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

28 August 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Doyle Hartman for a non-standard proration unit, two unorthodox locations, and simultaneous dedication, Lea County, New Mexico. CASE 8690

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

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MR. STOGNER: The hearing will come to order.

Call next Case Number 8690.

MR. TAYLOR: The application of Doyle Hartman for a nonstandard proration unit, two unorthodox locations, and simultaneous dedication, Lea County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Campbell and Black, P. A., of Santa Fe, appearing on behalf of Mr. Hartman.

I have one witness who needs to be sworn.

MR. STOGNER: Call for additional appearances?

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Lewis B. Burleson, Jack Huff, Burleson & Huff, Lewis B. Burleson, Inc., and I have one witness.

MR. STOGNER: Will all witnesses stand and be sworn at this time.

(Witnesses sworn.)

MR. STOGNER: Mr. Carr, please continue.

WILLIAM P. AYCOCK,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name and place of residence?

A William P. Aycock, Midland, Texas.

Q And by whom are you employed and in what capacity?

A By Doyle Hartman as a consultant in connection with the application docketed on Docket No. 26-85 as Case 8690.

Q Mr. Aycock, have you previously testified before this case -- before this Division and had your credentials accepted and made a matter of record?

A I have.

Q And how were you qualified at that time?

A As a petroleum engineer.

Q Are you familiar with the application filed in this case on behalf of Mr. Hartman?

A I am.

Q Are you familiar with the subject area?

A Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STOGNER: Are there any -- Mr. Kellahin?

MR. KELLAHIN: No. We recognize Mr. Aycock as an expert petroleum engineer.

MR. STOGNER: Mr. Aycock is so qualified.

Q Mr. Aycock, will you briefly state what Mr. Hartman seeks with this application?

A Mr. Hartman seeks a finding that the drilling of two wells to be located at unorthodox well locations, the first of which is to be at least 1325 feet from the south line but not more than 1650 feet from the south line, and at least 660 feet from the west line but not more than 850 feet from the west line of Section 22, Township 25 South, Range 37 east, and the second of which is to be at least 250 feet from the north line but not more than 990 feet from the -- wait a minute, I've lost my place -- and at least 660 feet from the west line but not more than 1980 feet from the -- we've got two "wests" in here.

Okay, it's 660 feet from the west is at

least --

MR. STOGNER: Isn't that right, 660 feet from the west line but not more than 1980 feet from the west line?

MR. CARR: That's correct.

A Okay, I beg your pardon, that's right.

MR. STOGNER: That's what I understood.

A From the west line of Section 27, all in Township 25 South, Range 37 East, in the Jalmat Gas Pool and in the Langlie Mattix Pool and a finding that the -- at least one well with an optional second well in the second window, the second window, is necessary to effectively and efficiently drain that portion of the 240-acre nonstandard gas proration unit in the Jalmat Pool only, comprising the west half southwest quarter of Section 22 and the northwest quarter of Section 27, Township 25 South, Range 37 East, which cannot be so drained by the existing Jalmat wells.

Mr. Hartman further seeks approval of simultaneous dedication of the said 240-acre nonstandard Jalmat proration unit to the subject wells, of which there will be at least three and perhaps four as our testimony will explain later, and the currently producing Carlson Harrison Federal Gas Coms Nos. 1, 2, and 3.

Q Mr. Aycock, would you refer to what has

been marked for identification as Hartman Exhibit Number One, identify this, and review what it shows with Mr. Stogner?

A Hartman Exhibit Number One is a Jalmat gas ownership map of all of the proration units that are in the -- Jalmat proration units that are in the vicinity of the proposed 240-acre nonstandard proration unit, all in Township 25 South, Range 37 East.

Shown are one, two, three, four, five, six, seven, eight, nine, ten proration units with the description of the proration unit, the operator of the proration unit, the wells located thereon with the actual well location, the 1985 average production through April of 1985, and a cumulative gas production as of May 1st, 1985.

