

CASE 8165: SHELL OIL COMPANY FOR
DOWNER CONSTRUCTION, LEA COUNTY,
NEW MEXICO

Case NO.

6/65

Application

Transcripts

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
22 February 1978

EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company for
downhole commingling, Lea County,
New Mexico. CASE
6164

IN THE MATTER OF:

Application of Shell Oil Company for
downhole commingling, Lea County,
New Mexico. CASE
6165

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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For Shell Oil Company: Owen Lopez, Esq.
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1 MR. STAMETS: Call Case 6164.

2 MS. TESCHENDORF: Case 6164. Application of
3 Shell Oil Company for downhole commingling, Lea County,
4 New Mexico.

5 MR. LOPEZ: Mr. Examiner, my name is Owen
6 Lopez of the Montgomery law firm in Santa Fe, appearing on
7 behalf of the Applicant, Shell Oil Company, and I have one
8 witness.

9 MR. STAMETS: Will you stand and be sworn,
10 please?

11 (Witness sworn.)

12 MR. LOPEZ: If the Examiner please, the same
13 witness will appear on behalf of both cases, and therefore,
14 it's not necessary that we consolidate them, but we can
15 probably not repeat some -- if we go ahead and consolidate
16 them, maybe it would be easier.

17 MR. STAMETS: I think it would be a good idea.
18 Let's call Case 6165.

19 MS. TESCHENDORF: Case 6165. Application of
20 Shell Oil Company for downhole commingling, Lea County,
21 New Mexico.

22 MR. LOPEZ: Again, Mr. Examiner, I've identi-
23 fied myself in the previous case, and I have the same wit-
24 ness.

25 MR. STAMETS: All right, these two cases will

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1 be consolidated for the purposes of testimony.

2
3 B. W. BEST

4 being called as a witness on behalf of Shell Oil Company,
5 and having been sworn upon his oath, testified as follows,
6 to-wit:

7
8 DIRECT EXAMINATION

9 BY MR. LOPEZ:

10 Q Would you state your name, please?

11 A B. W. Best.

12 Q And where are you employed and in what capa-
13 city?

14 A I'm employed with Shell Oil Company as a
15 Senior Engineering Technician, at Houston.

16 Q Have -- are you familiar with the application
17 of Shell Oil Company in this case?

18 A Yes, I am.

19 Q And what is it that Shell seeks?

20 A Shell seeks application and approval of --
21 application of downhole commingling of the Wantz-Abo-Tubb
22 in the Brunson pool in the State-Section 2 Lease, Well No.
23 15. The well is located 3546 feet from the north line and
24 1650 feet from the west line of Unit K, Section 2, Town-
25 ship 21 Sou'h, Range 37 East, Lea County, New Mexico.

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1 Q Okay. Have you previously testified before
2 the Commission and had your qualifications accepted as a
3 matter of record?

4 A Yes, I have.

5 MR. LOPEZ: Are the witness' qualifications
6 acceptable?

7 MR. STAMETS: How was the witness qualified
8 in the previous case, as an engineer or --

9 A As a Senior Engineering Technician.

10 MR. STAMETS: Okay. How does that differ from
11 an engineer?

12 A Well, we -- actually, it's almost the same.

13 MR. STAMETS: Are you an engineer?

14 A Right, I work in the engineering capacity.
15 I'm a graduate engineer -- petroleum engineer from Texas
16 Tech.

17 MR. STAMETS: Very good, and the witness is
18 considered qualified.

19 Q (Mr. Lopez continuing.) Could you give us
20 some of the history of the production from this well?

21 A Well, the well was originally completed in
22 1952 as a Brunson oil producer and it was acid treated
23 three times and plugged back to 8090 and then the economic
24 producing ceased in 1955 and the Brunson was abandoned and
25 the well recompleted in the Wantz-Abo as an oil producer

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1 in 1956.

2 The Wantz-Abo was acid treated and frac treated
3 upon completion and re-acid treated in 1958 and abandoned
4 in 1960.

5 The well was then recompleted in August, 1960
6 as a Tubb oil producer and abandoned -- and the Tubb was
7 acid and frac treated upon completion and in 10-3-77 when
8 the work commenced to test these two lower zones.

9 Q Okay. Now I direct your attention to Exhibit
10 1-A and ask you to identify it.

11 A Exhibit 1-A and also Exhibit 1-B and 1-C are
12 area plats of the lease and the surrounding offset operators
13 and leaseholders and on these plats the hashed line around
14 it shows the State Section 2 lease; shows the Shell State
15 Section 2 lease. And the difference between these three
16 plats is that the -- each plat shows the zone in which the
17 wells in that area are producing from.

18 Exhibit 1-A shows the wells that are pro-
19 ducing from the Tubb; Exhibit B shows the wells producing
20 from the Wantz-Abo; and Exhibit C, the Brunson-Ellenberger.

21 Some of the wells marked -- have a black dot
22 with a hash through them, and this indicates that those
23 producing wells -- wells are abandoned or not producing
24 at this time.

