

1 STATE OF NEW MEXICO
2 ENERGY AND MINERALS DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BUILDING
5 SANTA FE, NEW MEXICO

6 23 September 1987

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 A case called by the Oil Conserva- CASE
10 tion Division on its own motion to 9227
11 amend the special pool rules for
12 for the Gavilan-Mancos Oil Pool in
13 Rio Arriba County, New Mexico.

14 BEFORE: David R. Catanach, Examiner

15 TRANSCRIPT OF HEARING

16 A P P E A R A N C E S

17
18 For the Division: Jeff Taylor
19 Attorney at Law
20 Legal Counsel to the Division
21 State Land Office Bldg.
22 Santa Fe, New Mexico 87501

23 For the Applicant:
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MR. CATANACH: In the matter called by the Oil Conservation Division on its own motion to amend the Special Pool Rules for the Gavilan-Mancos Oil Pool in Rio Arriba County, New Mexico, as promulgated by Division Order No. R-7407, as amended.

This case will be continued to the Commission Hearing scheduled for October 15th, 1987.

(Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1207, heard by me on Sept 23, 1987.
David R. Catanzano, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

15 October 1987

COMMISSION HEARING

IN THE MATTER OF:

The hearing called by the Oil Conservation Division on its own motion to amend the special pool rules for the West Lindrith Gallup-Dakota Oil Pool in Rio Arriba and Sandoval Counties, New Mexico;

CASE
9226

and

To amend the special pool rules for the Gavilan-Mancos Oil Pool in Rio Arriba County, New Mexico;

CASE
9227

and

The hearing called by the Oil Conservation Division on its own motion for an order abolishing and extending certain pools in Rio Arriba and Sandoval Counties, New Mexico.

CASE
9228

BEFORE: William J. LeMay, Chairman
Erling A. Brostuen, Commissioner
William R. Humphries, Commissioner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

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& Mesa Grande Resources
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A P P E A R A N C E S CONT'D

For Mallon Oil Company:	Frank Douglass Attorney at Law SCOTT, DOUGLASS & LUTON First City Bank Bldg. Austin, Texas 78701
For BMG Drilling Corp. & Dugan Production Co. & Sun E & P CO.:	William F. Carr Attorney at Law CAMPBELL & BLACK P. A. P. O. Box 2207 Santa Fe, New Mexico 87501
For Amoco Production Co.:	W. Perry Pearce Attorney at Law MONTGOMERY & ANDREWS P. O. Box 2307 Santa Fe, New Mexico 87504 and Kent J. Lund Attorney at Law Amoco Production Company P. O. Box 800 Denver, Colorado 80201
For Koch Exploration:	Robert D. Buettner General Counsel and Secretary Koch Exploration Company P. O. Box 2256 Wichita, Kansas 67201

1
2 MR. LEMAY: Case Number 9226.

3 In the matter called by the Oil
4 Conservation Division on its own motion to amend the special
5 pool rules for the West Lindrith Gallup-Dakota Oil Pool in
6 Rio Arriba and Sandoval Counties, New Mexico, as promulgated
7 by Division Order R-4314, to reconsider the well location
8 requirements poolwide, to restate the allowable in the pool
9 to reflect the daily oil allowable for a 160-acre unit in
10 the depth range of this pool to 382 barrels of oil per day,
11 as promulgated by Division General Rule 505, and to create a
12 buffer zone in those sections that adjoin the Gavilan-Mancos
13 Oil Pool to the east in Sections 1, 12, 13, 24, 25 and 36,
14 Townships 25 North, Range 3 West, Rio Arriba County, with
15 the additional provision which may be necessary and/or ad-
16 visable to protect correlative rights along the common
17 boundary of the two pools.

18 Said area is situated 10 to 20
19 miles west/northwest of Lindrith, New Mexico.

20 MR. TAYLOR: May it please the
21 Commission, I'm Jeff Taylor, Counsel for the Division.

22 We have one witness to present
23 in this case and we would like, I think, to move that Case
24 9226, 9227, and 9228 be consolidated for purposes of admis-
25 sion of testimony.

MR. LEMAY: Thank you, Mr. Tay-

1 lor.

2 Mr. Lopez.

3 MR. LOPEZ: Mr. Chairman, I am
4 appearing on behalf of Mesa Grande Resources, Inc., and Mesa
5 Grande, Limited; also appearing on behalf of Mallon in asso-
6 ciation with Mr. Douglass of Austin.

7 We would concur in Mr. Taylor's
8 recommendation that the two cases be consolidated.

9 We have three witnesses to ap-
10 pear in Cases 9226 and 9227.

11 While I'm on my feet, I might
12 suggest to the Commission that on behalf of the two Mesa
13 Grande clients I represent, that we would request Cases 9225
14 and 9236 be continued to the next regularly scheduled Com-
15 mission hearing in November.

16 MR. LEMAY: Thank you, Mr.
17 Lopez. I think we can deal with 9225 and 9226 at this time.

18
19 (REPORTER'S NOTE: At this time the hearing in Cases 9225
20 and 9236 was held.)

21

22 MR. LEMAY: Mr. Carr.

23 MR. CARR: May it please the
24 Commission, I at this time would like to enter an appearance
25 on behalf of Sun Exploration and Production Company, Benson-

1 Montin-Greer Drilling Corporation, and Dugan Production Cor-
2 poration in Cases 9226, 9227, and 9228.

3 I would state that we do not
4 intend to present a witness today. It was our understanding
5 following the meeting held with Division personnel in Farm-
6 ington on the 29th of September that the only case to be
7 considered would be the nomenclature case, Case 9228; there-
8 for nothing was done to prepare for the other two cases. It
9 was only this week that we discovered that the other cases
10 might in fact be heard.

11 We don't object to testimony
12 being presented today, but I should advise you that we will
13 request at the end of the case that the record remain open
14 until the November hearing so that we can have an opportun-
15 ity to respond.

16 MR. LEMAY: Thank you, Mr.
17 Carr.

18 At this time is there any ob-
19 jection to those three cases, 9226, 9227, and 9228, being
20 consolidated?

21 If not, we will consolidate
22 those cases for --

23 Yes, sir, Mr. Kendrick.

24 MR. KENDRICK: I'd like to ob-
25 ject to the consolidation if all the cases would be con-

1 tinued to November. We would like to get the nomenclature
2 case out of the way, 9228. 9228 should be heard first
3 because 9226 and 9227 refer to the buffer zone between the
4 two pools along a common line which does not exist at this
5 time.

6 So the cases are out of order
7 if the nomenclature is not heard first.

8 MR. LEMAY: Mr. Carr.

9 MR. CARR: I -- just for
10 clarification, we wouldn't have any objection to the
11 nomenclature case going forward and an order being entered
12 in that.

13 It is only the other two that
14 we were surprised by this and we do request continuance.

15 MR. LEMAY: Mr. Lopez.

16 MR. LOPEZ: We would concur
17 with Mr. Kendrick that it makes sense that 9228 proceed
18 first and we would have no objection that an order be en-
19 tered in the nomenclature case, either; however, I think
20 it's important to realize that if that is in fact the case,
21 that we believe that no wells should be allowed to be drill-
22 led in the buffer zone, which is the subject of the 9226 and
23 9227, until orders are entered in those cases.

24 We are prepared to go forward
25 with testimony in both Cases 9226 and 9227. We have no ob-

1 jection to the record being allowed to remain open until the
2 next regular scheduled Commission hearing; however, in the
3 spirit of fair play the Commission adheres to, we would like
4 the opportunity to be apprised prior to the next hearing as
5 to how our testimony today is received, and if we're not ap-
6 prised, then undoubtedly we will appear at the next hearing
7 and request that the record remain open until we have a
8 chance to respond to other evidence and testimony.

9 MR. LEMAY: As I understand
10 this, there is a problem with the order of cases. If we
11 heard the nomenclature case first, issued an order on it
12 first, is there any problem with -- with taking that order
13 into consideration in issuing orders in Cases 9227 and 9228?
14 I'm sorry, 92 -- get this right, 9226 and 9227.

15 Am I hearing a problem, Mr.
16 Kendricks, about hearing all three cases today but issuing a
17 nomenclature order first?

18 MR. KENDRICK: No, sir. If we
19 do not get the nomenclature case out of the way the other
20 two cases do not have any basis for being heard until there
21 is a common boundary, which does not exist until 9228 is
22 heard, and until the order is issued.

23 MR. TAYLOR: Mr. Chairman, if I
24 might clarify, we're only moving that the cases be consoli-
25 dated for purpose of the record. Normally the Commission

1 does issue the orders separately in any cases that are con-
2 solidated and it's solely up to the Commission as to whether
3 to issue an order in the nomenclature depending on the
4 evidence.

5 But we have no objection to --
6 to an issuance of that order and a continuance of 9226 and
7 9227.

8 MR. LEMAY: As I understand it,
9 we're trying to space the -- this area between the Gavilan
10 area and the West -- it would be the Mancos production and
11 Ojitos area.

12 To do this I think we'd have to
13 hear testimony from all pool owners and in doing so, it
14 would seem logical to -- not only to define pool boundaries,
15 but the buffer zone would seem to be contingent upon where
16 we place that pool boundary, and in trying to just look at
17 the -- the pool boundary by itself, I think we're ignoring
18 other factors that are present in the case.

19 Now correct me if I'm wrong,
20 but in trying to look at this whole area it seems like
21 accepting testimony concerning the area would influence the
22 orders on all three cases. Am I -- am I understanding that
23 correctly or not?

24 MR. KENDRICK: Mr. Commission-
25 er, for in excess of fifty years the Oil Commission has ex-

1 tended pools and over the period of years those pools have
2 abutted against each other without any problem of pool
3 rules. The pool rules for each pool continued in effect up
4 to the boundary of that pool, where they abutted, when they
5 abutted, based on the development of the pool.

6 This is nothing out of the
7 ordinary. It's been a common occurrence for fifty years, to
8 extend the pools and where they abut together, that
9 constitutes the common boundary.

10 MR. LEMAY: Well, as I see it,
11 Mr. Kendrick, you have two pools that are going together;
12 where there are wells between the boundaries of those cur-
13 rent pools, we have to place them in one pool and then
14 create boundaries. I have noticed in the past, it may have
15 been fifty years that this has gone on but there's been
16 fifty years, possibly, of pools butting up against pools
17 with different spacing and it seems to me that to do the
18 thing logically, that the whole area should be looked at and
19 not one particular problem independent of the others, but
20 I'd be willing to hear some comments on -- on that.

21 Mr. Pearce.

22 MR. PEARCE: Thank you, Mr.
23 Chairman.

24 If I may, initially I am W.
25 Perry Pearce from the Santa Fe law firm of Montgomery &

1 Andrews, appearing in this matter in association with Mr.
2 Kent Lund, an attorney for Amoco Production Company.

3 Amidst the confusion, let me
4 jump in and say what I think our position is and Kent will
5 hit me if I'm wrong.

6 Amoco has no objection to the
7 nomenclature part of this case proceeding, abolishing the
8 Ojito, expanding the West Lindrith as proposed in the
9 advertisement of Case 9228. I have not heard in the course
10 of getting ready for these matters, anybody suggesting any
11 other pool boundary. There's been a great deal of
12 discussion about the matters in Cases 9226 and 9227, but I
13 am not aware of a proposal for a different pool boundary
14 than expanding the West Lindrith to meet the current
15 Gavilan.

16 If that's the situation, then
17 it seems to me fully appropriate to go ahead and issue a
18 nomenclature order after today's hearing to close 9228.

19 If those cases are consolidated
20 for hearing, procedurally it seems to me necessary to
21 announce at the end of today's hearing that the record in
22 9228 is being closed, while 9226 and 9227 remain open,
23 because if you don't do that, I don't think you can issue an
24 order in 9228.

25 I guess in order to move the

1 thing along, if there is a party in the room who thinks that
2 the boundary should be moved to something other than the
3 current westerly boundary of the Gavilan, I'd like to hear
4 from them, and if they're in the room and feel that way,
5 then I certainly agree with you, Mr. Chairman, we need to
6 roll them all together. I was not aware of that position
7 and it seems to be appropriate to go ahead and get the no-
8 menclature out of the way.