Q Would you review the ownership of the tracts which are depicted by the colored outlines on Exhibit Number One?

A Starting at the north end and going in a clockwise direction, the first would be the blue proration unit operated by Lewis B. Burleson, Inc., and ARCO Federal Lease, a 160-acre lease which is comprised of the east half of the northeast quarter of Section 21 and the west half of the northwest quarter of Section 22, all in 25 South, 37 East. That contains one well, the ARCO Federal Y-2 located 1770 feet from the north line and 660 feet from the east

line in Unit H.

The average 1985 production was 54 -- has been 54 MCF per month and as of May 1st, 1985, the cumulative was 14.7 MMCF.

Proceeding in a clockwise direction, the 80-acre proration unit comprising the east half/northwest quarter of Section 22, Townshp 25 South, Range 37 East, is the Burleson and Huff Stuart Lease on which is located the Burleson and Huff Stuart No. 2 Well, located 660 feet from the north and 2310 feet from the west line in Unit C.

The last Jalmat production in the records of the State of New Mexico was in May of 1974. The cumulative Jalmat production at that time was 1,439 MMCF.

Proceeding in a -- further in a clockwise direction, we next come to the lease that's the subject of this application, and as we will explain, we have a 320-acre lease with 400 acres dedicated as of the present time.

The 320-acre lease is composed of the south half of Section 22, 25 South, 37 East, which was originally operated by El Paso Natural Gas Company and was farmed out to Doyle Hartman along with approximately 1000 other acres located at various points throughout the Jalmat trend.

This well has -- this has one well on it, the -- originally had one well on it, the Doyle Hartman

Carlson-Federal 1, located 1980 feet from the south line and 660 feet from the west line in Unit L.

This well in 1985 through April has averaged 86 MCF per month and as of May 1st, 1985, has produced a cumulative of 4,618 MMCF.

Q Mr. Aycock, is that the well on Exhibit Number One which has the number 3-A beside it?

A Correct. Also, located on the -- located at a location of 650 feet from the south line and 660 feet from the east line -- west line, I beg your pardon, in Unit L, is the now being completed Doyle Hartman Carlson Federal No. 2 Well.

Q Now, Mr. Aycock, that well is currently being drilled.

A Yes, sir, it was -- I do not have the spud date but casing has been set and a number of repeat formation tests have been made in both the Jalmat and Langlie Mattix intervals, and it's Mr. Hartman's intention to attempt a Langlie Mattix completion initially on this well.

Q And that well is drilled at the northwest corner of the --

A Of the window, of the northern window.

Q -- red box that's depicted on Exhibit Number One.

A Correct. The window that's in the west

half, the southwest quarter of Section 22.

Proceeding -- also within that 320-acre tract is the 80-acres that comprises the east half southwest quarter of Section 22, 25 South, 37 East, containing a Jalmat well which was drilled by M. R. Antweil, called the Terra Federal 2. This well is located 990 feet from the south line and 2310 feet from the west line in Unit N.

When Mr. Antweil drilled this well his -- his intention was, or the understanding was that El Paso would submit a revised plat, a revised C-102 for this well, deleting the 80 acres comprising the east half southwest quarter of 22 that's assigned to the Antweil Terra Well; however, El Paso failed to do so and as a result there -- until recently, the Commission may have corrected it on the last month's proration schedule, but until that time there were 400 acres dedicated on here. In other words, 320 acres were dedicated to the Carlson Federal No. 1 Well and 80 acres were dedicated to the Antweil Terra Federal 2, so on a 320-acre tract we had 320 acres dedicated to one well and 80 to another for a total of 400 acres dedicated.

MR. CARR: Mr. Examiner, I would request that you just take administrative note of Order R-766, which is the approval of the south half unit for El Paso dated April 3rd, 1956. That's Order R-766.

And also NSP 1297, which is Mr.

Antweil's approval of the 80-acre tract that is dated March 1, 1982.

MR. STOGNER: I will take administrative notice of those two orders.