25 MR. STAMETS: That would be like Well No. 5

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1 on Exhibit 1-C, Well No. 5 being in -- oh, golly, --

2 A Right.

3 MR. STAMETS: P, Q, R, S, T, Unit letter T in
4 Section --

5 A Right, Unit letter No. 5, right, uh-huh.

6 MR. STAMETS: Thank you.

7 Q (Mr. Lopez continuing.) Now I direct your
8 attention to Exhibits 2-A and 2-B and I'll ask you to iden-
9 tify those.

10 A Exhibit 2-A is a current downhole drawing be-
11 fore we started work on the well. It was a downhole
12 drawing of the well as it was, showing the casing detail
13 and a cast iron bridge plug and the perforations in the
14 well, and it was open hole completed in the Brunson-Ellen-
15 berger. The 8-5/8 inch string was cemented at 3148 with
16 1600 sacks of cement circulated to the surface to protect
17 all fresh water sands.

18 And Exhibit 2-B is proposed downhole drawing
19 of how we plan to produce the well, if this application is
20 approved.

21 On this drawing it shows the well to be pumped,
22 the bottom of the tubing between the Tubb and the Abo perfs,
23 but this should be corrected because this well we would
24 pump within a few feet of the plugged back TD.

25 MR. STAMETS: In other words, the tubing would

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1 actually be set down near the Ellenberger zone.

2 A Right, it will be set down in the Ellenberger
3 zone.

4 And a standard wellhead will be installed and
5 pressure gauges between casing annuluses will be installed,
6 for continuous measurement.

7 Q (Mr. Lopez continuing.) Now I turn your at-
8 tention to Exhibits 3-A, 3-B, and 3-C and ask you to
9 identify those.

10 A Now, this work has been done on this well, and
11 we obtained a testing permit and we went in and drilled
12 out the cast iron bridge plug and set protrudable bridge
13 plugs between the zones and tested the Tubb zone by itself,
14 which is Exhibit 3-A, and this is -- shows the production
15 from the Tubb, 5 barrels of oil and 34 MCF. The gravity
16 of oil is 36.8, which is below the gravity of oil classified
17 as a gas well, which is 45 for that pool, and this is well
18 below top allowable for the Tubb pool.

19 And Exhibit 3-B is a C-116 showing where we
20 pump tested the Tubb and the Wantz-Abo commingled, and it
21 produced 8 barrels of oil, 45 MCF; gravity of oil 35.1 and
22 if you take the C-116 for the Tubb from that, that gives
23 it the Abo produced 3 barrels of oil and 9 MCF of gas,
24 which is well below top allowable.

25 Exhibit 3-C is a C-116 indicating the production

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1 from commingling of the Tubb, Wantz-Abo, and Brunson. It
2 indicates 17 barrels of oil per day, 50 MCF, and removing
3 the production from the previous C-116s it shows that the
4 Brunson would produce 9 barrels of oil, 5 MCF a day, which
5 is also well below Ellenberger top allowable.

6 Q So if I understand your testimony clearly,
7 these are clearly oil wells in accordance with each of the
8 pool rules in effect, and the combined production would be
9 well, considerably below the maximum allowable for any of
10 the three pools, is that correct?

11 A That's correct.

12 Q Okay. Turning your attention to Exhibits 4-A,
13 4-B, and 4-C, as well as 5-A, 5-B, and 5-C, I think it's
14 best to read these in connection, 5-A with 4-A; 5-B with
15 4-B, et cetera.

16 A Okay, well, 5 -- 4-A and 5-A is the production
17 from the Tubb zone and 4-A is a curve and 5-A is a tabulated
18 production.

19 And this indicates that we were having trouble
20 keeping the well flowing at the latter part of its life.
21 We swabbed it back to flow and now it's -- we're just barely
22 getting about two barrels per day out of it before the work
23 started.

24 Exhibit 4-B is a production curve from the
25 Wantz-Abo when it was -- before it was TA'd or PA'd and

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1 shows it reaches the economic limit at that time, and 5-B
2 is a tabulation of that production.

3 4-C is a production curve for the Brunson-
4 Ellenberger pool which is the production that it produced
5 in its life and this curve shows that it reached its econ-
6 omic limit at that time when it was abandoned.

7 Q Approximately November, 1955?

8 A Approximately, yes, right.

9 Q All right. Now, Exhibit 6, please identify
10 it.

11 A Exhibit 6 is a log. It's a gamma ray neutron
12 log on the well. The completion intervals are marked. It
13 starts with a plugged back TD at 8085. The casing shoed
14 at -- 5-1/2 inch casing at 8010 with the top of the Ellen-
15 berger marked in red, and then the Wantz-Abo marked -- the
16 perforations and depth track are marked in green, indi-
17 cating the perf intervals and how it was perforated. And
18 then marked in red is the top of the Abo and also perfor-
19 ation track -- and the perforation depth track is marked
20 in green and showing the Tubb marker and at the top of
21 the Tubb 100 feet above the marker.

22 Q Okay. Would you identify Exhibit Seven?

23 A Exhibit Seven is the bottom hole pressure on
24 the Tubb and the estimated bottom hole pressure of the
25 Wantz-Abo and the Brunson. There's a considerable amount

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1 of difference between the measured bottom hole pressure in
2 the Tubb and that of the Wantz-Abo and the Brunson, and we
3 feel like that we can while having the well being pumped
4 from right off TD, we can keep the well pumped down and
5 eliminate the cross flow because the Tubb indicates that
6 it will not produce the marginal amount of oil.

