OF ACRES IN LEASE 640.48		12. COUNTY OR PARISH Eddy	
17. NO. OF ACRES ASSIGNED TO THIS WELL 320.2		13. STATE New Mexico	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. on surface - 955' at bottomhole - none		19. PROPOSED DEPTH 14,295' MD (13,950' TVD)	
20. ROTARY OR CABLE TOOLS Rotary		21. APPROX. DATE WORK WILL START* June 1, 1979	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) GR 3012'			

PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	94	300' MD & TVD	600 SX
17½"	13-3/8"	54.5 & 61	3400' MD & TVD	2500 SX
12¼"	9-5/8"	43.5-53.5	11,185' MD (11,000' TVD)	3500 SX
8½"	5-1/2"	20	14,295' MD (13,950' TVD)	900 SX

Propose to spud well @ 685' FNL & 1295' FWL of Sec 18-T23S-R30E, and vertically drill to approximately 7000' (with above mentioned casing & cement program in effect), then directionally drill to a proposed target of 1315' FSL & 1320' FWL of Sec 7-T23S-R30E. Will attempt to encounter objective Morrow pay within a 400' radius "target area". This "target area" will allow for some variances in drilling control. Even though the drill-site and center of "target area" is on State acreage, the major portion of the target area is on mineral acreage owned by the federal government. The directionally drilled hole should cross the section line (common to both Sec 18 and Sec 7 of T23S, R30E) at an approximate depth of 9517' MD (9514' TVD). BOP and mud programs are included on attachments. Gas will be dedicated to Transwestern.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Steve Douglas TITLE Engineer DATE 4-9-79
(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

APPLICATION FOR DRILLING

MESA PETROLEUM CO.
Nash Unit Well No. 7
685' FNL & 1295' FWL of Section 18 (surface location)
1315' FSL & 1320' FWL of Section 7 (bottomhole location)
T23S, R30E
Eddy County, New Mexico

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Mesa Petroleum Co., submits the following items of pertinent information in accordance with U.S.G.S. requirements.

Due to potash mining in the area, this well will be directionally drilled to reach the objective Morrow pay in the SW quarter of Section 7, T23S, R30E. The surface location will be 685' FNL & 1295' FWL of Section 18, T23S, R30E. Plans are to vertically drill to approximately 7000', gradually build angle to a total of $18\frac{1}{2}^{\circ}$, then continue drilling toward target area consisting of a 400' radius circle whose center is 1315' FSL and 1320' FWL of Section 7 at a true vertical depth (TVD) of 13,500'. The directional hole should cross the common section line at an approximate depth of 9617' measured depth (MD) or 9514' TVD.

1. The geologic surface formation in series is Ochoan.
2. Estimated tops of geologic markers are as follows:

<u>FORMATION</u>	<u>DEPTH (TVD)</u>	
Lamar Lime	3268	
Delaware Sand	3300	
Cherry Canyon	4865	
Brushy Canyon	5450	
Bone Spring	7050	
3rd Bone Spring	9950	
Wolfcamp	10,250	
Strawn Carbonate	12,127	
Atoka	12,250	
Morrow	13,100	
Morrow B-II	13,350	
Miss. Shale	13,850	
Total depth	13,950	14,295 MD

3. The estimated depth at which water, oil, or gas are expected to be encountered:

Air	250'
oil, water, gas	4850'
gas	12,290'
gas	13,500'

4. Casing and Blowout Preventer Program

- Conductor : Will drill a 26" diameter hole to approximately 300'. Will run new 20" 94# H-40 ST&C casing to total depth and cement with 600 sx or sufficient volume to circulate cement to surface. After WOC 24 hrs, will install 20" API 2000 psi WP casing flange (temporary) and then nipple up 20" API 2000 psi WP ram type BOP. Propose to test casing and BOP to 600 psi before drilling out.
- Surface : Propose to drill a 17½" diameter hole to approximately 3400'. Will run new 13-3/8" 54.5# - 61# K-55 and S-80 ST&C casing to total depth; then cement with 2500 sx or sufficient volume (in one stage) necessary to circulate cement to the surface. If cement does not circulate, propose to run temperature survey to determine top of cement and use 1" tubing in annulus or dump ready mix, as appropriate. Will cut off temporary 20" casing flange, then install 12" API 3000 psi WP casing flange on 13-3/8" casing. BOPs will consist of double hydraulic 12" API 3000 psi WP (pipe and blind rams) and 1 - 12" API 3000 psi WP hydril. After WOC 24 hrs, casing will be tested to 1500 psi before drilling out.
- Intermediate: Propose to drill a 12¼" hole to approximately 7000', then commence angle buildup for horizontal displacement. Will continue angle buildup to a total of approximately 18½ degrees, then hold angle constant while drilling to casing point near 11,185' MD (11,000 TVD). Will run new 9-5/8" 43.5#-53.5# N-80 and S-95 LT&C casing to total depth. Plan to use 2 stage cementing collars (placed at 6500' and 3500') in order to circulate cement to the surface. After cut off, will install 12" API 3000 x 10" API 5000 psi WP casing spool and nipple up double hydraulic 10" API 5000 psi WP BOPs (pipe and blind ram) with addition of 1-10" API 5000 psi WP hydril. Will also use rotating drilling head for additional control while drilling. Casing and BOPs will be tested to 2000 psi after WOC 24 hrs, and before drilling out.
- Production Liner : Will drill to total depth of 14,295' MD (13,950' TVD) with 8½" bit, while holding 18½ degree angle. Will run new 5½" 20# S-95 LT&C liner to total depth and cement with adequate volume to cover entire liner.

5. Circulating Medium and Control Equipment:

- 0-300' Will utilize fresh water spud mud, while circulating through a small portion of the lined reserve pit. MW 8.6-9.2 PPG with 45-85 viscosity.
- 300-3400' Saturated brine water will be used to drill this portion of the hole. Fluid will be circulated through a controlled portion of the lined reserve pit. MW 10-10.3 PPG with 28-32 viscosity.

3400-11,100' Will drill intermediate portion of hole with fresh water - converting to cut brine near 9500'. A controlled portion of the reserve pit will be utilized until 10,500' when fluid will be routed through the steel pits only. This will afford more accurate monitoring of drilling conditions. MW 8.6-9.8 PPG with 30-34 viscosity.

11,100-14,300' Brine water, polymer mud will be circulated through the steel pits. Pit level and flowline sensors will be utilized to accurately monitor drilling operations. Will add drilling choke and mud-gas separator to assist in controlling drilling conditions. MW 10-12 PPG as required, with 32-38 viscosity.

A full opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times. Kelly cock, safety valve, choke and kill lines will be tested at same time that BOP tests are run. A float will be run in the drill string just above the bit to further aid in safety.

6. There is no coring program planned for this well. It is probable that a drillstem test will be run in the Cherry Canyon (4800'-4850') and Strawn (12,150'-12,250'). The logging program will consist of a gamma ray log from total depth to surface. Neutron-Density-Caliper logs will be run from 3400' to total depth as casing program permits.
7. Maximum anticipated bottom hole pressure is 7800 psi at approximately 12,200' based on offset well data. Mud weight required to offset this pressure is 12.3 PPG. Bottom hole temperature should not exceed 200° F. No sour gas is expected.
8. Anticipated starting date is June 1, 1979, with completion of drilling operations on October 10, 1979. Completion operations (perforating and stimulating) will immediately follow the drilling operations.