9 MR. LEMAY: Thank you, Mr.
10 Pearce.

11 Yes, sir, Mr. Carr.

12 MR. CARR: I hate to continue
13 this. It looks like what happens whenever you let lawyers
14 talk.

15 We have, speaking on behalf of
16 Sun, we have no quarrel with the boundary as advertised. We
17 think it appropriate that that go forward.

18 As to the comment by Mr. Lopez
19 that at the end of this hearing and before the next hearing
20 they would -- they, you know, want some sort of a reaction
21 or response or ruling from the Commission to indicate as to
22 how their testimony was received.

23 I don't know how that can be
24 done. It's ruling on part of the case without all of it
25 before you and if you want to do that, and if that's import-

1 ant as a precondition to going forward with Mallon and Mesa
2 Grande's testimony, which we have no objection to going for-
3 ward today, if that's a condition precedent to it, we think,
4 perhaps, the whole thing should be continued, advertised,
5 and heard at one time so one side doesn't make a presenta-
6 tion, asking you to say did you like it or not, and the
7 other side doesn't run forward and ask you to pass on that.

8 It seems to me it's sort of un-
9 raveling if we take that approach.

10 We think it's appropriate to go
11 forward with the nomenclature case. We have no objection to
12 anyone presenting anything they want to about the buffer
13 zone. Sun doesn't feel a buffer zone is appropriate and
14 that there -- believes that the wells in that area, the pro-
15 ducing capabilities will show that it isn't. We want to
16 show you that in November, but I want you to know where we
17 stand on both issues.

18 MR. LEMAY: That's what I'm
19 trying to find out.

20 Is there anyone in the audience
21 that represents a client or is a party to these hearings
22 that objects to what has been proposed in Case 9228? In
23 other words, the abolishment of the Ojito Gallup-Dakota Pool
24 and the extension of the West Lindrith Gallup-Dakota Pool to
25 the boundary of the Gavilan Pool without considering buffer

1 zones at this time?

2 Yes, ma'am, Mrs. Little.

3 MRS. LITTLE: I object to the
4 -- I'm Sylvia Little, Curtis Little Oil and Gas, and I ob-
5 ject to restraining the drilling during the time this is
6 heard.

7 I am supposed to drill before
8 the first of November and I've had that on the list for a
9 long time and at this point I don't want to hold up my
10 drilling to wait for this further case.

11 I have three APD's right now
12 and --

13 MR. LEMAY: I understand your
14 situation. We were going to, of course, address that with
15 this hearing and who was it that requested at least in the
16 case where there is -- there are -- there are some drilling
17 commitments, who was it who objected to drilling going on?

18 Was it Mr. Lopez?

19 MR. LOPEZ: Yes, Mr. Chairman.
20 We concur in the observations made by the Chairman that the
21 three cases are inextricably interwoven.

22 Mr. Kendrick may be correct
23 that the Commission for fifty years has extended pool
24 boundaries, but this is an unusual circumstance, as the
25 Commission fully appreciates, because the Gavilan is not

1 producing under statewide allowables.

2 We feel that it may shed some
3 light if we're allowed to go forward with our testimony
4 today to show -- we have no objection, of course, to the
5 nomenclature case going forward as advertised.

6 The other two cases have been
7 advertised and we have three witnesses here today who are
8 prepared to give testimony in Cases 9226 and 27, which have
9 been properly advertised.

10 We believe that our evidence
11 will show that unless the buffer zone is created, that there
12 will be a clear, indisputable violation of correlative
13 rights unless something is done affect the production
14 between the two pools.

15 MR. LEMAY: Well, I understand
16 your position, Mr. Lopez. We weren't really presenting
17 arguments. We were at this point working on consolidating
18 the cases and I think we'll take a five minute recess. I
19 want to confer with my colleagues here unless someone else
20 has something.

21 MR. PEARCE: Mr. Chairman, may
22 I jump in before you do that --

23 MR. LEMAY: Go ahead, Mr.
24 Pearce.

25 MR. PEARCE: -- with one

1 observation?

2 As I understand Cases 9226 and
3 9227, there's a -- and I suppose it's 9226, there's a pro-
4 posal to change the pool rules for the West Lindrith to have
5 well location requirements changed from 330 feet to 790
6 feet. I am concerned if - if Mrs. Little or another party
7 wants to drill before those cases are heard, I don't know
8 what the locations of those wells are. If they are closer
9 than 790 and the pool rules in the West Lindrith are changed
10 to 790, I would expect some party to come in later for an
11 allowable restriction on those locations, and I think I un-
12 derstand her problem; I don't know what to do about it, but
13 I do want to alert the Commission to the fact that there are
14 parties to this proceeding who favor the 790 setback rule
15 and if wells are drilled between now and the hearing of
16 these cases on a setback less than 790, I think we're going
17 to have a problem.

18 MR. LEMAY; Yes, sir, Mr.
19 Lopez.

20 MR. LOPEZ: We would also add
21 for the record that we concur that Mrs. Little in order to
22 save her lease, should be allowed the opportunity to drill;
23 however, I think it's important that the Commission be ap-
24 prised of the problems that exist as well as Mrs. Little in
25 terms of going forward. We certainly understand her problem

1 in saving her lease and we're all in favor of drilling
2 wells, but I think that the Commission is facing a serious
3 problem with respect to a buffer zone between the two pools
4 and that needs to be addressed and put on the table so when
5 she does drill the well, she knows what she's dealing with.

6 MR. LEMAY: I think I
7 understand, Mr. Lopez. I think Mrs. Little understands the
8 situation that she could -- certainly we want her to
9 preserve her leases, that in the event there is encroachment
10 prior to the issuing of the rule, there could be an
11 allowable restriction. I mean that would be understandable.
12 I don't think we would ever issue an order that put a
13 contingency on -- on drilling in the area for people to
14 protect their correlative rights, however, so I think it's
15 well understood that anyone can bring a case before this
16 Commission requesting an allowable restriction for good
17 cause showing. There'd be no problem with that.

18 Is there anything else before
19 we take a five minute recess?

20 We'll recess for five minutes.

21

22 (Thereupon a recess was taken.)

23

24 MR. LEMAY: This meeting will
25 come back to order.

1 Procedurewise, we're going to
2 hear Case 9228 first and then we're going to consolidate
3 9226 and 9227 and hear those two cases separately.

4 I don't know if we understood
5 your request, Mr. Lopez. I -- I think it was misunderstood.
6 We cannot give you feeling of what the Commission will do on
7 any cases, naturally, after we hear them. I do understand
8 that Mr. Carr will be presenting a side -- a viewpoint in
9 these two cases without witnesses, so is it -- was it your
10 intention that that side should be made clear where --
11 where he's coming from, gentlemen?

12 MR. LOPEZ: No. If I misspoke
13 or was misunderstood, I did not expect the Commission to
14 give me any sense of how it was going to proceed. I thought
15 that, just in the spirit of fair play that you'd keep the
16 record open. It would be only right that the other inter-
17 ested parties in the two cases give us some reaction to how
18 our testimony is received, so if you do continue the cases,
19 then have more evidence at the next regularly scheduled Com-
20 mission hearing we'd be more prepared to continue our case
21 with evidence or rebut any objections to our proposal.

22 MR. LEMAY; Mr. Carr.

23 MR. CARR: We will let Mr.
24 Lopez know what our reaction is to it. We intend to call
25 witnesses, all of that following the hearing, in time for

1 the next hearing.

2 If something happens and Sun
3 should elect not to present any additional testimony, we
4 would advise him and advise you immediately.

5 On Monday when we found out
6 these were going, we started it in the mill at Sun and we
7 just couldn't get signals on it.

8 MR. LEMAY: I understand that,
9 Mr. Carr. Okay. I think we'll continue on, then, and call
10 Case Number 9228.

11

12 REPORTER'S NOTE: This concludes the preliminary discussion
13 concerning the hearings of Cases 9226, 9227, and 9228.

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO
HEREBY CERTIFY the foregoing Transcript of Hearing before
the Oil Conservation Division (Commission) was reported by
me; that the said transcript is a full, true, and correct
record of the hearing, prepared by me to the best of my
ability.

Sally W. Boyd CSR

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BLDG.
5 SANTA FE, NEW MEXICO

6 15 October 1987

7 COMMISSION HEARING

8 IN THE MATTER OF:

9 The hearing called by the Oil Con- CASE
10 servation Division on its own motion 9226
11 to amend the special pool rules for
12 the West Lindrith Gallup-Dakota Oil
13 Pool in Rio Arriba and Sandoval
14 Counties, New Mexico;

15 and
16 To amend the special pool rules for CASE
17 the Gavilan-Mancos Oil Pool in Rio 9227
18 Arriba County, New Mexico;

19 BEFORE: William J. LeMay, Chairman
20 Erling A. Brostuen, Commissioner
21 William R. Humphries, Commissioner

22 TRANSCRIPT OF HEARING

23 A P P E A R A N C E S

24 For the Division: Jeff Taylor
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27 & Mesa Grande Resources Attorney at Law
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A P P E A R A N C E S CONT'D

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I N D E X

ERNIE BUSCH

Direct Examination by Mr. Taylor	7
Cross Examination by Mr. Carr	14

KATHLEEN MICHAEL

Direct Examination by Mr. Lopez	16
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ALLEN P. EMMENDORFER

Direct Examination by Mr. Lopez	22
Questions by Mr. Brostuen	30
Questions by Mr. Lemay	31

LARRY SWEET

Direct Examination by Mr. Lopez	34
Cross Examination by Mr. Carr	48
Questions by Mr. Humphries	50
Questions by Mrs. Little	57
Questions by Mr. Lyon	59
Questions by Mr. Lemay	60
Redirect Examination by Mr. Lopez	62

1

2

I N D E X CONT'D

3

4

5	STATEMENT BY MR. LOPEZ	63
6	STATEMENT BY MR. DOUGLASS	64
7	STATEMENT BY MR. PEARCE	67
8	STATEMENT BY MR. KOELLING	67
9	STATEMENT BY MR. KENDRICK	69
10	STATEMENT BY MR. CARR	70

11

12

13

E X H I B I T S

14

15	Division Exhibit One, Chart	9
16	Division Exhibit Two, Log	11
17	Division Exhibit Three, Log	11

18

19

20	MG Exhibit A-1, Index	17
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21

22	MG Exhibit B-1, Plat	17
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23	MG Exhibit B-2, Plat	18
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24	MG Exhibit B-3, Plat	19
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25	MG Exhibit B-4, Plat	20
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E X H I B I T S CONT'D

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4 MG Exhibit C-1, Structure Map 23

5 MG Exhibit C-2, Cross Section A-A' 26

6

7 MG Exhibit D-1, Graph 38

8 MG Exhibit D-2, Graph 39

9 MG Exhibit D-3, Proposed Allowable 39

10 MG Exhibit D-4, Comparison 41

11 MG Exhibit D-5, Graph 41

12 MG Exhibit D-6, Graph 43

13 MG Exhibit D-7, Graph 43

14 MG Exhibit D-8, Graph 44

15

16 MG Exhibit E-1, Proposal 44

17

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MR. LEMAY: At this time we will call Cases 9226 and 9227, consolidated.

MR. TAYLOR: May it please the Examiner, I'm Jeff Taylor, Counsel to the Division, and we have one witness who has already been sworn and I would expect, unless there is any objection, that we have all the appearances that previously have been entered in these cases, unless somebody was left out.

MR. LEMAY: Thank you, Mr. Taylor.

Yes, sir, Mr. Lopez.

MR. LOPEZ: May it please the Commission, I notice that Mr. Paul Brown and his daughter, Marie Ann Dickerson (sic), who are royalty interest owners in the Gavilan Pool have appeared and they would like their appearance to be entered in the record.

MR. LEMAY: The appearance of Mr. Brown and his daughter will be so noted.

Mr. Brown, would you care to make a statement at the conclusion of this or do you have any -- any testimony you'd like to give in the case?

We will keep the record open for -- for appearances at the end of the case. You may wish to make a statement after concluding the evidence in the

1 cases.