7 Q And Exhibit 8, what is it?

8 A Exhibit 8 is a list of offset operators and
9 their addresses.

10 Q Is the -- is the ownership common in all three
11 zones?

12 A Yes, the ownership is common in all three
13 zones.

14 Q Based on your recent work on the well are you
15 prepared to make a recommendation as to the allocation of
16 production to each zone?

17 A Yes, from production tests we recommend that
18 the Tubb be allocated 29 percent of the oil and 68 percent
19 of the gas. The Wantz-Abo 18 percent of the oil and 22 per-
20 cent of the gas. The Brunson 53 percent of the oil and
21 10 percent of the gas.

22 Q Okay. In your opinion, if your application is
23 granted, would it be in the interest of the prevention of
24 waste and the protection of correlative rights?

25 A Yes, it would.

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1 Q Were Exhibits One through Eight prepared by
2 you or under your direction?

3 A They were.

4 MR. LOPEZ: At this time I'd like to offer
5 those exhibits, 1 through 8, in Case 6164.

6 MR. STAMETS: These exhibits will be admitted.

7 Q Is there anything else I haven't covered?

8 A No. Well, there's something that I think I
9 should put in here that these zones are being commingled
10 at the surface by Order Number PC-544.

11 MR. LOPEZ: I have nothing further, Mr. Examiner

12
13 CROSS EXAMINATION

14 BY MR. STAMETS:

15 Q Mr. Best, how do you account for the wild,
16 relatively wild production variations on the Ellenberger
17 zone, as depicted on Exhibits 4-C and 5-C?

18 A Well, to be honest with you, I couldn't find
19 anything in our records that would show me why. And I've
20 only been on this unit since 1970 so I can't really tell
21 you why, but I -- but they did acid treat it in 1955 at-
22 tempting to remedy part of the problem but they could not.
23 We do know that a lot of the wells were abandoned in near
24 this time, so I believe that probably the bottom hole pres-
25 sure was depleting at that time. And why they had this

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1 drastic decrease in the latter part of 1953, I cannot tell
2 you, unless they were having some type of well problem.

3 MR. STAMETS: Any other question of the wit-
4 ness?

5 Okay, would you like to proceed on with the
6 next well?

7
8 REDIRECT EXAMINATION

9 BY MR. LOPEZ:

10 Q Now, Mr. Best, since you've already identified
11 yourself and your qualifications have been accepted, I
12 would like to turn your attention to the application in
13 Case Number 6165, and the Shell State Section 2 Well No. 3,
14 and again I think we'll just go through the same procedure
15 and ask you to identify Exhibit -- well, first of all,
16 what is it that Shell seeks in the application in this
17 case, 6165?

18 A Shell Oil Company requests approval of triple
19 downhole commingling the Drinkard, the Hare McKee, and
20 the Brunson-Ellenberger pools in its State Section 2 Lease,
21 Well No. 3.

22 This well is located 660 feet from the south
23 line and 660 feet from the west line of Unit U, Section 2,
24 Township 21 South, Range 37 East, Lea County, New Mexico.

25 Q Could you give us a brief history of the pro-

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1 duction of this well?

2 A. Okay, the well is presently a shut-in Blinebry
3 well at which we attempted a research project, and so right
4 now it's not producing anything.

5 But originally it was completed in 1950 as a
6 BROA, as a Brunson-Ellenberger producer. The well was
7 abandoned in 1956 because of uneconomical production. The
8 well was then recompleted in the Hare McKee in 1956. The
9 Hare was acid treated upon completion; fracture treated in
10 1957, and abandoned in December, 1973.

11 The well was recompleted in the Drinkard zone
12 in 1974. It was acid treated, fracture treated upon com-
13 pletion and produced until March, 1976, and the Drinkard
14 was abandoned for a research problem, I was telling you,
15 in the Blinebry zone.

16 Q Okay. Now, turning to Exhibits 1-A, B, and C,
17 would you please identify?

18 A Exhibits 1-A, B, and C, is an area plat
19 showing the area. The hash line shows the Shell lease and
20 indicating the subject well, and also shows area operators,
21 the surrounding operators. The difference in the exhibits
22 is showing the production from the different zones.

23 The first exhibit, Exhibit A, the Drinkard,
24 is marked in black dots. The Drinkard abandoned wells
25 are marked with a slash through them.

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1 And this is for the case of Exhibit -- Exhibit
2 B is for the Hare McKee, and Exhibit C is for the Brunson.

3 Q Okay. Now would you please identify Exhibits
4 2-A and 2-B?

5 A Exhibit 2-A is a current downhole equipment
6 drawing, showing the casing, the cast iron bridge plugs,
7 the 8-5/8 cemented with 2200 sacks. Cement was circulated
8 to the surface to protect the fresh water zones. We are
9 presently -- actually we are presently going in and the
10 Blinebry perms are being squeezed at this time. The oper-
11 ation has actually started, because this BROA job failed
12 way back there, and also the Blinebry is being produced
13 by State Section 22 Well, which is on this same 40 acres
14 as this Number 3.