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NEW MEXICO OIL CONSERVATION COMMISSION

Form 17-171
Revised 12-75

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK			
1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name L-3358	
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		8. Firm or Lease Name Nash Unit	
2. Name of Operator Mesa Petroleum Co		9. Well No. 7	
3. Address of Operator 1000 Vaughn Building/Midland, Texas 79701		10. Field or Pool, or Wildcat Nash Draw (Morrow)	
4. Location of Well UNIT LETTER Surface-D LOCATED 685 FEET FROM THE North LINE AND 1295 FEET FROM THE West LINE OF SEC. 18 TWP. 23S RGE. 30E NMPM		11. County Eddy	
19. Proposed Depth 14,295 MD / 13,950 TVD		19A. Formation Morrow	
20. Rotary or C.T. Rotary		21. Elevations (Show whether DF, RT, etc.) 3012' GR	
21A. Kind & Status Plug, Bond Blanket		21B. Drilling Contractor To Be Determined	
22. Approx. Date Work will start July 1, 1979		23. PROPOSED CASING AND CEMENT PROGRAM	

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
26"	20"	94	300' MD & TVD	600 sx	Circ
17-1/2"	13-3/8"	54.5 & 61	3400' MD & TVD	2500 sx	Circ
12-1/4"	9-5/8"	43.5-53.5	11,185' MD (11,000' TVD)	3500 sx	Circ
8-1/2"	5-1/2"	20	14,295' MD (13,950' TVD)	900 sx	Circ

Propose to spud well at 685' FNL & 1295' FWL of Sec 18-T23S-R30E, and vertically drill to approximately 7000' (w/above mentioned casing & cement program in effect), then directionally drill to a proposed target of 1315' FSL & 1320' FWL of Sec 7, T23S-R30E. Will attempt to encounter objective Morrow pay within a 400' radius "target area". This "target area" will allow for some variances in drilling control. Even though the drill site and center of "target area" is on State acreage, the major portion of the target area is on mineral acreage owned by the federal government. The directionally drilled hole should cross the section line (common to both Sec 18 and Sec 7 of T23S, R30E) at an approximate depth of 9617' MD (9514' TVD). BOP and mud programs are included on attachments. Gas will be dedicated to Transwestern.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Michael P. Houston Title Division Engineer Date April 23, 1979

(This space for State Use)

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CONDITIONS OF APPROVAL, IF ANY:

XC: JLF, MEC, JWH, JWJ, JBH, FILE, NMOCD

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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Revised 1-1-65

1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name	
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		8. Farm or Lease Name Nash Unit	
2. Name of Operator Mesa Petroleum Co		9. Well No. 7	
3. Address of Operator 1000 Vaughn Building/Midland, Texas 79701		10. Field and Pool, or Wildcat Nash Draw (Morrow)	
4. Location of Well UNIT LETTER Surface-D LOCATED 685 FEET FROM THE North LINE AND 1295 FEET FROM THE West LINE OF SEC. 18 TWP. 23S RGE. 30E NMPM		12. County Eddy	
19. Proposed Depth 14,295MD/13,950 TVD		19A. Formation Morrow	
20. Rotary or C.T. Rotary		21. Elevations (Show whether DF, RT, etc.) 3012' GR	
21A. Kind & Status Plug. Bond Blanket		21B. Drilling Contractor To Be Determined	
22. Approx. Date Work will start July 1, 1979			

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
26"	20"	94	300' MD & TVD	600 sx	Circ
17-1/2"	13-3/8"	54.5 & 61	3400' MD & TVD	2500 sx	Circ
12-1/4"	9-5/8"	43.5-53.5	11,185' MD (11,000' TVD)	3500 sx	Circ
8-1/2"	5-1/2"	20	14,295' MD (13,950' TVD)	900 sx	Circ

Propose to spud well at 685' FNL & 1295' FWL of Sec 18-T23S-R30E, and vertically drill to approximately 7000' (w/above mentioned casing & cement program in effect), then directionally drill to a proposed target of 1315' FSL & 1320' FWL of Sec 7, T23S-R30E. Will attempt to encounter objective Morrow pay within a 400' radius "target area". This "target area" will allow for some variances in drilling control. Even though the drill site and center of "target area" is on State acreage, the major portion of the target area is on mineral acreage owned by the federal government. The directionally drilled hole should cross the section line (common to both Sec 18 and Sec 7 of T23S, R30E) at an approximate depth of 9617' MD (9514' TVD). BOP and mud programs are included on attachments. Gas will be dedicated to Transwestern.

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I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Michael P. Houston Title Division Engineer Date April 23, 1979

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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Revised 1-1-65

5A. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
5. State Oil & Gas Lease No. L-3358
7. Unit Agreement Name
8. Farm or Lease Name Nash Unit
9. Well No. 7
10. Field and Pool, or Wildcat Nash Draw (Morrow)
12. County Eddy
19. Proposed Depth 14,295MD/13,950 TVD
19A. Formation Morrow
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, RT, etc.) 3012' GR
21A. Kind & Status Plug. Bond Blanket
21B. Drilling Contractor To Be Determined
22. Approx. Date Work will start July 1, 1979

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK					
1a. Type of Work b. Type of Well DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>					
2. Name of Operator Mesa Petroleum Co					
3. Address of Operator 1000 Vaughn Building/Midland, Texas 79701					
4. Location of Well UNIT LETTER Surface-D LOCATED 685 FEET FROM THE North LINE AND 1295 FEET FROM THE West LINE OF SEC. 18 TWP. 23S RGE. 30E NMPM					
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19. Proposed Depth 14,295MD/13,950 TVD					
19A. Formation Morrow					
20. Rotary or C.T. Rotary					
21. Elevations (Show whether DF, RT, etc.) 3012' GR					
21A. Kind & Status Plug. Bond Blanket					
21B. Drilling Contractor To Be Determined					
22. Approx. Date Work will start July 1, 1979					

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
26"	20"	94	300' MD & TVD	600 sx	Circ
17-1/2"	13-3/8"	54.5 & 61	3400' MD & TVD	2500 sx	Circ
12-1/4"	9-5/8"	43.5-53.5	11,185' MD (11,000' TVD)	3500 sx	Circ
8-1/2"	5-1/2"	20	14,295' MD (13,950' TVD)	900 sx	Cover top liner

Propose to spud well at 685' FNL & 1295' FWL of Sec 18-T23S-R30E, and vertically drill to approximately 7000' (w/above mentioned casing & cement program in effect), then directionally drill to a proposed target of 1315' FSL & 1320' FWL of Sec 7, T23S-R30E. Will attempt to encounter objective Morrow pay within a 400' radius "target area". This "target area" will allow for some variances in drilling control. Even though the drill site and center of "target area" is on State acreage, the major portion of the target area is on mineral acreage owned by the federal government. The directionally drilled hole should cross the section line (common to both Sec 18 and Sec 7 of T23S, R30E) at an approximate depth of 9617' MD (9514' TVD). BOP and mud programs are included on attachments. Gas will be dedicated to Transwestern.