2 Any additional statements or
3 appearances that we have not noted to date?

4 Okay, we shall continue, Mr.
5 Taylor.

6 MR. TAYLOR: Thank you, Mr.
7 Chairman.

8 I'd request that the record
9 show that the witness has already been sworn and qualified
10 in the previous case.

11

12 ERNIE BUSCH,
13 being called as a witness and having been previously sworn
14 upon his oath, testified as follows, to-wit:

15

16 DIRECT EXAMINATION

17 BY MR. TAYLOR:

18 Q Mr. Busch, would you briefly explain the
19 purpose of Cases 9226 and 9227?

20 As I understand it, just to clarify the
21 situation, we are not today presenting any evidence at all
22 in Case 9227, is that correct?

23 A That's correct.

24 Q And in Case 9226, and you can expand on
25 this, we are only putting on evidence as to what transpired

1 at the meetings with the operators and interest owners and
2 you're going to testify about testing but we're not going to
3 get into the substance of this case at this time, is that
4 correct?

5 A That's correct.

6 Q And we would ask that there be a continu-
7 ance of this case until the next Commission hearing for the
8 purposes of the substance of the case. We will limit testi-
9 mony in these, in 9226 to the testing requirements that were
10 discussed at the meetings of the operators.

11 A If, in the judgment of the Commission,
12 the --

13 MR. LEMAY: Hold on just a sec-
14 ond. Off the record, Sally.

15
16 (Thereupon a discussion was had off the record.)

17
18 MR. LEMAY: You may continue,
19 Mr. Busch.

20 A In the Commission's good judgment, if
21 they decide to grant the Case 9228 and the provisions there-
22 of, there would then exist a disparity in allowables between
23 the new pool, the new West Lindrith Gallup-Dakota Oil Pool,
24 and the Gavilan Mancos Pool.

25 The disparity is illustrated in my Exhi-

1 bit One. Exhibit One is a top allowable chart that I pre-
2 pared showing the current allowable in the West Lindrith
3 Gallup-Dakota Oil Pool and the current allowable in the Gav-
4 ilan Mancos.

5 The current allowable in the Gavilan Man-
6 cos is temporary until November 5th, at which time the wells
7 within the Gavilan will be tested as required by Orders R-
8 7407-E and R-6469-D. Excuse me, not only the Gavilan but
9 the West Puerto Chiquito, as well. And at that time the
10 allowables will change from the current 1280 barrels of oil
11 a day in top allowable, 2560 MCF per day, and a GOR of 2000-
12 to-1, to 800 barrels of oil per day, 480 MCF a day, and a
13 GOR of 600-to-1.

14 A further disparity exists in that the
15 oil per acre after November 5th in -- in the Gavilan will
16 decrease from 2 barrels of oil a day to 1.25 barrels of oil
17 per day -- per acre, and also the gas allowable from 2560
18 MCF a day -- excuse me, gas per acre, from 4 MCF to .75.

19 Whereas, in the West Lindrith the oil per
20 acre will be 2.39 barrels and the gas will be 4.77.

21 MR. PEARCE: Mr. Chairman, if I
22 may interrupt for just a minute, if this would be a good
23 time for a coffee break there weren't sufficient copies of
24 this exhibit to everybody who entered an appearance, and
25 I've been trying to follow the numbers and I just can't, if

1 we could take a coffee break and get the lady to make some
2 extra copies, I would appreciate it.

3 MR. LEMAY: I think without ob-
4 jection we'll take a ten minute break for additional copies.

5

6 (Thereupon a recess was taken.)

7

8 MR. LEMAY; We shall resume the
9 testimony in Cases 9226 and 9227.

10 There are some exhibits back on
11 the back table for those of you that hadn't got copies of
12 them.

13 Mr. Taylor, you may proceed.

14 Q Okay, Mr. Busch, you explained that --
15 that your Exhibit One shows a discrepancy in allowables
16 between the West Lindrith Gallup-Dakota Pool and the Gavilan
17 Mancos. Would you explain the purposes of the -- in this
18 case what the significance of that is?

19 A Yes. The disparity in allowables is
20 illustrated but we have to take into consideration the West
21 Lindrith also has the Dakota as a part of the producing
22 interval, whereas in the Gavilan Mancos it's merely the
23 Gallup portion of the Mancos portion.

24 So we're really looking at the -- at the
25 Gallup portions of the producing intervals for the two pools

1 more so than the Dakota and we feel that with the testing
2 requirement to determine what portion of production comes
3 from the Dakota in the West Lindrith Gallup-Dakota Oil Pool
4 wells that will be drilled or that may be drilled in the
5 east half of the row of sections that border the Gavilan
6 Pool, this will tell us a great deal about what the contri-
7 bution -- what the contribution of production is from all
8 the zones and whether or not that disparity still exists.

9 Q Do you have exhibits that indicate the
10 differences in the vertical intervals in this two pools
11 we're discussing?

12 A Yes.

13 Q Would you discuss those for us? Identify
14 them and discuss them for the Commission?

15 A Yes. Exhibit Number Two is a copy of a
16 log illustrating the perforated interval of a well in the
17 Ojito Gallup-Dakota Oil Pool at this time. The well belongs
18 to T. H. McIlvain Oil and Gas. It's the FD No. 1, located
19 in Unit letter H, Section 1, 25 North, 3 West. The perfor-
20 ated interval is from 6820 feet to 8227 feet, or that inter-
21 val that takes in the Gallup and the Dakota.

22 In Exhibit Number Three, this is a copy
23 of a log showing the perforated interval of a well in Gavi-
24 lan Mancos. This well belongs to Sun Exploration and Pro-
25 duction Company. It's the Full Sail C No. 4. It's in let-

1 ter, Unit letter I, Section 30, 25 North, 2 West. The per-
2 forated interval is 6774 to 7021 feet. It does not include
3 the Dakota.

4 So you can see from these two exhibits
5 that between the two pools we have a different source of
6 supply and there's a need to -- in that the Gallup and
7 Dakota in the West Lindrith can be produced together, to
8 separate that production out to make a determination as to
9 what the contribution of each zone is.

10 Q What does the Division recommend be done
11 to monitor the protection of correlative rights across the
12 common boundaries in these pools?

13 A That any wells that are in the future
14 drilled within the eastern halves of the sections bordering
15 the Gavilan Mancos Oil Pool be required to be tested as to
16 the zone contribution, and the test would be primarily up to
17 the operator as long as we were able to get that to be
18 done; could be production testing, (not understood) surveys,
19 something -- something of that nature.

20 Q And that they submit these tests to the
21 Aztec office or the Santa Fe office, or how do you want them
22 submitted?

23 A They could submit the test to the -- to
24 the Aztec office.

25 Q And your proposal for this testing is

1 only as to wells drilled in the future?

2 A That's correct.

3 Q And as I understand, the Division today
4 is taking no position on those aspects of Case 9226 relating
5 to well location requirements, buffer zone, or allowables.

6 A That's correct, Mr. Taylor, only to the
7 -- to the testing requirement.

8 Q And as Case 9228 was heard today, the
9 rules for the West Lindrith Gallup-Dakota, those, I believe,
10 special pool rules will apply till any evidence is taken and
11 decision is made in Case 9226 and 9227?

12 A That is correct.

13 Q Do you have anything further to add to
14 your testimony in this case?

15 A No, I don't, Mr. Taylor.

16 Q Were Exhibits One through Three prepared
17 by you or under your supervision and control or did you re-
18 view them and can you testify as to their accuracy?

19 A Yes. They were prepared by me.

20 MR. TAYLOR: I'd move the ad-
21 mission of Exhibits One through Three.

22 MR. LEMAY: Without objection
23 Exhibits One through Three will be admitted into evidence.

24 Are there any questions of the
25 witness?

1 Mr. Carr.

2
3 CROSS EXAMINATION

4 BY MR. CARR:

5 Q Mr. Busch, was any consideration given to
6 required testing of existing wells in that tier of sections?

7 A No, Mr. Carr.

8 Q Was it discussed at all?

9 A Yes, it was.

10 Q And what was the reaction?

11 A The general consensus was that we would
12 only require testing of those wells that would be drilled in
13 the future.

14 Q Do you happen to know how many wells cur-
15 rently exist in that tier of sections?

16 A Not exactly. I believe it's three.

17 Q Thank you.

18 MR. LEMAY: Additional ques-
19 tions of the witness?

20 If not, the witness may be ex
21 cused.

22 MR. LEMAY: Anything further,
23 Mr. Taylor?

24 MR. TAYLOR: No, Mr. Chairman.
25 The Division would reserve the right to present further wit-

1 nesses at the next hearing if the Division has either fur-
2 ther meetings with the operators or is able to come up with
3 recommendations for you.

4 MR. LEMAY: Thank you, Mr. Tay-
5 lor.

6 Mr. Lopez.

7 MR. LOPEZ: I think I'm the on-
8 ly one to have witnesses, so I think we're ready to start,
9 and, Mr. Chairman, so much for my powers of prophecy, I told
10 Mr. Carr we'd be done by 11:00. I didn't tell him we would
11 begin at 11:00, but that's all right, and here we are.

12 We have three witnesses that
13 will testify from exhibits that are contained in a booklet.
14 We have plenty to hand out so why don't we see that everyone
15 gets one.

16
17 KATHLEEN MICHAEL,
18 being called as a witness and being duly sworn upon her
19 oath, testified as follows, to-wit:

20
21 DIRECT EXAMINATION

22 BY MR. LOPEZ:

23 Q Will you please state your name and where
24 you reside?

25 A My name is Kathleen Michael and I reside

1 in Tulsa, Oklahoma.

2 Q By whom are you employed and in what ca-
3 pacity?

4 A I'm employed by Mesa Grande Resources,
5 Inc., as landman, and also I represent Mesa Grande Limited.

6 Q Have you previously testified before the
7 Commission and had your qualifications as a landman accepted
8 as a matter of record?

9 A Yes, sir, I have.

10 Q Are you familiar with the case numbers
11 before the Commission today?

12 A Yes, I am.

13 MR. LOPEZ: Is the witness con-
14 sidered qualified?

15 MR. LEMAY: The witness' quali-
16 fications are accepted.

17 Q What is it that Mesa Grande, and when I
18 say Mesa Grande I refer to both Limited and Resources, seeks
19 in presenting the evidence in these cases today?

20 A We agree with the Commission's recommend-
21 ation that the West Lindrith Gallup-Dakota Oil Pool should
22 be expanded to the township border between Townships 25
23 North, Range 2 West, and 25 North, Range 3 West, and also,
24 as Mr. Busch pointed out, this expansion is going to create
25 a disparity between the West Lindrith Pool and the Gavilan

1 Mancos Pool, and we are concerned about the protection of
2 correlative rights in several areas. These are the prora-
3 tion units which in the West Lindrith area will be 150 acres
4 versus the 505 acre proration units that have been already
5 established by the Commission in the Gavilan area; also the
6 disparity between statewide allowables versus the curtailed
7 allowables in the Gavilan area, which will become effective
8 November 5th, and also the stepback for new drilling which
9 under the West Lindrith rules would be 330 on the West Lin-
10 drith side versus 790 feet on the Gavilan side.

11 Q Okay. Is there anything else you want to
12 say about Exhibit A-1?

13 A No.

14 Q I would now ask you to refer to what's
15 been marked for identification as Exhibit B-1, which is un-
16 der the Tab B, and ask you to identify it.

17 A Exhibit B-1 is a plat of the boundary
18 area between the proposed expanded West Lindrith Gallup-Dak-
19 ota Oil Pool and the Gavilan Mancos Oil Pool.

20 This plat shows what we propose as an ap-
21 propriate buffer zone area which would include the east half
22 of Sections 1, 12, 13, 24, 25, and 36 in Township 25 North,
23 Range 3 West, and all of Sections 6, 7, 18, 19, 30, and 31,
24 plus the west half of Sections 5, 8, 17, 20, 29, and 32 in
25 Township 25 North, Range 2 West.