15 2-B is a proposed downhole drawing in which
16 we plan to produce the well. It shows that the tubing will
17 be run to TD in the open hole. It indicates the perforation
18 intervals, and we will install a standard wellhead condition
19 with a pumping unit and box with pressure gauges on the casing
20 annulus to monitor pressure in the annulus.

21 Q Okay. Now referring to Exhibits 3-A, B, and C,
22 again, these should be read in connection with Exhibits 4-A,
23 B, and C. Would you please identify these?

24 A 3-A and 4-A is a production curve for the
25 Drinkard zone. It was abandoned in the early part of 1976

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1 at approximately 10 barrels a day when we started this
2 BROA job.

3 MR. STAMETS: What kind of a job did you say?

4 A It was a Belair Research Center project in
5 which they tried some special type acid to try to be able
6 to -- or to get an in-depth penetration without coming up
7 with wormholes (sic) and fractures in the formation.

8 MR. STAMETS: Did it work?

9 A It failed. Yes, it failed. That's why we're
10 proposing to put cement over it.

11 A 3-B and 4-B is a production curve of the Hare
12 McKee when it was in operation, indicating that it did
13 reach approximate economic limit when they abandoned it
14 and went to the -- to the Drinkard.

15 3-C and 4-C is a production curve of the
16 Brunson-Ellenberger, which it was abandoned at, oh, approx-
17 imately four barrels a day, economic limit.

18 Q Again these are clearly oil wells under the
19 pool rules for each particular zone?

20 A Yes, they are. They're the oil wells on each
21 particular zone.

22 (Thereupon a short recess was
23 taken.)

24 MR. STAMETS: Okay, we're back on the record.

25 Q (Mr. Lopez continuing.) Okay. I think my

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1 last question was that these are clearly classified as oil
2 wells under the current pool rules for each zone in question.

3 A Yes, they're clearly oil wells underneath the --
4 under the regulations of the pools and we propose to go in
5 and test each one of these zones, test the Drinkard separ-
6 ately and obtain a good stabilized production, and then
7 remove the bridge plug and test the Drinkard and the McKee
8 together and obtain a good stabilized production, and then
9 test all three zones together and obtain a good stabilized
10 production.

11 Then we're requesting that we be able to send
12 this data to the New Mexico Oil Conservation Commission
13 supervisor of District One, so that he can administratively
14 authorize in setting the allowable and allocation of this
15 production.

16 Q Okay. Exhibit 5, would you please identify it?

17 A Exhibit 5 is a log on the well. It's an
18 electrical log. This is a radiation log, gamma ray radiation
19 log, and on it we have the tops marked for the Ellenberger
20 and the Brunson, showing the perforations and the depth
21 track and also the Drinkard with the perforations and the
22 depth track shown.

23 Q Okay. Would you identify Exhibit 6?

24 A Exhibit 6 is an estimated bottom hole pressure
25 of the Drinkard and the Hare and the Brunson. These are

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1 actually just estimated from knowing what production is
2 taking place around -- around the vicinity, and from exper-
3 ience of what bottom hole pressures are in other parts of
4 the field.

5 So these are really not good estimates and we
6 will try to send some bottom hole pressures when we send
7 in the C-116s on this well.

8 Q And would you identify Exhibit 7?

9 A Exhibit 7 is a list of offset operators and
10 the addresses.

11 Q Again, the ownership in each zone is common,
12 is that correct?

13 A That's correct.

14 Q Now if I understand you correctly, you're re-
15 questing the Examiner to approve your application for triple
16 downhole commingling but assign production allowable for
17 oil and gas to each zone after you've had an opportunity
18 to test the well and the District Supervisor has an oppor-
19 tunity to review your test, is that correct?

20 A That's correct.

21 MR. LOPEZ: Now, Mr. Examiner, if that isn't
22 an acceptable procedure are you in a position to make a
23 recommendation based on other data that's available but in
24 your opinion not -- would not be as accurate as going
25 ahead and testing the well itself?

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1 A. Yes, I could make that.

2 MR. STAMETS: I don't think that would be neces-
3 sary. What he's requested is a standard procedure.

4 Q Is it your opinion that the granting of the
5 application will be in the interests of the prevention of
6 waste and protection of correlative rights?

7 A. Yes.

8 Q Were Exhibits 1 through 7 prepared by you or
9 under your supervision?

10 A. Yes.

11 MR. LOPEZ: I now offer Exhibits 1 through 7.

12 MR. STAMETS: These exhibits will be admitted.
13 Any questions of the witness?

14 He may be excused. Anything further in this
15 case? We'll take the case under advisement.

16 (Hearing concluded.)
17
18
19
20
21
22
23
24
25

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REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Certified Shorthand Reporter,
DO HEREBY CERTIFY that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and complete
record of the said proceedings prepared by me to the best
of my knowledge, skill, and ability.

Sally Walton Boyd, C.S.R.