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I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Michael P. Houston Title Division Engineer Date April 23, 1979
(This space for State Use)

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CONDITIONS OF APPROVAL, IF ANY:

XC: JLF, MEC, JWH, JWD, JBH, FILE, NMOCD

NEW MEXICO OIL AND GAS COMMISSION
WELL LOCATION AND ACREAGE DEDICATION

All distances must be from the corner boundaries of the Section

MESA PETROLEUM CO				Nash Unit		MAY - 9 1979		7	
D	18	23 South	30 East	OIL CONSERVATION DIVISION Eddy SANTA FE					
685		North	1295		West				
Ground Level Elev. 3012.3	Producing Formation MORROW		NASH DRAW		Estimated Acreage S/2 of Sec 7		320 Acres		

1 Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

2 If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3 If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes" type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Michael P. Houston

Michael P. Houston
Division Engineer
Mesa Petroleum Co.
April 9, 1979

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

March 19, 1979

John W. West

John W. West
Ronald J. Eidson 3239

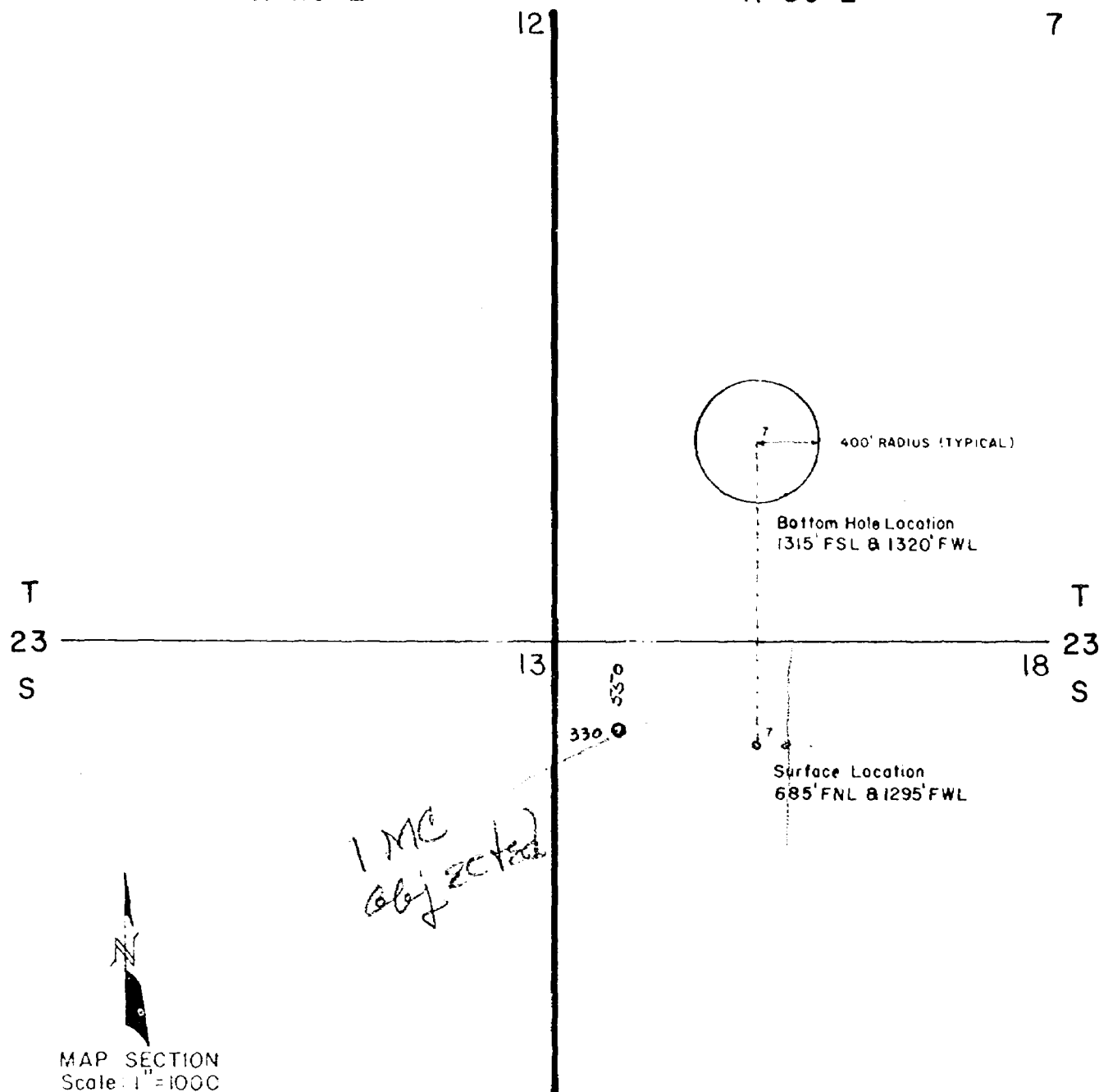
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0 330 660 990 1320 1650 1980 2310 2640 2970 3300

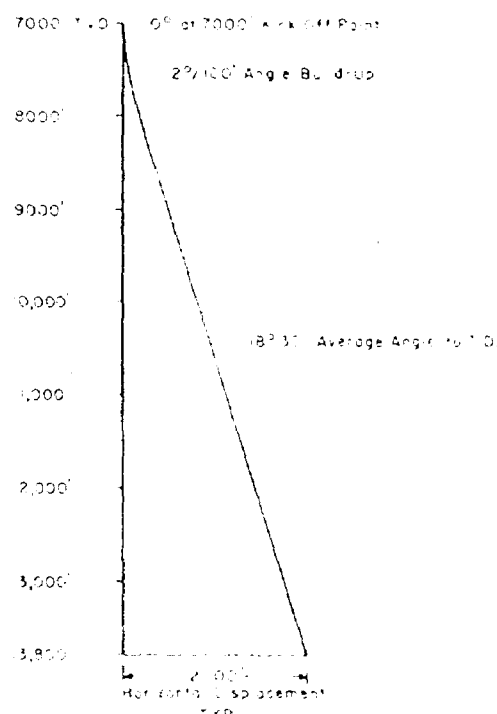
R 29 E

R 30 E

7



MAP SECTION
Scale: 1" = 1000'



VERTICAL SECTION
Scale: 1" = 200'

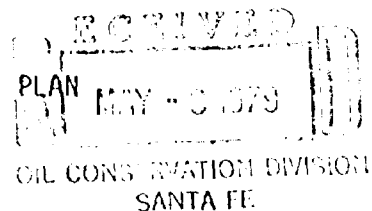
MESA

PETROLEUM CO.

PERMIAN BASIN DIVISION

PROPOSED DRILLING LOCATION
for
DIRECTIONAL DRILLED WELL
NASH UNIT AREA

MULTI-POINT SURFACE USE AND OPERATIONS PLAN



MESA PETROLEUM CO
NASH UNIT NO. 7
685' FNL and 1295' FWL, Section 18-T23S-R30E
EDDY COUNTY, NEW MEXICO
(DEVELOPMENT WELL)

This plan is submitted with Form 9-331C, Application For Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operations.

1. EXISTING ROADS

Existing roads in the vicinity of the proposed location are shown on attached Exhibit I. As shown, the planned well is approximately 10 miles east-northeast of Loving, New Mexico. The subject well can be reached by traveling 4.1 miles east on State Highway 128, from the intersection of State Highways 128 and 31 (intersection is 7 miles northeast of Loving); then turn south on caliche road and travel approximately 1-3/4 miles. Turn east on caliche road for approximately 1/4 mile. Turn north on approximately 1/8 mile of proposed new road to the location.