1 In short, this represents a buffer zone
2 of approximately half a mile into the West Lindrith expanded
3 field and approximately three-quarters of a mile, a little
4 over three-quarters of a mile, into the Gavilan Mancos Pool.

5 Also on this map are shown all of the
6 wells which are currently drilled or staked and approved in
7 this buffer zone area.

8 I would point out one correction in Sec-
9 tion 1 of 25 North, 3 West, the well, the Little Hurt Feder-
10 al 3 and Little Hurt Federal 2, these are shown in the
11 southeast quarter of that section, have not yet drilled but
12 the APD's are approved.

13 Q Okay. I would now ask you to refer to
14 what's been marked as Exhibit B-2 and ask you to explain it.

15 A Exhibit B-2 is a land plat which shows
16 the status of leases and lessees along this buffer zone
17 area. Again the wells are marked on there and it also shows
18 the narrow (sic) sections that have been included in the
19 nonstandard proration units which were established by the
20 Commission some time ago.

21 Q Okay. It appears that Section 1 in Town-
22 ship 25 North, Range 3 West is an oversized section.

23 A Yes, it is. It contains approximately
24 712 acres.

25 Q Okay, and on the other side of the pro-

1 posed boundary line between the two pools Section 6 in Town-
2 ship 25 North, Range 2 West, appears to be an undersized
3 section.

4 A Sections 6, 7, 18, 19, 30, and 31 all are
5 undersized sections.

6 Q Okay. I'd now ask you to refer to what's
7 been marked Exhibit B-3 and ask you to identify it.

8 A Exhibit B-3 shows the 9 standard prora-
9 tion units or the proration units that were established by
10 the Commission, and each color represents a separate prora-
11 tion unit so that Sections 5 and 6 are a single proration
12 unit of approximately 505 acres.

13 Section 7 and the west half of 8 repre-
14 sent one single proration unit, which is approximately 505
15 acres.

16 17 and 18 the same way.

17 Section 19, however, is a single prora-
18 tion unit of approximately 185 acres.

19 The west half of 20 is a separate prora-
20 tion unit.

21 Section 30 is a proration unit of approx-
22 imately 185 acres.

23 The north half of Section 25 is a separ-
24 ate proration unit -- Section 29, excuse me.

25 The south half of Section 29 is a separ-

1 ate proration unit.

2 Then again Sections 31 and 32 and the
3 west half of Section 32 are a single proration unit of ap-
4 proximately 505 acres.

5 This demonstrates that there are four
6 different types of proration units within the proposed buf-
7 fer zone area.

8 The 505-acre unit, the approximately 185-
9 acre strip unit, the West half of Section 20 which is a
10 standard 320-acre proration unit, which falls entirely with-
11 in the propose buffer zone, and the north half and south
12 half of Section 29, which are standard 320-acre units, but
13 which fall partially within and partially outside of the
14 proposed buffer zone.

15 Q Okay. I now would ask you to refer to
16 what's been identified as Exhibit B-4 and ask you to explain
17 that.

18 A Exhibit B-4 is a plat again showing the
19 proposed buffer zone and just next to the township boundary
20 you will note a series of lines.

21 The dotted line going down shows the
22 current under the expanded West Lindrith Gallup-Dakota Pool
23 rules, the 330 acres -- I mean the 330-foot setback which
24 would be permitted for wells drilled in that expanded pool.

25 We are proposing -- the current Gavilan

1 rules are for 790-foot setback along that township line and
2 we would propose that on the West Lindrith side of that
3 boundary a 790-foot setback would also be (unclear).

4 The only well that's drilled within the
5 780-foot setback at the present time is the Minel NZ 2,
6 which is located in the northeast quarter or Lot 1 of
7 Section 1 of Township 25 North, Range 3 West.

8 Q Okay. Were Exhibits A-1 and B-1 through
9 B-4 prepared by you or under your supervision?

10 A Yes, they were.

11 MR. LOPEZ: I'd like to
12 introduce these exhibits, Mr. Chairman.

13 MR. LEMAY: Without objection
14 exhibits will be admitted into evidence.

15 Are there additional -- are
16 there questions of the witness?

17 MR. PEARCE: Let me ask, Mr.
18 Chairman, does Mr. Lopez propose to bring all three of the
19 witnesses back when we resume this hearing?

20 MR. LOPEZ: (Inaudible to the
21 reporter.)

22 MR. PEARCE: Okay, thank you.

23 MR. LEMAY: Any questions at
24 this time?

25 MR. PEARCE: No, thank you.

1 MR. LOPEZ: I'd now like to
2 call Mr. Emmendorfer.

3 Oh, excuse me.

4 MR. LEMAY: The witness may be
5 excused. Thank you.

6
7 ALLEN P. EMMENDORFER,
8 being called as a witness and being duly sworn upon his
9 oath, testified as follows, to-wit:

10

11 DIRECT EXAMINATION

12 BY MR. LOPEZ:

13 Q Would you please state your name and
14 where you reside?

15 A My name is Allen P. Emmendorfer. I live
16 in Broken Arrow, Oklahoma.

17 Q By whom are you employed and in what cap-
18 acity?

19 A I am employed as a petroleum geologist by
20 Mesa Grande Resources.

21 Q Have you previously testified before the
22 Commission and had your qualifications accepted as a matter
23 of record?

24 A Yes, I have.

25 Q Are you familiar with Case Numbers 9226

1 and 9227?

2 A Yes, I am.

3 MR. LOPEZ: Are the witness'
4 qualifications acceptable?

5 MR. LEMAY: Mr. Emmendorfer's
6 qualifications are acceptable.

7 Q Mr. Emmendorfer, I would like you to re-
8 fer to what's been marked for identification as Exhibit C-1
9 and ask you to explain what it shows.

10 A Mr. Chairman, if I may, Exhibit Number C-
11 1 is a structure map entitled in the general Gavilan Area.
12 It's a structure map using the top of the Gallup, or Niobra-
13 ra A Zone, and it incorporates a rather large area that in-
14 cludes several different pools.

15 I first might say that the top of the
16 Gallup, the Niobrara A, as used on this structure map, is
17 the usage, common usage that is applied to the wells in the
18 Gavilan Mancos Pool and in the West Puerto Chiquito Mancos
19 Oil Pool.

20 These tops were picked for the most part
21 from the ill-fated Gavilan Study Committee and additional
22 wells that were not picked at that time were picked from my
23 correlations, using those same standards.

24 This structure map is contoured on a 50-
25 foot interval and I think that we can see that there's three

1 prominent structural features shown here.

2 On the eastern portion of this map, on
3 the very eastern portion of the map is a steeply dipping
4 monocline and it is in this area that the West Puerto Chi-
5 quito Mancos Pool is -- is noted and drilled.

6 In the -- centered in Section 25 North, 2
7 West, is the Gavilan Dome Area, and it is noted here as a
8 domal feature of low relief yet prominent to be stood out
9 from the rest of the -- of the area.

10 And then to the very west in the area
11 noted as 3 West, we see that we get into the normal struc-
12 tural development within the San Juan Basin.

13 I might point out that the shaded areas
14 on the structure map just serves to illustrate where the
15 buffer zone that we have proposed between the proposed fut-
16 ure expansion of the West Lindrith Gallup-Dakota and the
17 Gavilan-Mancos spaced area.

18 I would like to make a few comments about
19 the geological boundaries in some of these pools that are
20 represented on this map.

21 The West Puerto Chiquito Mancos, which
22 produces from a fractured Niobrara or Gallup interval on the
23 base of the very steeply dipping monocline.

24 Separating this deeply dipping monocline
25 from the Gavilan Dome, which is centered in 25, 2, is a

1 prominent north/south synclinal area that is centered in
2 about range -- sections -- the western two tiers of sections
3 in 25 North, 1 West.

4 This is, I feel is a very common
5 geological boundary between these two pools.

6 Now if we look at our attention to the
7 western boundary of the Gavilan Mancos Pool, we see that
8 there is not really a prominent geological boundary. I'd
9 like to focus your attention to Sections 1 and 2 of 25
10 North, 3 West. We see the development of kind a synclinal
11 trace there. If you were to draw a line from that general
12 area to approximately Section 6 of 24 North, 2 West, that an
13 ill-defined axial trace of the San Juan Basin, is a
14 synclinal trace of the San Juan Basin, and I'd like to point
15 out that there is no definite geological boundary between
16 these two areas.

17 The Gavilan Mancos produces from matrix
18 porosity and fractured, fractures within the Gavilan Mancos
19 interval.

20 The West Lindrith Gallup-Dakota produces
21 from matrix porosity and a minor amount of fracture within
22 the Gallup interval and also from the Dakota interval.

23 I will address this disparity between the
24 Dakota in the West Lindrith versus no Dakota in the Gavilan
25 Mancos in a minute, if you'll bear with me.

1 My point is that due to this ill-defined
2 nature of the geological boundary centered within the buffer
3 zone that I've highlighted here on the structure map, we're
4 not sure exactly where this geological boundary may occur,
5 yet we do have to draw a political boundary; therefore we
6 think that some consideration of correlative rights needs to
7 be addressed.

8 Q I notice a line indicating A-A' on this.
9 Are you going to address that in your next exhibit?

10 A Yes. The line A-A' is a -- it serves to
11 represent the cross sectional trace of my next exhibit C-2.

12 Q Okay. I guess everyone sees where A-A'
13 are located, Section 24 in Township 25 North, 3 West, and
14 Section 17, 2 West, 25 North.

15 Okay. I'd like you now to refer to
16 what's been marked as Exhibit C-2 and ask you to explain it.

17 A Exhibit C-2 is a stratigraphic cross sec-
18 tion between a well currently producing in the Gavilan Man-
19 cos Field and a well that's been drilled and is currently
20 being tested that will be incorporated into the West -- new-
21 ly expanded West Lindrith Gallup-Dakota Field.

22 These two wells are the Mesa Grande Brown
23 No. 1, located in the southwest of Section 17, 25 North, 2
24 West.

25 The other well is the Reading and Bates

1 Greenlee Federal No. 41-24, located in the northeast of 24,
2 25 North, 3 West.

3 These wells are less than a mile apart.

4 I've noted on this stratigraphic cross
5 section the current -- the usage of all the formations, geo-
6 logical formations and tops that are on -- that are in the
7 area, and also vertical pool limits of different pools that
8 these logs represent.

9 Might I focus your attention, Mr. Chair-
10 man, to Brown No. 1, the vertical limits of the Gavilan Man-
11 cos Field is represented in the Brown Well at the line at
12 approximately 6590. That's the top of the vertical limits of
13 the Gavilan Mancos and extends down to the base of the San-
14 ostee, which occurs in the Brown Well at approximately 7550.

15 Below that the vertical limits of the
16 Gavilan Greenhorn-Graneros-Dakota occur from the base of the
17 Sanostee or top of the Lower Carlile with that same common
18 line of 7550 down to the base of the Dakota, on this log
19 approximately 8080.

20 Due to Commission rules the Gavilan Man-
21 cos and the Gavilan Greenhorn-Graneros-Dakota are not cur-
22 rently allowed to be produced in a commingled situation and
23 that at the discretion of an operator he may produce both
24 zones separately but within a dual completion situation but
25 not to commingle the production.

1 In the Reading and Bates Greenlee Well we
2 have the vertical limits of the West Lindrith and on --
3 there's a little bit of discrepancy in what I found out ex-
4 actly vertical limits from what I've noted here on the cross
5 section. I originally said that the vertical limits of the
6 West Lindrith occurred at the top of the Niobrara A Zone, or
7 the top of the Gallup, at approximately 6980. I've since
8 learned that it's entirely acceptable for the operator at
9 his discretion to complete a little farther up in the Man-
10 cos, wherever he can find production, which is still being
11 -- it's in the Niobrara interval of the Mancos.

12 Likewise he can complete from this Gallup
13 interval, (unclear) right down and commingled the production
14 with the Dakota, which occurs in the Reading and Bates well
15 at a depth of approximately 8130.

16 The production from the Brown well, cur-
17 rently the Dakota interval is shut-in and it has not pro-
18 duced since April of 1985.