I do hereby certify that the foregoing is
a true and correct copy of the proceedings in
the Examiner hearing of Case No. 6164-6165
heard by me on 2-22-19 28.
Richard L. Plam, Examiner
New Mexico Oil Conservation Commission


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1998年12月15日

STATE GEOLOGIST
EMERY C. ARNOLD

CASF. NO. 6165
ORDER NO. R-5660

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

Yours very truly,

JOE D. RAMEY
Director

Copy of order also sent to:

Other _____

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 6165
Order No. R-5660

APPLICATION OF SHELL OIL COMPANY
FOR DOWNHOLE COMMINGLING,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 22, 1978, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 8th day of March, 1978, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Shell Oil Company, is the owner and operator of the Shell State Section 2 Well No. 3, located in Unit U of Section 2, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That the applicant seeks authority to commingle Drinkard, Hare-McKee and Brunson-Ellenburger production within the wellbore of the above-described well.

(4) That from each of said zones, the subject well is capable of low marginal production only.

(5) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(6) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(7) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate

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Case No. 6165
Order No. R-5660

remedial action, the operator should notify the Hobbs district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(8) That in order to allocate the commingled production to each of the commingled zones in the well, applicant should consult with the supervisor of the Hobbs district office of the Commission and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Shell Oil Company, is hereby authorized to commingle Drinkard, Hare-McKee, and Brunson-Ellenburger production within the wellbore of the Shell State Section 2 Well No. 3, located in Unit U of Section 2, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

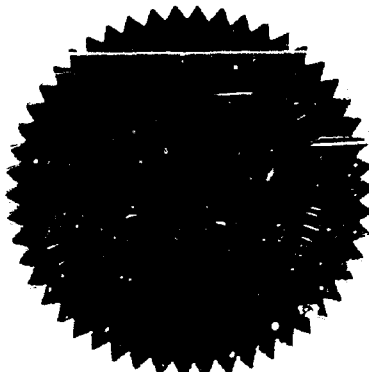
(2) That the applicant shall consult with the Supervisor of the Hobbs district office of the Commission and determine an allocation formula for the allocation of production to each zone in the subject well.

(3) That the operator of the subject well shall immediately notify the Commission's Hobbs district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



PHIL R. LUCERO, Chairman

Emery C. Arnold
EMERY C. ARNOLD, Member

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

S E A L

jr/

SHELL-STATE SECTION 2 NO. 3
LEA COUNTY, NEW MEXICO
ESTIMATED BOTTOM HOLE PRESSURES

Drinkard Pool	400 psi
Hare McKee Pool	300 psi
Brunson Ellenburger Pool	200 psi

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
Shell 6
CASE NO. 6165
Submitted by BW Best
Hearing Date Feb 22, 1978

OFFSET OPERATORS

STATE SECTION 2 LEASE

Continental Oil Company
P. O. Box 460
Hobbs, New Mexico 88240

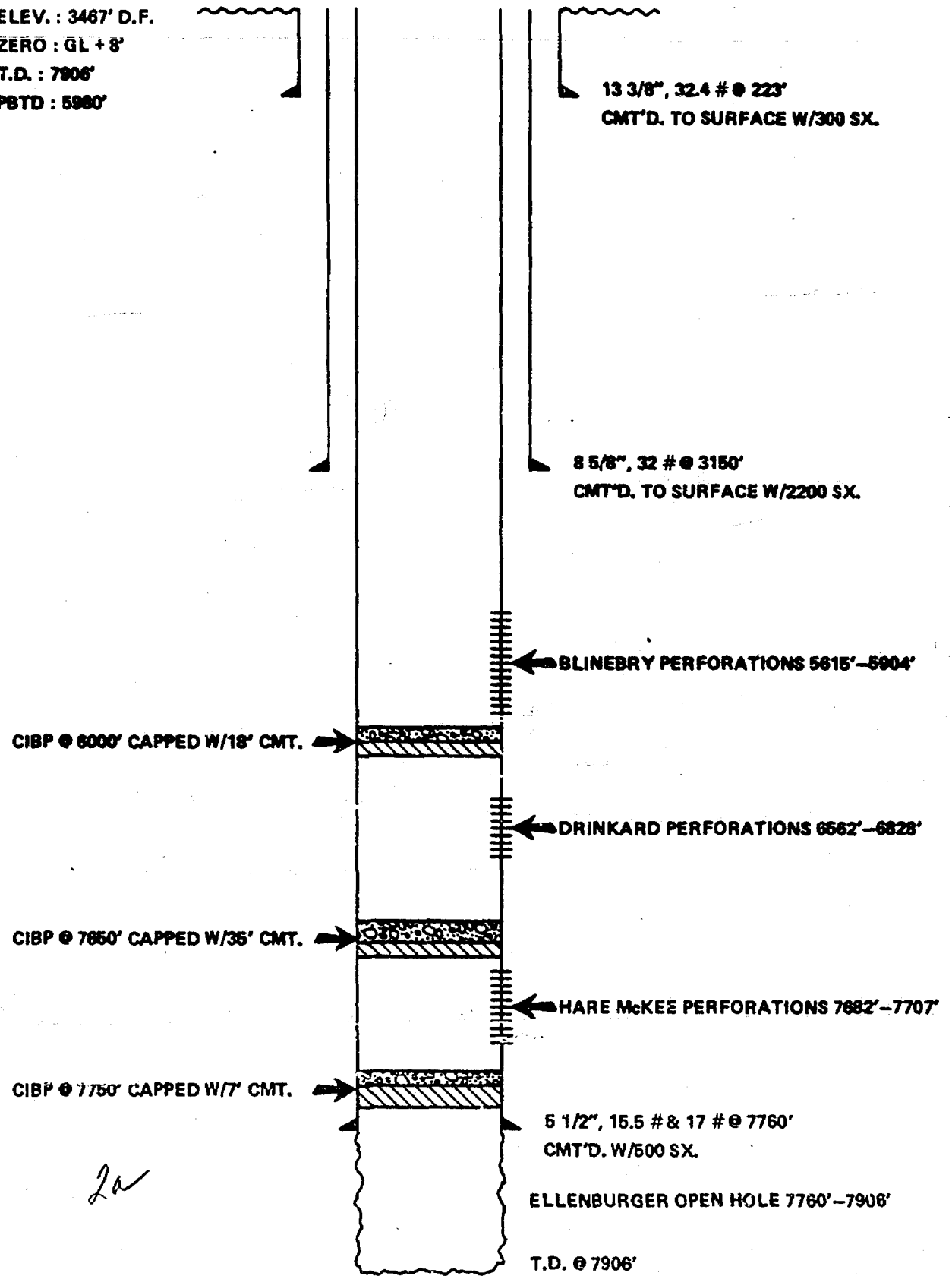
Aztec Oil & Gas Company
P. O. Box 337
Hobbs, New Mexico 88240