2. PLANNED ACCESS ROAD

The planned access road is depicted by attached Exhibits I and II. Grading, and topping with caliche, is all that is planned for the proposed access road. The access road will be 12 feet in width (20' ROW width). A typical cross section is shown on Exhibit III. There will be no culverts set because there is very little elevation change in the proximity of the planned access road. Elevation change from existing road to proposed location is about 5 feet in 1/8 mile as indicated by Exhibit V. There are no fences between the present roadway and the proposed location, therefore, cattleguards or gates will not be necessary.

3. LOCATION OF EXISTING WELLS

All wells within a one mile radius of the proposed well are indicated on Exhibit II.

4. LOCATION OF EXISTING AND PROPOSED FACILITIES

Production equipment, including tank battery, is located on the drilling pad for the Nash Unit #1, #2, #3, and #4. The approximate location and routing of gas gathering lines, which are owned by Transwestern and are buried, are also shown on Exhibit II. If the subject well proves commercial, gas separation process equipment and tank battery will be located on the subject well's drilling pad. A routing for the gas gathering line is sketched in for reference.

5. LOCATION AND TYPE OF WATER SUPPLY

Both fresh and brine water utilized to drill the subject well will be hauled to location by truck transport over the existing and proposed access road. The source for both fresh and brine water is near Carlsbad, New Mexico.

6. SOURCE OF CONSTRUCTION MATERIALS

Top soil from the location proper will be stock piled near the location for future rehabilitation use. No surface materials will be disturbed except those necessary for the actual grading - leveling of the drill site and access road. (See Exhibit III) With the exception of the 6" caliche top coat (compacted), all construction materials will be of local origin. Caliche to be used for topping the roadway and location, is located approximately 3/10 mile southwest of the proposed location in an existing open pit (shown on Exhibit II). The caliche will be transported over the existing and proposed access roadways.

7. METHODS OF HANDLING WASTE DISPOSAL

Drill cuttings will be accumulated in the earthen reserve pit which will be plastic lined. After the pit has sufficiently dried following drilling operations, the solids accumulation will be buried. Trash and garbage will be contained in an earthen pit and buried once drilling operations are completed. Sewage will be collected in a pit at least 6' deep below an outside latrine; suitable chemicals will be added to aid decomposition of the waste material. The pit will be backfilled following completion of drilling operations. All pits will be fenced with normal fencing material to prevent livestock from entering the area.

8. ANCILLARY FACILITIES - None required.

9. WELLSITE LAYOUT

Rig layout and cross section of the planned drilling site are shown on Exhibits III and IV. The reserve pits will be lined with plastic material.

10. PLANS FOR RESTORATION OF THE SURFACE

Following completion of drilling operations, all pits will be filled and the area surrounding the location will be leveled or returned to its natural grade. Top soil will be stored near the drillsite and utilized to rehabilitate the location once drilling operations have ceased. If the well is not commercial, the drillsite and new access roadway will be graded to conform to original topography, top soil spread, and the entire location re-seeded. We will re-seed with seed type (and quantities) as recommended by the BLM. All re-seeding will be done with reasonable effort to establish a more attractive soil stabilizing growth of vegetation than what previously existed at the site. Re-seeding will take place at the first opportunity following completion of operations in accordance with the recommended seasonal seeding periods.

11. OTHER INFORMATION

The area surrounding the drill site has a very gradual sloping trend to the west. The surface supports a sparse growth of grass, sagebrush, and greasewood. Domestic livestock are grazed in the area. The surface at the location (and ROW for access roadway) are state owned.

An archaeological survey has been conducted by New Mexico Archaeological Services, Inc., P. O. Box 1341, Carlsbad, New Mexico, and their Archaeological Clearance Report dated April 4, 1979 has been submitted to all interested government agencies.

12. OPERATORS REPRESENTATIVES

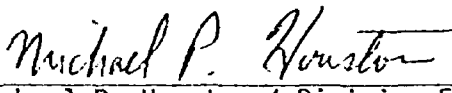
The Mesa Petroleum Co. representatives responsible for conducting this drilling operation are:

J. W. Hart
P. O. Box 1756
Hobbs, New Mexico 88240
(505) 393-4425 / office
(505) 393-4317 / residence

M. P. Houston
1000 Vaughn Building
Midland, Texas 79701
(915) 683-5391 / office
(915) 694-3442 / residence

13. CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are to be best of my knowledge, true and correct; and that work associated with the operations proposed herein will be performed by Mesa Petroleum Co. and its' contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

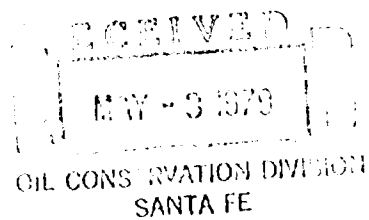

Michael P. Houston / Division Engineer

XC: JLF, MEC, JBH, JWH, (10) USGS, JWJ

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MESA-PBD.



Archaeological Clearance Report

for

Mesa Petroleum Co.

Nash Unit Well No. 7

Prepared

by

Dr. J. Loring Nashell

Submitted

by

Dr. J. Loring Nashell
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New Mexico Archaeological Services, Inc.
Carlsbad, New Mexico

2 April 1979

Permit No. 78-NM-120

Introduction

On 3 April 1979, New Mexico Archaeological Services, Inc., (NMAS), Carlsbad, undertook for Mesa Petroleum Co., Midland, an archaeological reconnaissance of lands administered by the Bureau of Land Management in Eddy County, New Mexico. Reconnoitered areas will be affected by the construction of a drill location and associated access road. This project was expedited by Mr. Michael P. Houston, Division Engineer, Mesa Petroleum Co., and Dr. J. Loring Haskell, Principal Investigator, NMAS. Dr. Haskell performed the reconnaissance under excellent field conditions.

Survey Technique

For this investigation, Mesa Petroleum's location was reconnoitered for evidence of man's past activities by walking it in a series of 20 ft wide, close interval (15° or less), zigzag transects. In addition, an added zone embracing 20 ft on each side of the location, and hence lying outside the staked 400 X 400 ft work area, was examined by a similar means. As for the access road, it was walked in two, 20 ft wide, close interval, zigzag transects. Combined these techniques served to promote optimal conditions for the visual examination of areas to be affected by construction-related activities.

Wash Unit Well No. 7

Location

This location will measure 400 X 400 ft on federal lands and will be situated 625 ft from the north line and 1205 ft from the west line of:

Section 1st, T23S, R30E, N40W, Eddy County, NM

Thus it will be situated in the:

SW^{1/4}, Section 1st, T23S, R30E, N40W, Eddy County, NM
NW^{1/4}, Section 1st, T23S, R30E, N40W, Eddy County, NM

Its associated access road, entering the location from the lease road situated to the south, will measure approximately 900 ft in length and will be 12 ft in breadth. It will be situated in the:

SW^{1/4}, Section 1st, T23S, R30E, N40W, Eddy County, NM

Map Reference: USGS Nash Draw Quadrangle, 15 Minute Series, 1939.

Terrain

This location is situated near the eastern margin of Nash Draw in a locality marked by a basinal feature. Drainage is toward the west into the Laguna de la Sal system. Caliche cobbles and gravels, while generally not present in the immediate vicinity of the location, are present on nearby ridges as well as eminences. Soils are alluvial in nature and consist of deep, thermic, non-calcareous, clay loams and sandy clay loams belonging to the Typic Ustargid subgroup.