19 The Mancos interval has produced a cum of
20 34,973 barrels of oil and 146-million cubic feet of gas as
21 of 9-1-87.

22 The Reading and Bates well was drilled in
23 July and August; has bee completed but testing has not been
24 completed and the well has not been IP'ed as of as recently
25 as Tuesday.

1 I have noted on both logs on the cross
2 section the perforated intervals within the two areas.

3 I think that another purpose of my stra-
4 tigraphic cross section, Mr. Chairman, is to point out the
5 very similar nature of the electric logs of the Mancos in-
6 terval and the Niobrara interval between these two -- two
7 wells, which if the West Lindrith Field is expanded to the
8 township line, will be in two separate pools. They are --
9 they are very similar and I might add that it is -- produc-
10 tion from both of these intervals comes from a major -- a
11 combination of matrix porosities and fractures, natural
12 fracturing.

13 The Gavilan Dome area experiences in gen-
14 eral a greater degree of natural fracturing than the West
15 Lindrith area, and I think this is evidenced by greater ini-
16 tial potentials and greater cums of the wells.

17 We don't know exactly where this magical
18 boundary of where the natural fractures drop off to a small
19 percentage of the -- of the Gavilan area, and I've pointed
20 out in my structure map as Exhibit C-1 that there is kind of
21 an ill-defined area there geologically where there could be
22 some good fracturing occurring on either side of the lines
23 or poor fracturing, natural fracturing occurring on either
24 side of the line. Thus, there could be a disparity of the
25 correlative rights of the Niobrara production within the

1 Gavilan Mancos and in the West Lindrith.

2 Q Were Exhibits C-1 and C-2 prepared by you
3 or under your supervision?

4 A Yes, they were.

5 MR. LOPEZ: Mr. Chairman, I
6 would offer Mesa Grande's Exhibits C-1 and C-2.

7 MR. LEMAY: Without objection
8 Exhibits C-1 and C-2 will be admitted into evidence.

9 Are there some questions of the
10 witness?

11 Mr. Brostuen.

12

13 QUESTIONS BY MR. BROSTUEN:

14 Q Insofar as the porosity in the two wells
15 under consideration here, what -- do you have any idea as to
16 what the porosity is in the Gavilan Mancos and also in the
17 Gavilan Graneros-Dakota and also seen for the West Lindrith?

18 A I'm sorry, could --

19 Q In a general way? What are we talking
20 about as far as porosities are concerned?

21 A Well, log porosities generally show quite
22 a bit greater value we've heard extensive testimony in the
23 Gavilan Mancos hearing back in the end of March as to what
24 those porosities may or may not be. They are for the most
25 part 3 to 6 to 8 percent but that core porosity showed that

1 to be on the high side.

2 On the Dakota interval within the Gavi-
3 lan-Greenhorn-Graneros-Dakota, they typically run 6 to 8
4 percent on average.

5 West Lindrith, using the Reading and
6 Bates Greenlee Well, log porosities within the Gallup or
7 Niobrara interval from the density logs show very similar
8 porosities, as does the Gavilan Mancos, in the 3 to 6 to 8
9 percent zone.

10 I have not seen core porosities in the
11 West Lindrith area so I cannot talk on that subject.

12 Within the Dakota interval within the
13 West Lindrith, that varies but I would say on an average
14 it's 6 to 8 percent porosities.

15 Q That's still log porosities.

16 A Yes, sir.

17 Q Thank you. That's all I have.

18
19 QUESTIONS BY MR. LEMAY:

20 Q Mr. Emmendorfer, in general you mentioned
21 that the Gavilan Dome had a higher degree of fracturing,
22 more intensity, and is it safe to say that it's gradational-
23 ly (sic) decreasing to the west, the fracturing, from that
24 zone?

25 A Well, yes, if you want -- but I would

1 like to ask you to tell me where the end of the dome and
2 where the Gavilan Dome stop.

3 I might start by saying that in the West
4 Lindrith area the predominant structure is the general shal-
5 low dip of the -- of the San Juan Basin. You can see here
6 by contour lines that 50 feet per mile is about the average
7 within the area shown on this map.

8 Minor variations in the local structure
9 will produce some additional fracturing. West Lindrith was
10 fractured to some extent during the formation of the basin.

11 The Gavilan Dome experienced fracturing
12 both within the formation of the basin and during the timing
13 of the doming of Gavilan Mancos, which I would hesitate to
14 -- to discuss as to what that timing is. I don't know.

15 But that there is an additional amount of
16 fracturing because there is a domal feature here, and that
17 accounts for, to my knowledge, or it's my judgment, that we
18 have a higher degree of fracturing and better production in
19 the Gavilan area than we do in the West Lindrith.

20 Q As a -- I thought it was your testimony
21 that there was no cutoff as to fracture density in this con-
22 templated buffer zone and therefore there could be a correl-
23 ative rights problem without the Commission addressing that.

24 A Well, there is no strict geological boun-
25 dary that I can see between the two pools from where the --

1 effectively where the Gavilan Dome stops and the -- general-
2 ly where the shallow structural dip in the rest of the basin
3 begins. So there is a gradational area in there that is
4 going to occur and we don't know until the drilling as to
5 where this may be; whereas, on the eastern side dividing the
6 Gavilan Dome from the West Puerto Chiquito, there is a very
7 prominent synclinal trough developed, and this is very like
8 we've seen.

9 Q But in trying -- the stratigraphy appears
10 similar, you said, on both sides of the proposed buffer
11 zone. The fracture intensity diminishes in a westerly
12 direction, and is there a correlation on porosity? I'm
13 talking about gradational effects of porosity, is it maybe
14 more porosity in the West Lindrith area or the same as you
15 can see it even though there's no (unclear) here?

16 A Matrix porosity?

17 Q Matrix porosity.

18 A Within the Gallup or Niobrara interval?

19 Q Yes.

20 A Generally speaking, I don't -- I think
21 that the matrix porosity is approximately the same values
22 from wireline log indications.

23 Q I don't want to put words in your mouth,
24 I'm just trying to get the essence of your testimony as to
25 what analyses of the area, what our testimony was.

1 MR. LEMAY; I have no further
2 questions.

3 If there is nothing further,
4 the witness may be excused.

5

6 LARRY SWEET,

7

8 being called as a witness and being duly sworn upon his
9 oath, testified as follows, to-wit:

10

11 DIRECT EXAMINATION

12 BY MR. LOPEZ:

13 Q Would you please state your name and
14 where you reside.

15 A My name is Larry Sweet and I reside in
16 Broken Arrow, Oklahoma.

17 Q By whom are you employed and in what
18 capacity?

19 A I'm President of LS Consultants, Inc.,
20 which is an independent petroleum engineering facility firm
21 in Tulsa. Our primary job responsibilities is on retainer
22 with Mesa Grande Limited. I share as a title with Mesa
23 Grande Limited as General Manager and Attorney in Fact.

24 Q Have you previously testified before the
25 Commission and had your qualifications accepted as a matter

1 of record?

2 A No, I have not.

3 Q Would you therefore briefly describe your
4 educational background and employment experience?

5 A Yes, I will. I graduated in 1971 from
6 the University of Tulsa with a Bachelor of Science degree in
7 petroleum engineering.

8 Immediately after graduation I was em-
9 ployed by Atlantic Richfield Company. I spent most of the
10 next five years with them. Most of that time I worked in
11 ARCO's Anchorage, Alaska office.

12 My responsibilities with Atlantic Rich-
13 field included -- started out as Senior Engineer to event-
14 ually become an Operations Analytical Engineer, still in An-
15 chorage, Alaska.

16 My first two years in Anchorage I worked
17 as the lead engineer for operations of a field called North
18 Trading Bay Unit, which is an offshore field located in the
19 Upper Cook Inlet Area, due south of Anchorage about 60
20 miles.

21 I authored a North Trading Bay Unit
22 Reservoir Study in 1973. It was a study for determining po-
23 tential for additional secondary recovery and pressure main-
24 tenance from that field.

25 My last two years with ARCO primarily were

1 concerned with conducting base line studies for a total en-
2 gineering evaluation of defining prospects with a determina-
3 tion of bidding on offshore leases.

4 One area that I worked in was the Gulf of
5 Alaska and the (unclear) and there, in April, 1976, I was
6 working on the Lower Kutina Gulf (sic) work prior to my de-
7 parture from Anchorage in May, 1976.

8 Other responsibilities were artificial
9 lift design work, completion drilling, workover designs,
10 economic evaluation, performance predictions, completion
11 techniques and reserve and recovery estimates and then, as I
12 mentioned, pressure maintenance and secondary recovery oper-
13 ations.

14 In early 1976 I traveled to Houston,
15 Texas, and was employed by a bank as a petroleum engineer
16 there, First City National Bank of Houston; spent two years
17 there as Assistant Vice President and petroleum engineer be-
18 fore traveling, I guess you might say, home to Tulsa, Okla-
19 homa.

20 At that time I was employed by a Bank of
21 Oklahoma as a vice president and I worked there up until
22 early 1981 and my title when I left was Oil and Gas Engine-
23 ering Manager in (unclear.)

24 And at that time I took the opportunity
25 to accept a position to head up an interest (unclear) de-

1 partment at a bank called Bank of Commerce in Tulsa; was
2 there four years and headed a group of five people and I was
3 responsible for management responsibilities as well as the
4 evaluation where needed by the bank for loan decision pur-
5 poses.

6 In 1985 I formed LS Consultants, Inc.,
7 which I mentioned is an independent petroleum consulting
8 firm located in Tulsa, Oklahoma, and I do work quite closely
9 with Mesa Grande Resources, Inc., through Mesa Grande Lim-
10 ited, of which I am the General Manager.

11 I'd like to point out to the Commission
12 that I've been actively involved in the Gavilan area for the
13 past two years and I was Co-chairman of, well, I'll say the
14 infamous Gavilan Mancos Study Committee and I participated
15 in the Gavilan subcommittee work at the engineering subcom-
16 mittee level and I participated and was present, although I
17 did not testify, in the hearings, September, 1986, with re-
18 gard to the Gavilan Mancos Pool and the last hearings of
19 March 30th and 31st, April 1st through 3rd of this year in
20 regard to that pool.

21 MR. LOPEZ: Are the witness'
22 qualifications acceptable?

23 MR. LEMAY: His qualifications
24 are acceptable.

25 Q Mr. Sweet, I would ask you to refer to

1 what's been marked for identification as Exhibit D-1 and ask
2 you to explain what it shows.

3 A I'd like to clear up just an error of I
4 think misunderstanding. Mr. Busch said that at the late
5 September meeting held in Farmington that the operators had
6 agreed that this buffer zone issue would not be raised and I
7 notified Mr. Busch prior to that meeting that I could not
8 attend, I had a previous engagement in Nashville, Tennessee.

9 And I can assure you if I would have at-
10 tended that meeting that I would not have agreed that the
11 buffer zone problem would not be addressed at that time and
12 I don't want the Commission to think that we were there then
13 and now we're here now trying to surprise anybody, and I
14 would like to point that out before I begin.

15 Referring to Figure D-1 it is a bar graph
16 showing what the tremendous discrepancies in the allowable
17 situation will be between West Lindrith, between the West
18 Lindrith Pool, and the -- or the proposed expanded West Lin-
19 drith Pool and the Gavilan Mancos Pool under restricted pro-
20 duction.

21 As a side note I'd refer you to Mr.
22 Busch's Figure -- excuse me, Exhibit One in Case 9226 and
23 just state that these -- the number for the first bar graph
24 in West Lindrith, 4.2 -- 4.775 MCF per day per acre is the
25 same number. He has 4.77 in his -- in his chart, and what

1 that allowable would be without a buffer zone, and for the
2 Gavilan Mancos on restricted basis, .75 MCF per day per ac-
3 re.

4 We do want to be good neighbors with our
5 West Lindrith people. We certainly have -- can see that
6 tremendous disparity here in impairment in our opinion of
7 correlative rights.

8 Q Okay. I'd now ask you to refer to
9 Exhibit D-2 and ask you to explain it.

10 A D-2 is another bar graph and we've used
11 the color notation red throughout for gas and green for oil.
12 It is a bar notation for the top oil allowables and also
13 shows the discrepancy between the two pools.