Gulf Oil Company - U.S.
P. O. Box 670
Hobbs, New Mexico 88240

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
Shell	7
CASE NO.	10165
Submitted by	Bu Best
Hearing Date	Feb 22, 1978

CURRENT DOWNHOLE EQUIPMENT
SHELL-STATE SEC. 2, WELL NO. 3
DOWNHOLE SCHEMATIC

ELEV. : 3467' D.F.
ZERO : GL + 8'
T.D. : 7906'
PSTD : 5980'



ZM-2835 A

2a

PROPOSED DOWNHOLE EQUIPMENT
SHELL-STATE SEC. 2, WELL NO. 3
DOWNHOLE SCHEMATIC

ELEV. : 3467' D.F.
ZERO : GL + 8'
T.D. : 7906'
PSTD : 5980'

13 3/8", 32.4 # @ 223'
CMT'D. TO SURFACE W/300 SX.

8 5/8", 32 # @ 3150'
CMT'D. TO SURFACE W/2200 SX.

BLINEBRY PERFORATIONS 5615'-5904'

DRINKARD PERFORATIONS 6562'-6828'

2 3/8" E.U.E. BRD. TBG.

HARE McKEE PERFORATIONS 7682'-7707'

ROD PUMP

5 1/2", 15.5 # & 17 # @ 7760'
CMT'D. W/500 SX.

BPMA

ELLENBURGER OPEN HOLE 7760'-7906'

T.D. @ 7906'

ZM-2835 B

2b

PRODUCTION RATE AND CUMULATIVE
PROPOSED COMMINGLED POOLS

DRINKARD PRODUCTION

YEAR	JAN	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL TOTAL	CUM.
1974 Oil	-	-	-	-	263	594	386	417	408	374	388	351	3,187	3,187
Gas	-	-	-	-	8823	892	-	-	3197	1511	1318	1546	17,282	17,282
1975 Oil	366	340	357	344	350	316	387	308	288	327	333	338	4,054	7,261
	1157	-	-	-	-	-	-	-	3325	3156	2578	2134	12,350	29,632
1976 Oil	332	302	134	-	-	-	-	-	-	-	-	-	768	8,009
Gas	1862	1311	249	-	-	-	-	-	-	-	-	-	3,422	33,054

4a

WELL-STATE SECTION 2 WELL NO. 3
PRODUCTION RATE AND CUMULATIVE
PROPOSED COMMINGLED POOLS

HARE MCKEE PRODUCTION

<u>YEAR</u>	<u>JAN</u>	<u>FEB.</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANNUAL TOTAL</u>	<u>CUM.</u>
1969 Oil	988	799	990	878	913	949	917	888	818	924	899	862	10,825	156,075
Gas	1832	1301	1917	1774	2095	1790	2795	1935	1762	2264	1866	1626	22,957	166,995
1970 Oil	948	870	956	947	905	848	920	902	949	924	860	891	10,920	166,995
Gas	1585	1643	1867	1919	3978	3806	3993	4700	4831	3637	3799	3691	39,449	
1971 Oil	999	874	959	1001	980	1066	1219	1291	1181	1182	1020	1058	12,880	179,875
Gas	4711	3912	4452	4826	5201	3893	4457	4920	4090	3511	2831	3397	50,201	
1972 Oil	957	1118	1169	870	1237	1042	880	1139	1016	1116	1066	444	12,054	191,929
Gas	4183	3305	3872	3279	4428	5057	4426	4493	4137	4938	4587	2698	49,403	
1973 Oil	17	-	-	-	-	-	-	-	-	-	-	-	17	191,946
Gas	128	-	-	-	-	-	-	-	-	-	-	-	128	