Floristics

Principal plants include Larrea tridentata, Neobakia spinosa, and Yucca sp., ridges and eminences, and Troschis juliflora, Yucca glauca, and Portulaca prostrata, in the basinal depression. Associated grasses, localities marked by some relief, include Arctostaphylos sp., Yucca squarrosa, Tridens pulchellus, Portulaca sp., and Salicornia brevifolia. Milvina dominates the subsidence structure. Presently, Sarc

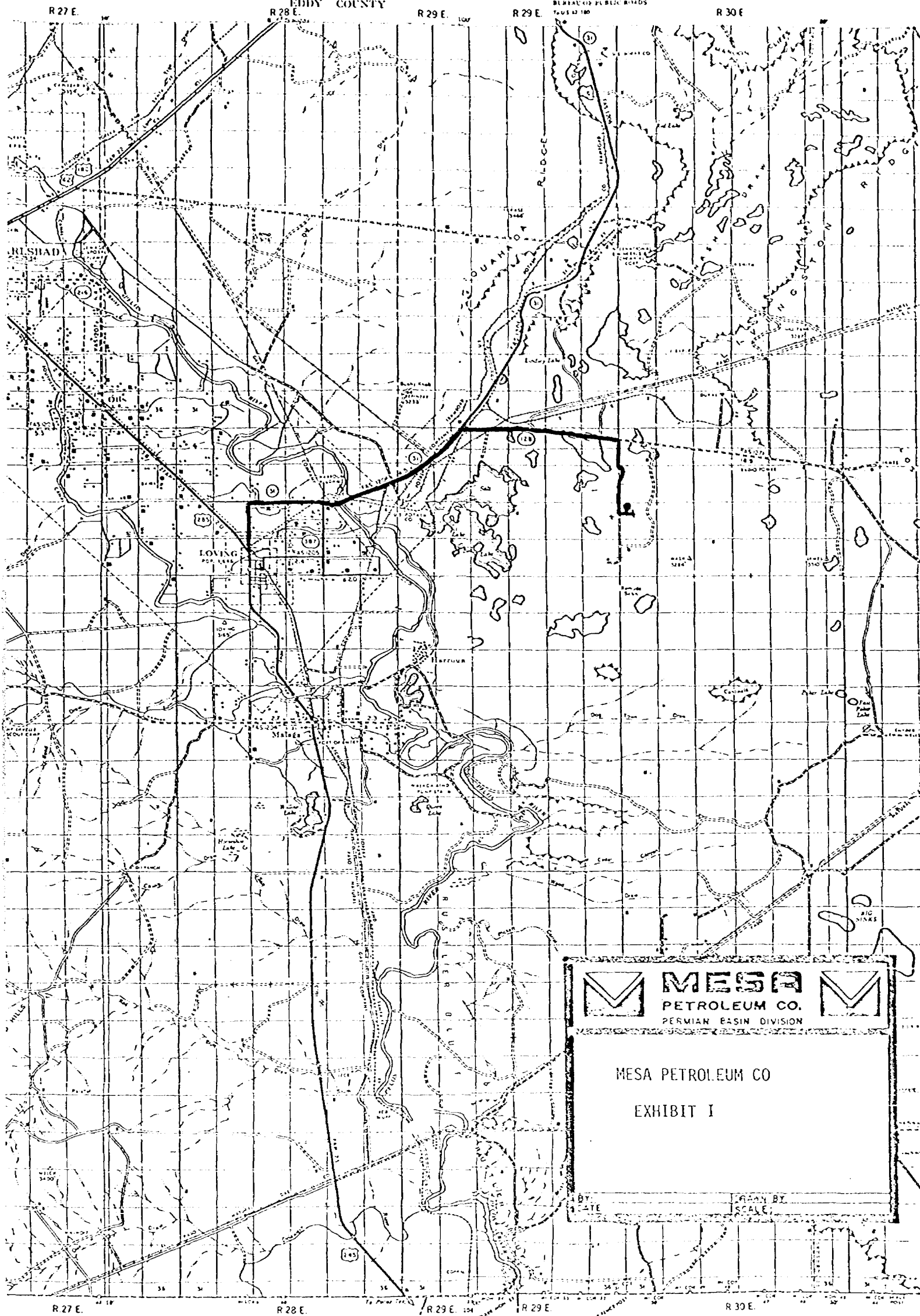
are well represented by Verhena sp., Isotriaena sp., Conothona sp. and Leptidium sp. As for the Psiloscus, Conusia macrogaster and Conusia lentacalis are the sole representatives.

Cultural Resources

No archaeological sites or isolated manifestations were observed during this reconnaissance. Locally, archaeological resources are confined for this most part to soils presently classed as Typic Torriacements which occur on a sporadic basis in localities to the north and east of the playa as well as on Goshada Ridge to the west and north west. Resources indicate ephemeral human occupancy with typical sites being task loci and special activity zones.