14 You can see without a buffer zone and
15 without any consideration that the West Lindrith Pool rules
16 don't adjust for any buffer zone allowable, are nearly
17 double what we would have in the Gavilan, the Gavilan Mancos
18 unrestricted pool rule basis.

19 Q Okay. Now would you explain what Exhibit
20 D-3 shows?

21 A We, as Kathy Michael testified to, we
22 would propose that the Commission consider a buffer zone
23 between the expanded West Lindrith Pool and the Gavilan
24 Mancos Pool with the dividing line between the two pools
25 being the line between Township 2 West and Township 3 West.

1 The buffer zone that has been proposed
2 extends across in 1/2 mile -- well, extends 1/2 mile into
3 the West Lindrith area and slightly over 3/4 of a mile into
4 the Gavilan side of the area.

5 We think it's important that the -- that
6 some type of an allowable provision be implemented to allow
7 for a transitional gradation going from Gavilan Pool rules
8 to buffer zone rules, West Lindrith buffer zone rules, to
9 West Lindrith Pool rules.

10 This, we are proposing that the
11 Commission consider formulas, as shown on Exhibit Number D-
12 3.

13 We would define that top allowable
14 oil/gas ratae at Gavilan equals A. The top oil/gas rate at
15 West Lindrith equals B.

16 That the proposed buffer zone allowable
17 formulas be as follows: That in the buffer zone at West
18 Lindrith the oil & gas allwoable equals $A + \frac{2}{3}$ of the
19 quantity $B-A$, and in Gavilan the oil & gas allowable be
20 equal to $A + \frac{1}{3}$ of the quantity $B-A$.

21 I'll refer quickly back to the Exhibit D-
22 1. West Lindrith, the lefthand bar on each -- each of the
23 following graphs, the extreme lefthand bar will be actually
24 B and the righthand bar on each graph will be A, as shown in
25 (inaudible).

1 Q Okay. Now would you please refer to Exhibit D-
2 4 and explain what it shows?

3 A D-4 is comparison allowables between the
4 old West Lindrith Gallup-Dakota Oil Pool and Gavilan Mancos
5 Oil Pool.

6 The first the heading under pool is de-
7 signation of different pools, standard proration unit sizes
8 and the allowables in those pools.

9 The -- under the per acre allowables it's
10 just a simple calculation in taking the maximum oil by the
11 acre spacing or the maximum gas rate divided by the prora-
12 tion unit size to get those numbers.

13 The buffer zone numbers are calculated
14 pursuant to the formulas as I've presented them to you in
15 Exhibit D-3 and as shown on this, on this Exhibit D-4.

16 Q Now would you refer to Exhibit D-5 and
17 explain what it shows?

18 A Exhibit D-5 is a bar graph showing what
19 the gas allowables would be in the West Lindrith Pool and
20 West Lindrith buffer zone and the Gavilan Mancos buffer zone
21 rules and then in Gavilan Mancos Pool with the restricted
22 rules going back into effect November 5th, and I would like
23 to say that the restricted pool rules, and we appreciate the
24 Commission having a four month reprieve in producing under
25 statewide rules and regulations at Gavilan Mancos but

1 they've been in effect, in essence, since September 1st,
2 1986, and will -- and without this four month, and then com-
3 mencing November 5th we'll be back under those rules and we
4 would hope we would get some relief but we don't anticipate
5 any relief until the next hearing, probably next spring.

6 So this is the way we see it, the real
7 situation that exists today and something that we feel
8 should be addressed with the concurrent expansion in the
9 West Lindrith Pool.

10 The -- I think what I want to show here,
11 that the -- in this case that West Lindrith (unclear) gas
12 allowables is represented, is still 64 percent greater than
13 what Gavilan can produce in the buffer zone. Those numbers
14 again were derived from the preceding Exhibit D-4.

15 Q When you say 64 percent advantage in West
16 Lindrith, that is after computing allowables or production
17 rates based on the formula that you're proposing, is that
18 correct?

19 A That's correct.

20 Q So even with your formula the production
21 rates between the two pools would not be equal.

22 A That's -- that's correct. On a per acre
23 basis West Lindrith, even in the buffer zone, would enjoy an
24 advantage.

25 Q Okay. I'd now ask you to refer to what's

1 been marked as Exhibit D-6 and explain what it is.

2 A D-6 is a similar exhibit as D-5 except it
3 shows the oil allowables comparison in the buffer zone be-
4 tween -- as well as the West Lindrith Pool rules and the
5 Gavilan Mancos Pool rules restricted, and again this shows
6 that if a buffer zone is considered and one enacted accor-
7 ding to the formulas that we suggested, that in this case
8 West Lindrith still enjoys an advantage over Gavilan on a
9 regular basis.

10 Q Okay. Now would you refer to Exhibit D-7
11 and explain it?

12 A D-7 is a comparison that we certainly
13 hope will come. This -- this is a comparison of what the
14 pool rules would be at West Lindrith and Gavilan with both
15 -- both pools operating under statewide rules and regula-
16 tions and again it shows a transition and gradation through
17 the buffer zone with West Lindrith being favored over a long
18 basis.

19 Q And this would be on unrestricted state-
20 wide allowables and is the difference between the two based
21 on the spacing requirements or is it --

22 A The -- the depth bracket allowable, it's
23 my understanding and I may refer to Mr. Busch, but I believe
24 they can produce more oil in the same depth bracket than we
25 can and we're not complaining about that, I want to make

1 that clear. If we take 382 barrels a day per 160 and mul-
2 tiPLY that by four, that would be greater than our 1280 on a
3 640, so this (not clearly understood).

4 Q And referring to Exhibit D-8, would you
5 explain what it shows?

6 A Yes. D-8 is -- is an exhibit of a bar
7 graph showing what the oil allowables, maximum oil allow-
8 ables will be when both pools are allowed to produce under
9 statewide rules and regulations in the pool areas and in --
10 on buffer zones as our formulas have been proposed here.

11 Q Okay. I'd now like you to summarize what
12 Mesa Grande's proposal to the Commission is today, and in
13 that connection would ask you to refer to what's been marked
14 as Exhibit E-1.

15 A Thank you. We are proposing that with
16 Gavilan area the buffer zone be established which would in-
17 clude the west half of Sections 5, 8, 17, 20, 29, and 32,
18 and all the sections, 6, 7, 18, 19, 30, and 31, and that the
19 buffer zone in the West Lindrith Gallup-Dakota Oil Pool be
20 defined as the east half of Sections 1, 12, 13, 24, 25, and
21 36.

22 We would also propose a minimum of 790
23 foot well setback on each side of the line dividing the West
24 Lindrith Gallup-Dakota Oil Pool and the Gavilan Mancos Oil
25 Pool be established.

1 We would propose that for all existing
2 and future buffer zone wells that the allowable be
3 determined in the buffer zone according to the formula where
4 the top allowable oil/gas rate at Gavilan equals A; top
5 allowable oil/gas rate at West Lindrith equals B; and that
6 the buffer zone allowable in those areas be calculated as
7 follows: In West Lindrith the buffer zone oil and gas
8 allowable equals $A + 2/3 \times$ the quantity B-A and in Gavilan
9 the oil and gas allowable equals $A + 1/3 \times$ the quantity B-A.

10 We recognize that the special provisions
11 should be put in place. We -- we understand there are 7
12 wells drilled and completed, or at least approved to be
13 drilled and completed, in Section 1, which Section 1 will
14 need to be addressed, I think, in a special situation by the
15 Commission

16 We also recognize that the Minel NZ No. 2
17 Well is located 515 feet from the township line and that our
18 proposed minimum proposed well setback is 790 feet. We
19 certainly would support that that well be exempted from our
20 proposed setback requirement.

21 I'd like to point out that the --
22 excluding Section 1, which we recognize is a problem, the
23 only well drilled in West Lindrith buffer zone to date, as
24 we define it, is Reading & Bates Greenlee Federal No. 41-24
25 Well, and located in 24, Section 24, Township 25 North,

1 Range 3 West.

2 We also believe that special considera-
3 tions and provisions should be established but we recognize
4 that the people and operators in West Lindrith can produce
5 the Dakota and the Gallup formations in (unclear) fashion
6 where the Gavilan people cannot. In the event that the
7 well's production from the -- any West Lindrith Well located
8 in the buffer zone exceeded the buffer zone allowable, we
9 would suggest that the operator at his own expense run a
10 production log or a spinner survey or other test as deter-
11 mined and approved by the State to determine the separate
12 contributions to the production from the Dakota and Gallup
13 intervals and the buffer zone allowable shall then apply on-
14 ly to the allocated Gallup production.

15 We -- Ms. Michael referred to the Gavilan
16 proration units and I'll just ask you to flip back to her
17 Exhibit B-3 quickly.

18 There are -- Section 5 and 6 is a 505
19 proration unit.

20 7 and 8 is a 505-acre proration unit; the
21 same is seen in Section 31 and 32.

22 Section 19 is approved 185-acre proration
23 unit and Sun's Loddy Well is on an approved 320.

24 Section 30 is an approved proration unit
25 and then Sun has two wells in Section 29 that are laydown

1 320's that fall outside the buffer zone.

2 And we would propose that this, if our
3 proposal is considered, that the Gavilan Mancos proration
4 units have an acreage both inside and outside the buffer
5 zone, be assigned an aggregate oil and gas allowable in the
6 proportion that the respective areas of that proration unit
7 lie within and outside the buffer zone and again this
8 provision would apply to Sun's Full Sail No. 1 and Full Sail
9 No. 3 Wells, located in Section 29, Township 25, Range 2
10 West.

11 All other Gavilan proration units would
12 fully lie (inaudible).

13 Q Does that conclude your testimony?

14 A Yes.

15 Q Were Exhibits D-1 through D-8 and Exhibit
16 E-1 prepared by you or under your supervision?

17 A They were.

18 MR. LOPEZ: I would offer those
19 exhibits into evidence.

20 MR. LEMAY: The exhibits will
21 be accepted into evidence without objection.

22 MR. LOPEZ: Thank you.

23 MR. LEMAY: Are there some
24 questions of the witness?

25 Mr. Carr.

CROSS EXAMINATION

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BY MR. CARR:

Q Mr. Sweet, if I understand your testimony here today, you have been presenting information on the disparity that exists in authorized producing rates between the expanded West Lindrith and the Gavilan Mancos Pools, is that correct?

A Yes, I am, the disparity in the allowable situation that will exist on expansion of the West Lindrith area and the Gavilan Mancos area.

Q Have you studied the actual producing rates of the wells in this area?

A Unfortunately, there's only one well drilled in the buffer zone outside of Section 1, which we realize there's a problem with, and that's the Reading & Bates Well. I believe it's located in Section 29 and it's sort of -- excuse me, (not clearly understood.)

Q Have you looked at -- are there other wells in the proposed expansion area to the West Lindrith?

A No, have I looked outside of our proposed buffer zone area?

Q Yes.

A No, I have not.

Q So you wouldn't know whether or not there are any wells in the expansion area that could under today's

1 rules produce an excess of the current Gavilan allowable?

2 A Not outside the buffer zone area, that's
3 correct.

4 Q Within the buffer zone area is there such
5 a well?

6 A I think there are some wells in Section 1
7 but I'm not real familiar with the wells. I know that is a
8 problem.

9 Q And there's limited data on this, is
10 there not?

11 A As far as I know, yes, there is.

12 Q And it's hard to determine as you look at
13 these producing rates whether it's coming out of -- exactly
14 what zone production is coming out of, isn't that correct?

15 A We seem to have an argument about that on
16 (not clearly heard.)

17 Q But over in the area that we're talking
18 about, in the expansion area of the West Lindrith, is it
19 possible for you to discern, or even in your buffer zone,
20 what zone the production is actually coming out of?

21 A No, not without a special test.

22 Q And after the special testing you'd have
23 more information upon which to make this call, would you
24 not?

25 A Certainly.

Q And wouldn't it be wiser to defer creat

1 ing a buffer zone until you have the information in hand
2 that would enable you to make that call?