4b

SHREVEPORT SECTION 2 WELL NO. 3
 PRODUCTION RATE AND CUMULATIVE
 PROPOSED COMMINGLED POOLS

BRUNSON ELLENBURGER PRODUCTION

<u>YEAR</u>	<u>JAN</u>	<u>FEB.</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG.</u>	<u>SEPT.</u>	<u>OCT.</u>	<u>NOV.</u>	<u>DEC.</u>	<u>ANNUAL TOTAL</u>	<u>CUM.</u>
1951 011	3124	3378	3821	3777	3802	3565	3939	3737	3694	3910	3475	3688	43,910	55,818
1952 011	3707	3589	3845	3720	1737	3224	3122	3150	3183	3252	3093	3246	38,868	94,686
1953 011	3229	2944	3272	3190	3271	3131	3254	3279	3174	3194	2714	2955	37,607	132,293
1954 011	2906	2645	2952	2810	2871	3061	2953	2825	2670	2815	2765	2945	34,218	166,511
1955 011	2973	2614	2966	2428	775	750	778	770	661	540	111	79	15,445	181,956
1956 011	120	116	126	117	124	120	117	124	120	108	87	36	1,315	183,271

4c

SHELL-STATE SECTION 2 NO. 3
LEA COUNTY, NEW MEXICO
ESTIMATED BOTTOM HOLE PRESSURES

Drinkard Pool	400 psi
Hare McKee Pool	300 psi
Brunson Ellenburger Pool	200 psi

at. 4

OFFSET OPERATORS

STATE SECTION 2 LEASE

Continental Oil Company
P. O. Box 460
Hobbs, New Mexico 88240

Aztec Oil & Gas Company
P. O. Box 337
Hobbs, New Mexico 88240

Gulf Oil Company - U.S.
P. O. Box 670
Hobbs, New Mexico 88240

Ex. 7

- CASE 6158: Application of O. H. Berry for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the NE/4 of Section 15, Township 24 South, Range 36 East, Jalwat Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. 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 6159: Application of Texaco Inc., for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Drinkard and Wantz-Granite Wash production in the wellbore of its A. H. Blinberry Federal Well No. 38 located in Unit J of Section 19, Township 22 South, Range 38 East, Lea County, New Mexico.
- CASE 6160: Application of Bass Enterprises Production Co., for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation through the perforated interval from 3310 feet to 3375 feet in its Big Eddy Unit Well No. 56, located in Unit G of Section 35, Township 21 South, Range 28 East, Indian Flats-Delaware Pool, Eddy County, New Mexico.
- CASE 6161: Application of Tenneco Oil Company for two waterflood projects, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its Leonard Federal Lease by the injection of water into the Queen formation through one well in Unit O of Section 11, and on its Leonard Brothers Lease through two wells, in Units I and M, respectively, of Section 14, all in Township 26 South, Range 37 East, Leonard Queen Pool, Lea County, New Mexico. Applicant further seeks the establishment of an administrative procedure for the addition of injection wells and the conversion of existing wells to injection at both orthodox and unorthodox locations without further notice and hearing.
- CASE 6162: Application of Continental Oil Company for an unorthodox location and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Jack B-30 Well No. 2 to be located 330 feet from the North line and 1725 feet from the East line of Section 30, Township 24 South, Range 37 East, Jalwat Gas Pool, Lea County, New Mexico, the NE/4 of said Section 30 to be simultaneously dedicated to the aforesaid well and to Well No. 5 in Unit H.
- CASE 6163: Application of Continental Oil Company for amendment of Commission Order No. R-3863, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to substitute its Anderson Ranch Unit Wells No. 6 located in Unit X of Section 2 and Nos. 3 and 10, located in Units A and H, respectively, of Section 11, all in Township 16 South, Range 32 East, for the initial injection wells authorized by said order in its Anderson Ranch-Wolfcamp Waterflood Project, Anderson Ranch-Wolfcamp Pool, Lea County, New Mexico.
- CASE 6164: Application of Shell Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Tubb, Wantz-Abo, and Brunson-Ellenburger production in the wellbore of its Shell State Section 2 Well No. 15 located in Unit K of Section 2, Township 21 South, Range 37 East, Lea County, New Mexico.
- CASE 6165: Application of Shell Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Drinkard, Hare-McKee, and Brunson-Ellenburger production in the wellbore of its Shell State Section 2 Well No. 3 located in Unit U of Section 2, Township 21 South, Range 37 East, Lea County, New Mexico.
- CASE 6166: Application of Odessa Natural Corporation for rescission of Order No. R-5601, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks a hearing at which any interested party could appear and show cause why Order No. R-5601, which granted a special well classification to applicant's ARCO-Little Fed. Well No. 1, located in Unit D of Section 32, Township 24 North, Range 3 West, Rio Arriba County, New Mexico, should not be rescinded.
- CASE 6141: Application of Paul Slayton for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation thru the open-hole interval from 528 feet to 547 feet in his Hastie Well No. 7 located in Unit L of Section 18, Township 17 South, Range 28 East, Empire Field, Eddy County, New Mexico.

1978

BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
SHELL OIL COMPANY FOR COMMINGLING OF)
THE DRINKARD - HARE-McKEE - BRUNSON-)
ELLENBURGER ZONES LOCATED IN UNIT U,)
SECTION 2, TOWNSHIP 21 SOUTH, RANGE)
37 EAST, LEA COUNTY, NEW MEXICO.)