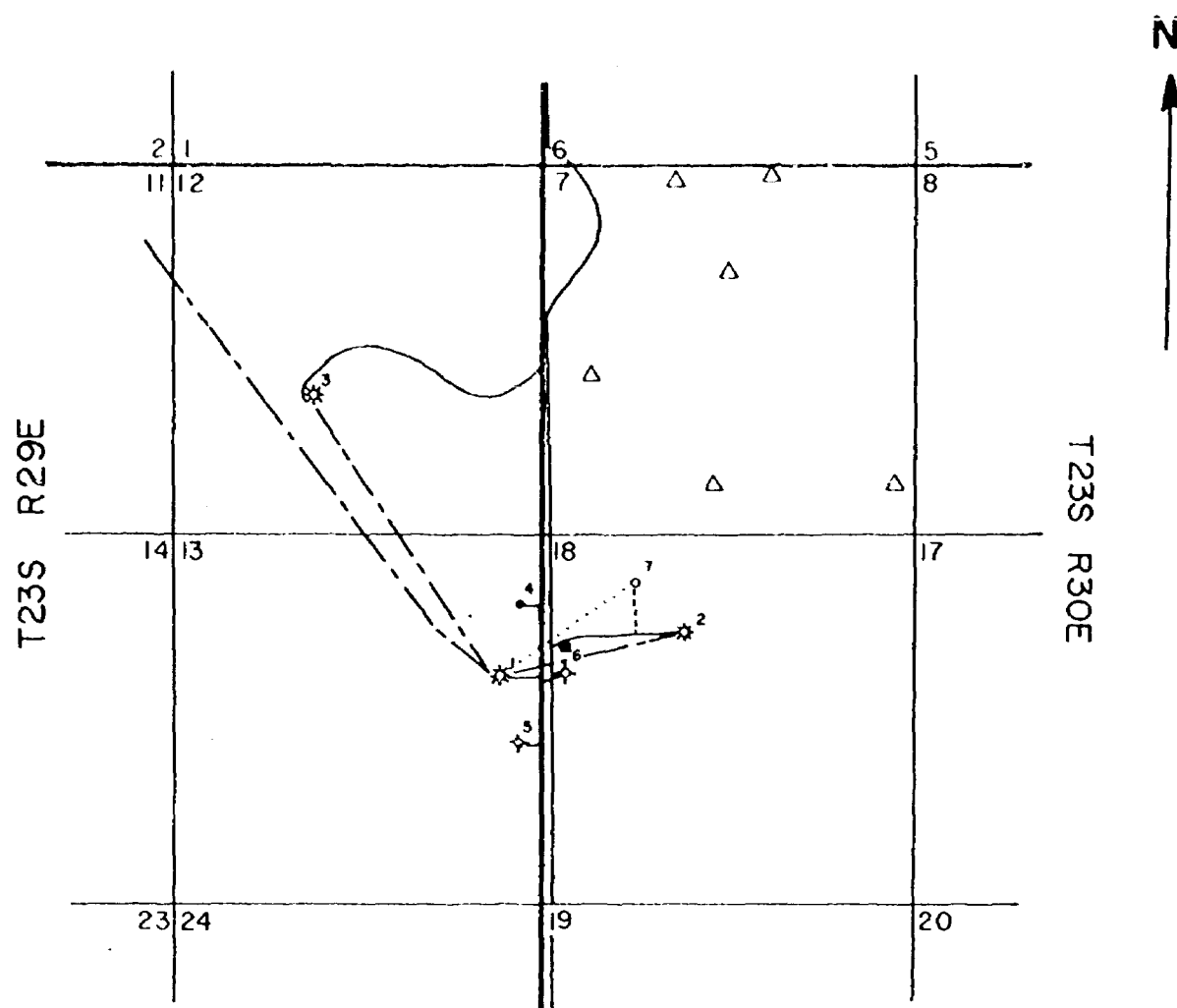
Recommendations

WMS recommends clearance for Mesa Petroleum's proposed Wash Unit Well No. 7 and its associated access road and suggests that work-related activities proceed in accordance with existing plans.



CARLSBAD
QUADRANGLE

Copyright 1934 by U.S. Government and Eddy County, N.M. All Rights Reserved.
This map is a reproduction of the original map of the Carlsbad Quadrangle, New Mexico, published by the U.S. Geological Survey, 1934.

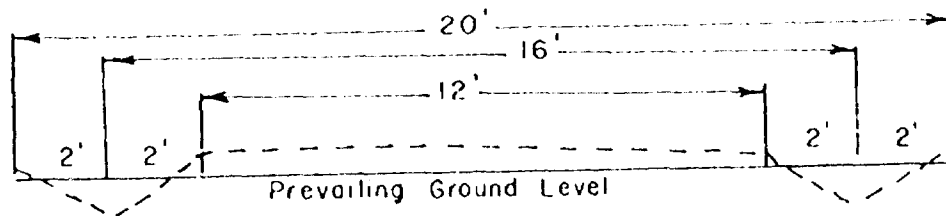


LEGEND

- Proposed Access Road
- Existing Roadway
- △ Potash Core Hole
- Existing Pipelines (Buried)
- Probable Route of Pipeline, if Commercial
- Coliche Pit

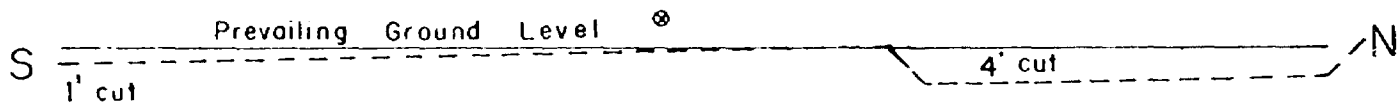
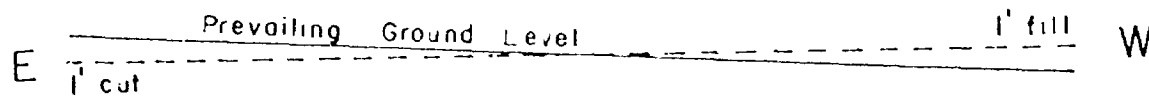
 MESA PETROLEUM CO. PERMIAN BASIN DIVISION	
<p>NASH UNIT</p> <p>EXHIBIT II</p>	
BY S.D. DATE 4-20-79	DRAWN BY CCK SCALE 2" = 1 mi.

R - O - W 20'



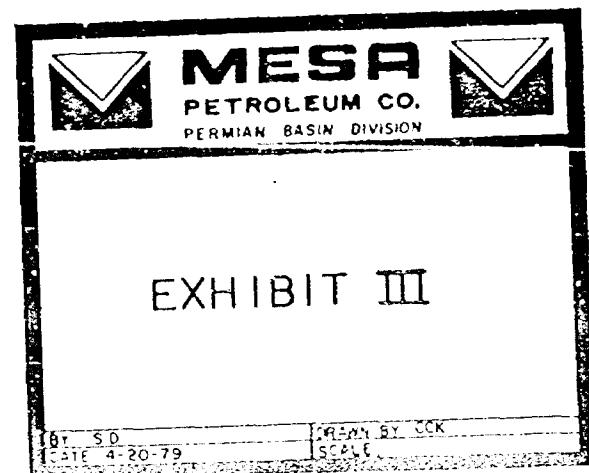
ROADWAY CROSS SECTION

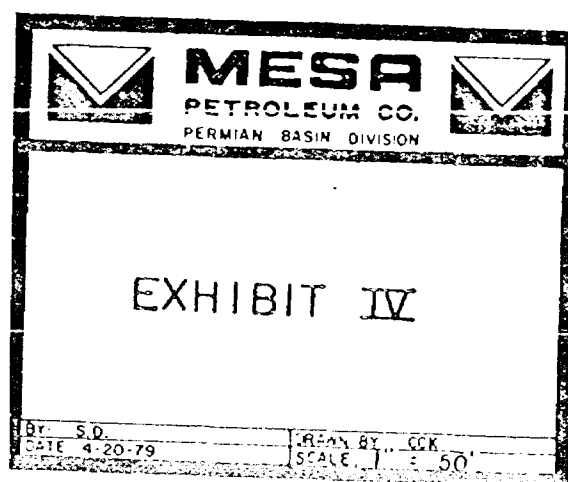
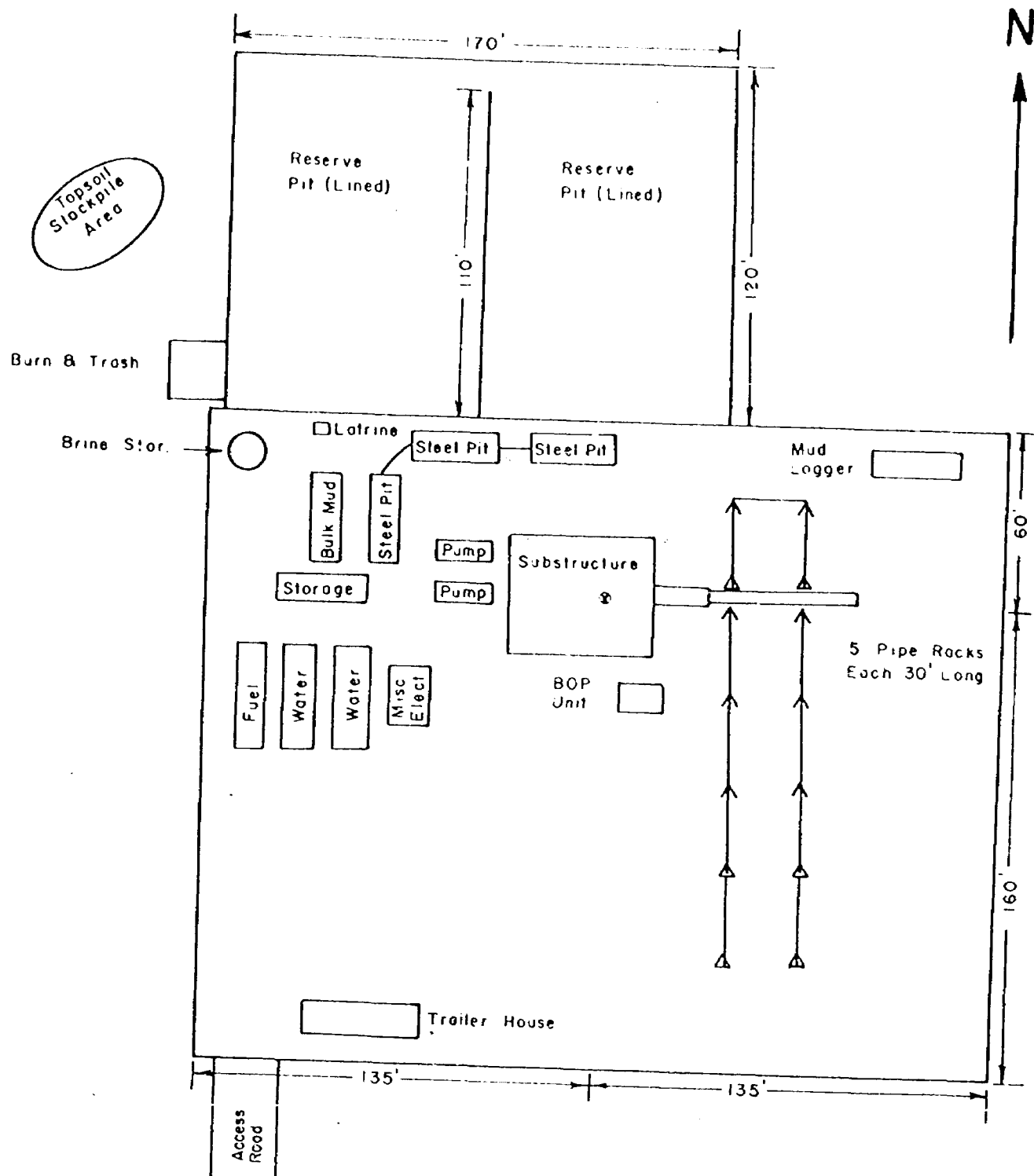
Horizontal Scale 1" = 4'