3 A Absolutely not. The problem is that at
4 Gavilan we can produce over 75 MCF per day per acre. Back
5 on November 5th we had wells (not clearly heard) produce 15
6 days a month. If a well comes in we cannot, even if it's a
7 so-so marginal well, it doesn't produce the allowable, top
8 allowable in West Lindrith. We cannot protect our acreage
9 from drainage. We cannot drill a well economically and have
10 one well shut in half the time.

11 Q So drainage -- drainage to West Lindrith?

12 A Possibly.

13 Q But you don't know that, do you, now?

14 A Not at this time.

15 Q Thank you.

16 MR. LEMAY: Are there
17 additional questions of the witness?

18 Mr. Commissioner.

19

20 QUESTIONS BY MR. HUMPHRIES:

21 Q Mr. Sweet, would it be fair to assume
22 that the graphs that you represent on D-1, Gas Allowables,
23 and D-2, Oil Allowables per acre, don't take into
24 consideration Dakota production?

25 A They do not. They -- well, they would

1 take in -- they represent the pool rules, okay, that exist
2 in each side. We realize the Dakota can be commingled in
3 West Lindrith, and I hope I answered your question.

4 Q So if you made some kind of extrapolation
5 request at this point, how much diminishment in the dispar-
6 ity in those bar graphs would the Dakota production in West
7 Lindrith represent?

8 A I wouldn't want to venture what that dis-
9 parity would be or --

10 Q So then it's pretty difficult for us to
11 represent to yourselves that this disparity by these bar
12 grahs is in fact accurate.

13 A Well, I think that --

14 Q It's accurate in total but it's not accu-
15 rate in including the Dakota production so it misleads the
16 Commission to believe that there is an incredible discrep-
17 ancy there which may in fact not be true from the Gallup
18 production.

19 A Well, we don't intend to mislead the Com-
20 mission at all, sir, and we recognize that, as I said, that
21 the -- that production can be commingled and we simply state
22 that in the event that a well does exceed the approved al-
23 lowables, that that well can be tested and Dakota production
24 be eliminated from the allowable number.

25 Q I recognize your recommendation includes

1 that but your graphs don't and your graphs indicate a dis-
2 crepancy that probably doesn't exist when you include it in
3 acres of production on either side or total volume of pro-
4 duction.

5 A These are the -- actually these -- this
6 graph is the same numbers that was presented by Mr. Busch in
7 his Exhibit Number One.

8 Q I understand that, but it's the graphic
9 demonstration that appears to be so abrupt that I have a
10 little bit of a problem with.

11 A There's not any scale on (not clearly
12 heard.)

13 Q If you adjust those figures for Dakota
14 production and demonstrate a different bar graph, would it
15 perhaps not be so dramatic?

16 A Perhaps. I don't know what the Dakota
17 production is.

18 Q If you apply your formula in the buffer
19 zone, is it in fact an attempt to equalize the two gross
20 productions at this point, Dakota and Gallup?

21 A No. We're suggesting that the Dakota in
22 the West Lindrith be taken out. Okay, and --

23 Q The bar graphs don't demonstrate that.

24 A Those are the -- those are the existing
25 statewide rules and regulations as we understand them.

1 That's what the bar graphs represent.

2 Q But they don't represent the Gallup
3 production on both side of the Range 2 and 3 line.

4 A Range 2 West, they represent the
5 statewide rules for the Gallup and Range 3 West, it's the
6 commingled Gallup and Dakota production.

7 Q So the bar graphs then take into
8 consideration gross production from Dakota west of the
9 section -- or Range 2 and 3 line.

10 A The allowables do include that, yes, sir.

11 Q And the bar graphs demonstrate that.

12 A Yes, that's right.

13 Q So if you equalize the bar graphs and
14 took out the Dakota production you would, in fact, per-
15 haps have a disproportionate disparity and reduce the pro-
16 duction in the buffer zone on the West Lindrith side. You
17 might, in fact, create the opposite disparity where the Gav-
18 ilan Mancos production would exceed the West Lindrith pro-
19 duction on the west side of section -- or Range 2 and 3
20 line.

21 A I'm sorry, I didn't -- I didn't follow
22 your line of questioning.

23 Q Okay.

24 A Would you say that again so I --

25 Q Your formula for the buffer zone is an at-

1 tempt to equalize the production between the buffer zone in
2 the west part of Range 2, specifically the approximately 3/4
3 of a mile buffer zone, and the east half of the section in
4 the West Lindrith Pool represented by Sections 1 through 36
5 in the east half, --

6 A Okay.

7 Q -- approximately 1/2 a mile.

8 A Yes, sir.

9 Q If we assume that formula doesn't take
10 into consideration the Dakota production, even though later
11 you suggest that, the graphs don't accurately represent what
12 might happen there.

13 What might happen, in fact, is that you
14 take the Dakota production out of West Lindrith, equalize
15 the two, and then you've got a correlative rights problem
16 going from West Lindrith back to Gavilan Mancos because
17 you're out producing the Dakota production, I mean the Gavi-
18 lan -- the Gallup production in the West -- in the Gavilan
19 Mancos versus the West Lindrith.

20 You've got -- my whole point is that un-
21 til we deduct the Dakota production from the West Lindrith,
22 that we don't have a lot of useful knowledge regarding
23 graphs and formulas.

24 A I accept your point.

25 Q Okay. I wanted to be sure that we both

1 were talking about the same thing. Then to make the unre-
2 stricted production argument later is in fact perhaps not
3 too useful to the Commission at this point, either, because
4 it still equalizes without including Dakota production.

5 A We think it's important to present what
6 we think are the facts in the rules and operations of the
7 Commission, and we recognize that the Dakota is included in
8 the statewide rules and regulations with the Gallup in West
9 Lindrith. It is not with the Gavilan, and we prepared
10 these, or I prepared these to show that we understand what
11 the game rules are and what I would hate to happen is what
12 happened to us in Gavilan, that the rules were set and then
13 changed and that people invested millions of dollars in Gav-
14 ilan to drill the wells under statewide rules and regula-
15 tions. Subsequently those rules and regulations were chan-
16 ged.

17 We think it's important the Commission at
18 least have the facts to make a decision whether a buffer
19 zone is needed rather than coming in after the fact and
20 saying we've got a problem with West Lindrith. Gavilan
21 people have a problem there, we've got a problem here, and I
22 personally view that as a much more untenable situation than
23 having rules set forth now that we can both live with.

24 Q Well, I think we all concur that in the
25 March/April testimony that it became a little vague as to

1 what was happening out on the west side of Gavilan Mancos.
2 I concur that some kind of buffer zone needs to be contem-
3 plated, but I certainly don't concur that this formula is
4 the be-all/know-all representation for the Commission to
5 consider in that formula, because I fear if we don't deter-
6 mine what the Dakota production contribution is that we will
7 disproportionately imbalance the Gavilan Mancos - West Lin-
8 drith Gallup production rules and create a disparity that is
9 --

10 A I respect --

11 Q -- not intentionally arbitrary or capri-
12 cious but unequal.

13 A I respect that and I want to point out
14 that the formula is arbitrary. It is arbitrary, and it
15 could be several different things.

16 Q Thank you.

17 MR. HUMPHRIES: I have no fur-
18 ther questions.

19 MR. LEMAY: Mrs. Little.

20 MRS. LITTLE: May I ask him a
21 question?

22 MR. LEMAY: Proceed.

23 MRS. LITTLE: Or two or three?
24
25

1

2 QUESTIONS BY MRS. LITTLE:

3 Q Are you familiar with the agreement that
4 we did make at the last meeting in Farmington regarding the
5 buffer zone? Do you know exactly --

6 A I did not --

7 Q -- what happened there and what we agreed
8 on?

9 A Just hearsay, Mrs. Little. I, as I poin-
10 ted out to the Commission, I did not make that meeting. My
11 incomplete understanding was that you were going to expand
12 up to 2 West and 3 West line, which we support.

13 We do have a problem, Mesa Grande has a
14 problem with not providing some way to balance out what
15 we're going to do on our side of the line and what you do on
16 your side.

17 Q But you understand that the State was
18 going to require testing within a certain area there to de-
19 termine whether or not we had a well that should be classi-
20 fied within the Gavilan production range.

21 A I understand there was some testing pro-
22 posals made. In fact, what we suggested for you and the
23 Commission to consider doesn't even require testing, it just
24 says if you get a well that produces beyond the allowable at
25 your discretion you can test the Dakota and if it's a major

1 contributor deduct it from the allowable.

2 Q The point I'm trying to get at is that
3 after we came to our agreement to test, the OCD could then
4 decide whether to curtail allowables on a well in West Lin-
5 drith that was considered to be of Gavilan quality, or
6 whether to bulge out the actual boundary and include that
7 well in the Gavilan Pool. That would be their option. I
8 don't know what they would do in that case, but we only dis-
9 cussed what would happen on the west side of that line, on
10 your side.

11 The same thing could apply, and I under-
12 stand why you don't like to operate under the Gavilan rules
13 but I don't think that you need to throw that over on our
14 side of the boundary line.

15 My point is that you could consider a
16 test on your side as well and in that way determine whether
17 your wells should be operated under different rules. The
18 agreement at that time pertained only to West Lindrith.
19 What I'm saying is that there was some talk of an agreement
20 to rearrange the buffer zone to the Gavilan only without
21 going over into West Lindrith.

22 A I understand.

23 Q I didn't know if you had heard that.

24 A Like I say, I had heard several things
25 and I apologize, I was not able to attend that meeting, and

1 I can assure you with the rules that we are operating in the
2 Gavilun under, the current rules, the rules going back into
3 effect November the 5th, we would not have been a party to
4 that agreed upon agreement, and we are simply here to show
5 discrepancies that exist the way we see them and to suggest
6 to the Commission that this is, we feel, is the problem. We
7 think it's clear to address the problem and we will address
8 it at a later date.

9 We understand additional testimony is
10 going to be given by Sun at the next hearing in regard to
11 this matter.

12 Q But you did understand that it could be
13 handled just in Gavilan area under pool rules.

14 A Well, I understand that there were con-
15 versations upon it.

16 Q MRS. LITTLE: Thank you, Mr.
17 Commissioner.

18 MR. LEMAY: Are there addition-
19 al questions of the witness?

20 MR. LYON: I have some.

21 MR. LEMAY: Mr. Lyon.

22

23 QUESTIONS BY MR. LYON:

24 Q Mr. Sweet, with your discussion with the
25 Commission about the impact of the buffer zone and the pro-

1 gression of allowables in there, is it not your intention
2 that that restriction would apply only to the Gallup portion
3 of the gas stream and not to the entire stream?

4 A The intention -- we are concerned about
5 the gas stream primarily and we are talking about the Gallup
6 production from both sides of the line.

7 We don't see any problems with the oil
8 allowable situation. We frankly see the problem lies with
9 the gas production.

10 Q And if there appears to be a possible
11 problem is it your proposal that there be testing in there
12 to determine what portion of that gas stream comes from the
13 Gallup so that a well that is producing a higher amount of
14 gas from the Dakota would not be penalized?

15 A That's our proposal for gas.

16 Q Thank you.

17 MR. LEMAY: Additional ques-
18 tions?

19

20 QUESTIONS BY MR. LEMAY:

21 Q Mr. Sweet, I have one on this same -- the
22 same topic that the Commissioner and Mr. Lyon referred to.

23 I take it you're speaking from generally
24 a position of -- on the Gavilan side.

25 A Yes, sir.

1 Q And I have a problem again a little bit
2 different than the Commissioner but along the same line, and
3 correlative rights potential violations between, we'll say,
4 the West Lindrith buffer zone and the West Lindrith Pool
5 rules if we subtract the gas attributable to the Dakota on-
6 ly from the buffer zone.

7 The point I'm trying to get at is I un-
8 derstand your testimony and your recommendation was that the
9 add on of Dakota production, they only apply to the buffer
10 zone and not necessarily to the whole West Lindrith Pool.
11 Was that -- was that your recommendation?