No. 6165

A P P L I C A T I O N

Comes now the applicant, Shell Oil Company, through its attorneys, Montgomery, Andrews & Hannahs, and applies to the New Mexico Oil Conservation Commission for an Order as follows:

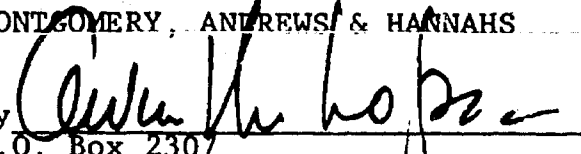
1. Applicant is the operator of the Shell State Section 2 No. 3 well located in Unit U, Section 2, Township 21 South, Range 37 East, Lea County, New Mexico.
2. The above well was originally completed as a Brunson-Ellebenburger producer and produced from that zone during the year 1956.
3. The above well was thereafter completed as a Hare-McKee producer and produced from that zone for the years 1957 through 1973.
4. The above well was thereafter completed as a Drinkard producer and produced from that zone for the years 1974 through 1977.
5. The above described zones have not been commingled, but these zones are only capable of low rates of production. Applicant requests that all three zones be commingled.
6. The granting of this application would prevent waste and protect correlative rights.

WHEREFORE, applicant asks that the Commission set this matter for a hearing before one of its examiners or the Commission as the Commission may desire.

Respectfully submitted,

MONTGOMERY, ANDREWS & HANNAHS

By



P.O. Box 2307

Santa Fe, New Mexico 87501

Attorneys for Applicant

57
-1 1978
BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION

IN THE MATTER OF THE APPLICATION OF)
SHELL OIL COMPANY FOR COMMINGLING OF)
THE DRINKARD - HARE-McKEE - BRUNSON-)
ELLENBURGER ZONES LOCATED IN UNIT U,)
SECTION 2, TOWNSHIP 21 SOUTH, RANGE)
37 EAST, LEA COUNTY, NEW MEXICO.)

No. 6165

A P P L I C A T I O N

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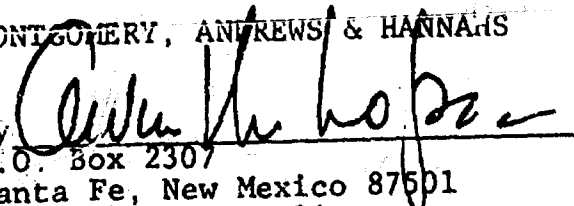
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3. The above well was thereafter completed as a Hare-McKee producer and produced from that zone for the years 1957 through 1973.
4. The above well was thereafter completed as a Drinkard producer and produced from that zone for the years 1974 through 1977.
5. The above described zones have not been commingled, but these zones are only capable of low rates of production. Applicant requests that all three zones be commingled.
6. The granting of this application would prevent waste and protect correlative rights.

WHEREFORE, applicant asks that the Commission set this matter for a hearing before one of its examiners or the Commission as the Commission may desire.

Respectfully submitted,

MONTGOMERY, ANDREWS & HANNAHS

By


P.O. Box 2307

Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 6165

Order No. R- 5660

APPLICATION OF SHELL OIL COMPANY
FOR DOWNHOLE COMMINGLING, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 22,
19 78, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this _____ day of _____, 19 78, the Commission,
a quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Shell Oil Company, is the
owner and operator of the Shell State Section 2 Well, ^{No. 3} located
in Unit U of Section 2, Township 21 South, Range
37 East, NMPM, Lea County, New Mexico.

(3) That the applicant seeks authority to commingle Drinkard,
Hare-McKee and Brunson-Ellenburger production
within the wellbore of the above-described well.

(4) That from ~~the~~ ^{each of said zones} ~~Drinkard~~ zone, the
subject well is capable of low marginal production only.

~~(5) That from the Hare-McKee zone, the
subject well is capable of low marginal production only.~~

(5) That the proposed commingling may result in the recovery
of additional hydrocarbons from each of the subject pools, thereby
preventing waste, and will not violate correlative rights.

~~(6) That from the Brunson-Ellenburger zone, the subject well
is capable of low rates of production only.~~

Case No. 6165
Order No. R-

(6) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(7) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Hobbs district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(8) ~~(4)~~ That in order to allocate the commingled production to each of the commingled zones in the well, applicant should consult with the supervisor of the Hobbs District Office of the Commission and determine an allocation formula for each of the production zones.

to the Drinkard zone, and percent of the commingled production to the Hare-McKee zone. ~~and percent of the commingled production should be allocated to the Brunson-Ellenburger zone.~~

IT IS THEREFORE ORDERED:

(1) That the applicant, Shell Oil Company, is hereby authorized to commingle Drinkard, Hare-McKee, and Brunson-Ellenburger production within the wellbore of the Shell State Section 2 Well No. 3, located in Unit H of Section 2, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Hobbs District Office of the Commission and determine an allocation formula for the allocation of production to each zone in ~~the~~ the subject well.

zone and percent of the commingled production shall be allocated to the Hare-McKee zone. ~~and percent of the commingled production shall be allocated to the Brunson-Ellenburger zone.~~

(3) That the operator of the subject well shall immediately notify the Commission's Hobbs district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

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

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