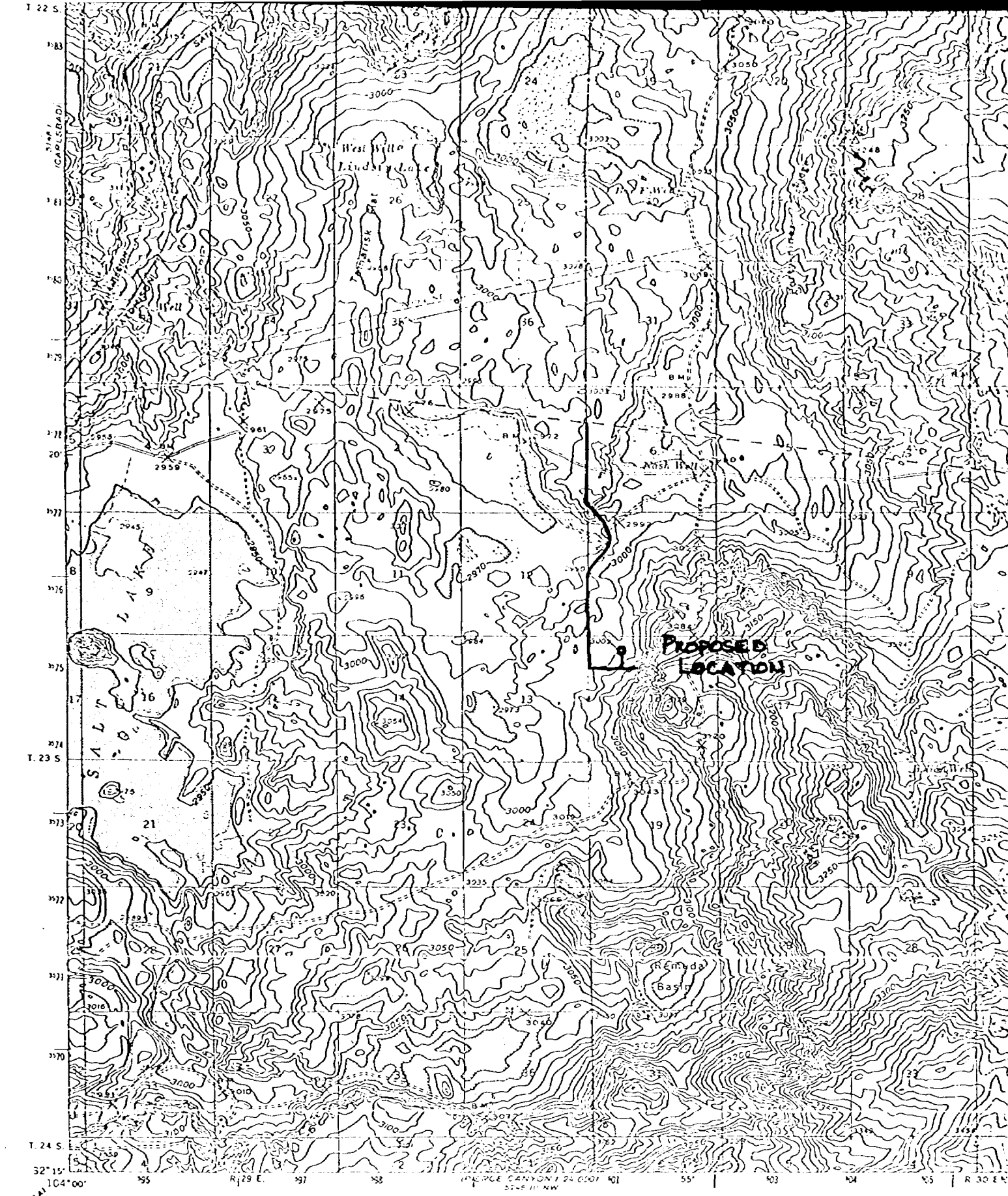


LOCATION CROSS SECTION

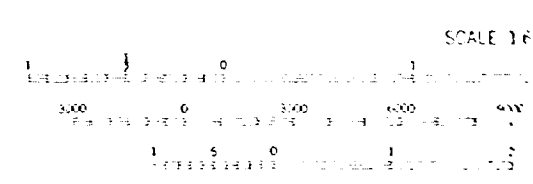
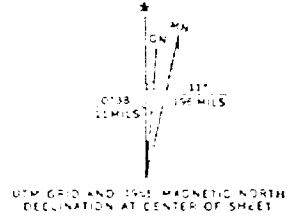
Horizontal Scale 1" = 50'







Topography by Max J. Gleissner, R. O. Davis,
M. C. McClellan, C. E. Walker, R. E. Isto, R. E. Mann,
N. B. Wright, J. A. Maier, Harry Parker,
and Lower Pecos River Survey
Surveyed in 1935 and 1939
Published by the U.S. Geological Survey
Scale 1:62,500