12 A Yes, sir. Our concern is within the buf-
13 fer zone (not clearly understood).

14 Q Well, in my mind that would create a dis-
15 crepancy within the West Lindrith Pool in the sense that the
16 buffer zone would have Gallup allowable plus add on Dakota,
17 whereby the West Lindrith Pool itself would have Gallup pro-
18 duction plus Dakota production commingled within the well-
19 bore.

20 A You're right, it does, and the -- I'm not
21 quite sure how to answer on that, but it does lead -- if you
22 go beyond the buffer zone and you add an add on beyond the
23 buffer zone, what you're saying, you could have a greater
24 allowable essentially than what --

25 Q Possible to have a greater allowable in

1 the buffer zone than there would be in the pool proper.

2 A That's possible.

3 Q The only other point I need to bring up
4 is the matrix contribution that's been referred to by Mr.
5 Emmendorfer, I think, and possibly yourself, was a point
6 that the Commission did not acknowledge in its findings or
7 in its order. We -- we left the matrix contribution as a
8 more or less nonresolved issue, how much matrix there really
9 was, and the fracturing is what we really referred to and
10 acknowledged in the -- and where our findings were placed.
11 That was my -- my reason for questioning the porosity as re-
12 ferred to the matrix. I think we found that as a nonresol-
13 ved issue.

14 A Okay, and I don't believe I mentioned
15 matrix.

16 Q No, it probably was Mr. Emmendorfer. He
17 addressed that again.

18 That was all I had.

19 MR. LEMAY: Additional ques-
20 tions of the witness, Mr. Lopez?

21

22 REDIRECT EXAMINATION

23 BY MR. LOPEZ:

24 Q Mr. Sweet, is it your testimony today
25 that unless the Commission addresses some sort of formula to

1 equalize allowables and production rates between the two
2 pools and permits the production rates to go unrestricted in
3 West Lindrith and to be restricted again, as they've or-
4 dered, again effective November 5th, as you've testified,
5 which has been the case for well over a year now, that it
6 would result in the violation of the correlative rights of
7 operators in Gavilan and would not be in the interest of the
8 prevention of waste?

9 A That's right.

10 MR. LEMAY: Additional ques-
11 tions of the witness? If not, he may be excused.

12 Any further witnesses, Mr.
13 Lopez?

14 MR. LOPEZ: No, Mr. Chairman.
15 I did suggest, I would like to state that we will be back
16 for the next Commission hearings. We think the issue is a
17 serious one. I think Mr. Sweet addressed it. It's in
18 everyone's interest that the rules of the game be establish-
19 ed early on so we're all playing on the playing field and
20 that if West Lindrith is expanded to the proposed boundary
21 that great care and caution be taken by the operators in
22 light of the fact that, as we've tried to show, based on the
23 existing rules there does exist a material discrepancy be-
24 tween the two pools and I think the violation of correlative
25 rights is undisputable.

1 And so we will, of course, re-
2 turn next month with great interest to see how our testimony
3 here has been received and to see if there isn't some form-
4 ula or some way we can reach fair treatment for all opera-
5 tors in the vicinity.

6 MR. LEMAY: Thank you. Are
7 there going to be any -- yes, sir, Mr. Douglass.

8 MR. DOUGLASS: Thank you, Mr.
9 Chairman, Frank Douglass on behalf of Mallon Oil Company.

10 I see it's into the lunch hour
11 but I do have a statement and I think I'm scheduled to be
12 elsewhere on November 19th which may be the next hearing on
13 this.

14 MR. LEMAY: We would be happy
15 to accept your statemet at this hearing.

16 MR. DOUGLASS: I've already
17 given one to the reporter.

18 Mr. Chairman, and the Commis-
19 sion, this statement is on behalf of Mallon Oil Company.

20 May it please the Commission,
21 my name is Frank Douglass with the Austin/Houston law firm
22 of Scott, Douglass & Luton. I appear on behalf of Mallon
23 Oil Company.

24 Mallon operates seven wells in
25 the Gavilan Mancos Oil Pool. As you are aware, there has

1 been a series of hearings involving production rates and
2 consolidation issues for the Gavilan Mancos Pool and the
3 West Puerto Chiquito Mancos Pool, with another hearing sche-
4 duled for May of 1988 in this regard.

5 Mallon has no objection to the
6 proposal by Mesa Grande with reference to a buffer zone be-
7 tween the West Lindrith and the Gavilan; however, by not ob-
8 jecting to these proceedings, Mallon in no way waives its
9 rights to request that any future hearing involving the con-
10 solidation and production rates of the Gavilan Mancos Pool
11 with the West Puerto Chiquito Pool also consider the West
12 Lindrith Pool and the corresponding producing rates.

13 As Mesa Grande will show, the
14 gas limits in the West Lindrith are substantially greater
15 than the current Gavilan gas limits. Mallon has been parti-
16 cipating in the production tests and pressure surveys being
17 conducted in the Gavilan and the West Puerto Chiquito; how-
18 ever, the reason for agreeing to and the need for restricted
19 production rates for the Gavilan insofar as the test periods
20 are concerned will end in January, 1988.

21 There is substantially more
22 evidence for consideration of consolidation between the West
23 Lindrith and the Gavilan than there is between Gavilan and
24 West Puerto Chiquito.

25 As it will stand now, Gavilan

1 would have its gas production severely curtailed versus the
2 West Lindrith area and versus the statewide allowables. We
3 want the Commission to be aware of this inequitable -- ex-
4 cuse me, inequitable condition.

5 Mallon wishes to reserve the
6 right to one, request an advancement of the May, 1988 hear-
7 ing; two, the immediate reinstatement of statewide allow-
8 ables in Gavilan pending a decision in that advanced hear-
9 ing; and three, whether the advanced hearing should consider
10 the inclusion of the West Lindrith and other areas if Gavi-
11 lan is going to be consolidated with West Puerto Chiquito,
12 or if restricted allowables are imposed in Gavilan for any
13 reason.

14 Let me add, I've always had
15 great respect for the New Mexico conservation laws and this
16 Commission. Texas has had the pleasure of copying several
17 of your statutes and regulations in their effort to update
18 its conservation actions.

19 Guy Buell of our Austin office
20 has had the pleasure of practicing before this Commission
21 for many years, and he sends his regards. Thank you.

22 MR. LEMAY: Thank you, Mr.
23 Douglass.

24 Mr. Pearce.

25 MR. PEARCE: Thank you, Mr.

1 Chairman. I'll try to be brief. I want to alert the Com-
2 mission and the others in attendance to a new wrinkle in the
3 problem that we will probably inject before the November
4 hearing.

5 Amoco Production Company
6 generally favors the expansion of the West Lindrith Pool.
7 It appears to us that 160-acre spacing is appropriate,
8 although outside of our Northeast Ojito Pool we don't have
9 any independent evidence relating to the proper spacing in
10 the West Lindrith.

11 When Amoco created the
12 Northeast Ojito Pool because it adjoined a 40-acre spacing
13 area the order that created the Northeast Ojito Pool, which
14 is R-8188-A, provided that wells in the south half of the
15 southern row of sections in the Northeast Ojito should be
16 restricted to 40-acre allowables, essentially an internal
17 buffer zone, if the area to the south of the Northeast Ojito
18 is now going to be spaced at 160 acres rather than 40 acres
19 as previously spaced, we think it's appropriate to remove
20 that provision, which is ordering paragraph number 7 from
21 Order No. R-8188-A.

22 I will propose to my client
23 that we file a separate application since reading the
24 advertisement for the cases now under consideration I don't
25 know how I can get that done, and I will ask that that

1 relatively small, I hope, case can be included in that same
2 November docket and we can just knock out that production
3 restriction which was based on offsetting 40-acre spacing
4 which will apparently no longer be in place.

5 MR. LEMAY; Thank you, Mr.
6 Pearce.

7 Other additional comments in
8 this case?

9 Yes.

10 MR. ERIC KOELLING: Eric Koel-
11 ling with Reading and Bates Petroleum.

12 As has been mentioned, Reading
13 & Bates currently operates the Greenlee 41-14, which has
14 been mentioned previously, which is in -- would be in the
15 proposed buffer zone in the West Lindrith Pool, and at this
16 time we do not see any need to revise or change the allow-
17 ables. We're satisfied with the current allowable picture;
18 however, in the event the Commission feels it's necessary to
19 implement a boundary zone at this time and revise the allow-
20 ables, we would support the aspect of Mesa Grande's proposal
21 that the Dakota be backed out of any allowable calculations
22 so that a Gavilan allowable is -- I mean a Gallup allowable
23 is compared to a Gallup allowable between the Gavilan and
24 the West Lindrith rather than comparing the commingled al-
25 lowable with a Gallup allowable.

1 MR. LEMAY: Thank you, Mr.
2 Koelling. I realize you're here to present a statement. Do
3 you plan to give any testimony on our November hearing, do
4 you know?

5 MR. KOELLING: I don't know.
6 We'll go back and discuss it. At the time this came up we
7 didn't realize there'd be a possibility of getting another
8 hearing at a later date, so that was not considered.

9 I'll discuss that with my man-
10 agement and let you know.

11 MR. LEMAY: I raise that for
12 not only your well but other wells. We received no produc-
13 tion history or capabilities and I know your well was men-
14 tioned in the testimony and that would seem to mean --

15 MR. KOELLING: It's still tes-
16 ting.

17 MR. LEMAY: It's still testing,
18 so just the point itself for the Commission for those wit-
19 nesses presenting evidence next -- next month to incorporate
20 some production history. Thank you.

21 Additional statements for the
22 record?

23 Yes, sir, Mr. Kendrick.

24 MR. KENDRICK: A. R. Kendrick.
25 I'd first like to bring up a point that to date no problem

1 exists except a hypothetical situation. If one did, I'm
2 sure Mr. Sweet would have been glad to furnish the informa-
3 tion that he had.

4 His proposed buffer zone is re-
5 stricted to the line between Ranges 2 West and 3 West only
6 in Township 25 North. The pools must connect further north
7 and further south, therefore his proposed buffer zone would
8 be restrictive; it would be discriminatory and it might
9 prove to be a penalty upon some wells where no problem real-
10 ly calls for a penalty.

11 MR. LEMAY: Thank you, Mr. Ken-
12 drick.

13 Any further statements?

14 Mr. Carr?

15 MR. CARR: May it please the
16 Commission, when Sun attended the meeting in Farmington they
17 were of the opinion that the operators in attendance had
18 agreed that the pools should be -- that the West Lindrith
19 should be extended to meet the Gavilan and that it was
20 appropriate to go forward with certain testing to develop
21 data so it could be determined whether or not a buffer zone
22 was appropriate or not.

23 We've heard presentations here
24 today based on authorized producing rates in the Gavilan Pool
25 and what would be an expanded West Lindrith. We still

1 believe that there isn't a sufficient data base on which to
2 promulgate new rules. It's important, we agree, to have
3 rules as early as possible, but not -- that doesn't --
4 should not cause the Commission to run out and try to
5 promulgate rules in the dark, and we think until testing is
6 done, and Sun believes testing of all wells in the buffer
7 zone, that it really is premature to come forward for rules
8 for a buffer zone, rules which no one really can guess how
9 they will work in fact.

10 If you do that, I submit you're
11 running a risk of having to again come back and open
12 yourself to criticism of changing the rules in the middle of
13 the game because the actual field experience may not match
14 the hypothetical.

15 We submit that an order should
16 be entered expanding the West Lindrith to the Gavilan bor-
17 der; that testing should be ordered of all wells in the buf-
18 fer zone and when that information is available and you know
19 what is being produced from each well in each zone, then you
20 should consider based on that information whether or not
21 rules creating a buffer zone are appropriate.

22 MR. LEMAY: Thank you, Mr.
23 Carr.

24 Additional comments or state-
25 ments in the case?

1 If not, we will continue this
2 case until the Commission meeting in November, and the re-
3 cord will remain open for additional statements and we shall
4 look forward to seeing you all, the majority of you, in No-
5 vember.

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(Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO
HEREBY CERTIFY the foregoing Transcript of Hearing before
the Oil Conservation Division (Commission) was reported by
me; that the said transcript is a full, true, and correct
record of the hearing, prepared by me to the best of my
ability.

Sally W. Boyd CSR