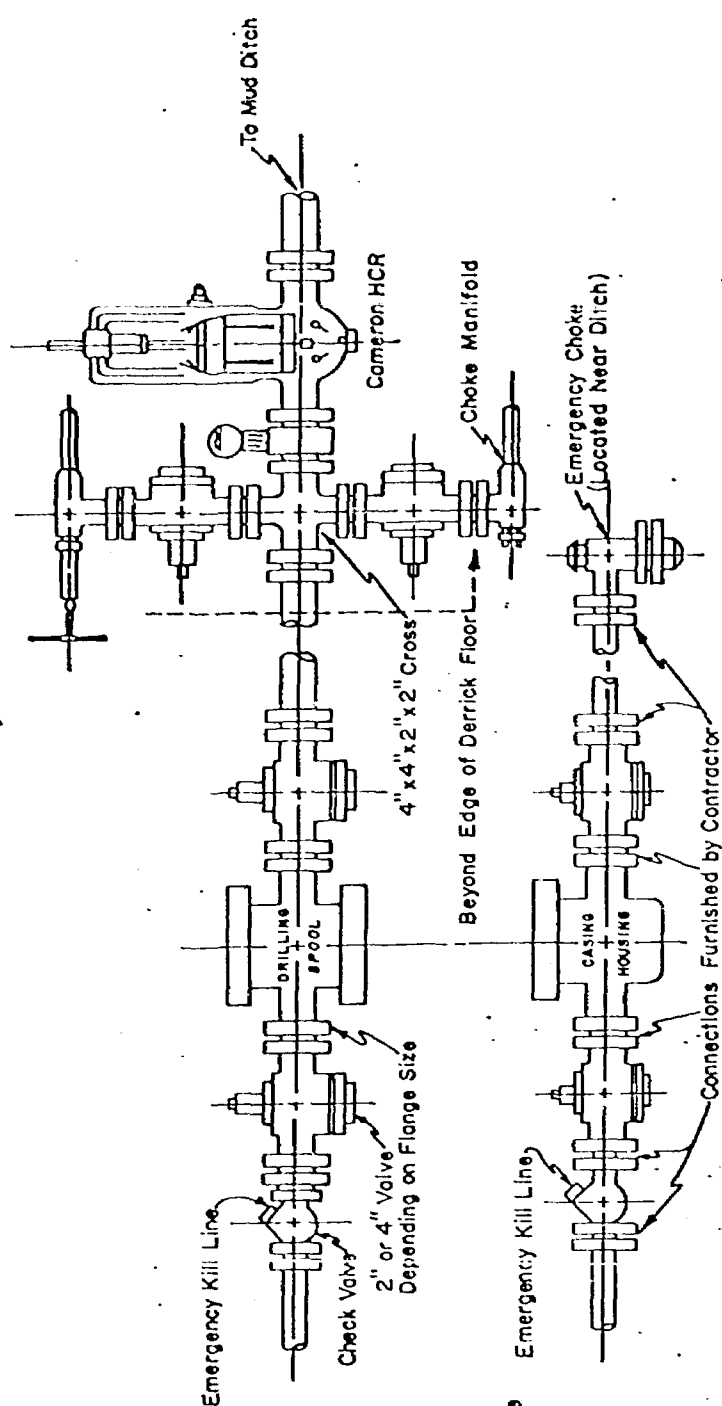


Contour meter
Datum: 1885

FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER
A FOLDER DESCRIBING TOPOGRAPHIC MAPS

MESA PETROLEUM CO
EXHIBIT V

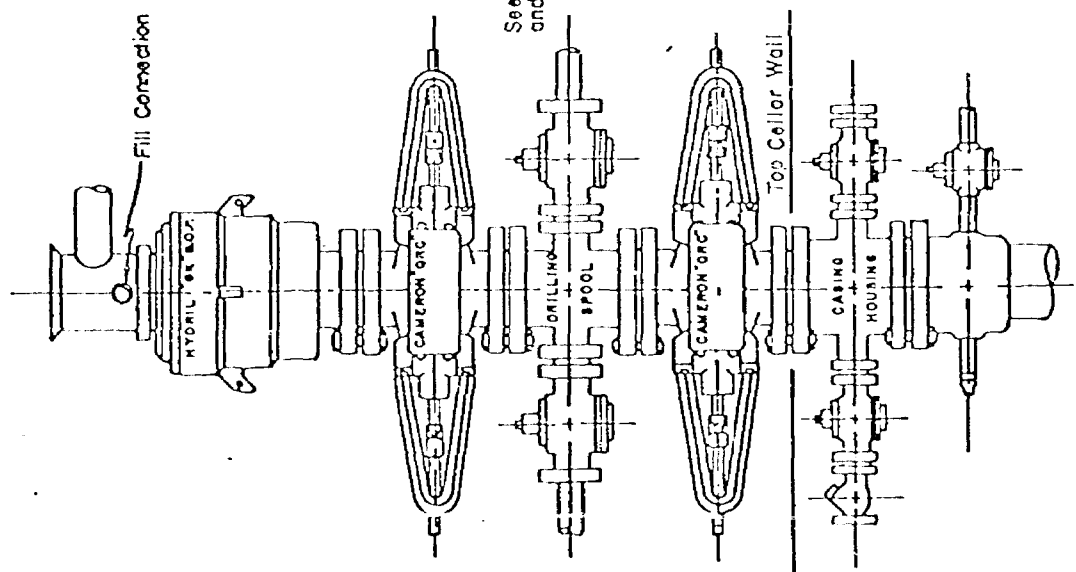
Blow-out Preventers hydril and choke manifold are all 1500 Series



5,000 PSI WORKING PRESSURE
KILL, CHOKES, AND FILL CONNECTIONS

DETAIL OF 4" FLOW LINE CHOKES ASSEMBLY

Minimum assembly for 5,000 PSI working pressure will consist of three preventers.
The bottom and middle preventers may be Cameron.



5,000 PSI WORKING PRESSURE
BLOW-OUT PREVENTER HOOK-UP

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6573

Order No. A-6042

APPLICATION OF MESA PETROLEUM
COMPANY FOR DIRECTIONAL DRILLING,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13,
19 79, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of June, 1979, the
Division Director, 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 Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Mesa Petroleum Company, seeks approval
for the directional drilling of its Well No. 7, ^{Nash Unit} ~~in the Nash Unit,~~

the surface location of which would be 685 feet from the North line and 1295 feet from the West line of Section 18, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the South line and 1320 feet from the West line of Section 7, all in Township 23 South, Range 30 East.

(3) That the applicant ^{prior to directional drilling,} should be required to determine the ^{of the kick-off point, and to determine the subsurface location} subsurface location of the bottom of the hole by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling, if said well is to be completed as a producing well.

(4)
IT IS THEREFORE ORDERED:

(1) That the applicant, Mesa Petroleum Company, is hereby authorized to directionally drill its Well No. 7, ^{Nash Unit} ~~in the Nash Unit,~~ the surface location of which would be 685 feet from the North line and 1295 feet from the West line of Section 18, ~~to be~~ vertically ~~drilled~~ to approximately 7,000 feet, and then directionally ~~drilled~~ to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the South line and 1320 feet from the West line of Section 7, all in Township 23 South, Range 30 East.

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, should said well be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the ^{kick-off point} ~~surface~~ with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Artesia District Office of the date and time said survey is to be commenced.

(4) That said well is located in the Oil-Potash Area as defined by Order R-III-A, as amended, and the proposed directional drilling will afford protection to known potash reserves, may recover otherwise unrecoverable gas reserves, thereby preventing waste, will not impair but will protect correlative rights, and should be approved.

(2) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depths in addition to measured depths.

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

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