A Proceeding in a clockwise fashion, prospectively to be included in the requested 240-acre nonstandard proration unit, and indicated in both light blue and yellow, is the Doyle Hartman, formerly Alpha 21 Production Company Harrison Federal Lease.

Located on this lease in the -- is the Harrison Federal No. 2 at 660 feet from the north line and 660 feet from the west line in Unit D. This well had a 1985 average production through the month of April of 139 MCF per month and as of May 1st, 1985 the cumulative production was 2,097 MMCF.

The Harrison Federal 3, located 1980 feet from the north line and 660 feet from the west line in Unit D was last produced from the Jalmat in November of 1983 and at that time the cumulative production was 63.6 MMCF.

Q Now, Mr. Aycock, is that last well the well that's located in Unit E on Exhibit One?

A E, I beg your pardon, it's an E. That's correct. The other one was a D, I'm sorry.

Q And when was that well last produced?

A The well was last produced in November of

1983.

Q And at what rates was it producing?

A I'll have to look it up. I can't tell you from this figure. On --

Q Mr. Aycock, could that be 41 MCF per day?

A It probably is but I don't remember right off the top of my head, frankly.

We have it on a subsequent exhibit.

Q All right.

A On March 5th, 1985, a Form 9-331 was approved for this well for temporary abandonment for the period ending March 1st, 1986.

Mr. Hartman has subsequently acquired the lease. As is shown on the 9-331, the well was TA'd because of a large volume of water that was produced and the fact that they were having to haul water, making it uneconomical to operate for Alpha 21. They removed the tubing from the well the surface equipment was removed from the well prior to the time that it was sold to Mr. Hartman.

It is Mr. Hartman's intention and it is currently being evaluated for return to production and if it can be returned for production economically, it will be done so at a very near time.

Q Would you now go to the spacing unit which is outlined in orange directly south?

A The next one I have is in pink proceeding in the clockwise direction.

Q Let's go --

A Which is the Doyle Hartman Santa Fe Federal Lease. The well is -- there's one well on it that's located 660 feet from the south and 660 feet from the west line in Unit M.

The 120-acre proration unit assigned to it is composed of the southwest quarter southwest quarter and east half southwest quarter of Section 27, all in 25 South, 37 East.

1985 average production is 346 MCF per month and as of May 1st, 1985, the cumulative production is 59.3 MMCF.

Proceeding further in a clockwise direction the next 40-acre lease is outlined in orange. It is the El Paso Natural Gas Company Harrison lease. It is composed of the northwest quarter southwest quarter of Section 27, 25 South, 37 East.

The well is located 1980 from the south line and 660 feet from the west line in Unit L.

The 1985 average production has been 497 MCF per month and as of May 1st, 1985, the cumulative production is 989 MMCF.

Proceeding further in a clockwise

direction the next lease is outlined in dark green. It's the Lewis B. Burleson Inc. Cook Lease.

It's comprised of the southeast quarter of Section 28, 25 South, 37 East. Located thereon is the Cook No. 1 at a well location of 660 feet from the south line and 1980 feet from the east line in Unit O.

The 1985 average production for the first four months has been 2518 MCF per month and as of May 1st, 1985, the cumulative production is 688 MCF per month.

Also located on 160-acre tract is the Burleson Cook No. 2 Well, located 660 feet from the south line and 660 feet from the east line in Unit P. This well was last produced from the Jalmat in August of 1980. As of that time the cumulative production was 592 MCF.

Proceeding further in a clockwise direction we come to the C. J. Lanehart Lease, which is now operated by Texaco; previous to that was operated by Getty; and previous to that was operated by Reserve Oil Company.

It's comprised of 160-acre lease, being the northeast quarter of Section 28, Township 25 South, Range 37 East. There's one well located on it, the Lanehart 1. It was last produced from the Jalmat in September of 1958. At that time the cumulative production was 550 MMCF. The location of the well is in Unit B at 825 feet from the north line and 1980 feet from the east line.

Proceeding further in a clockwise direction, the next lease is outlined in orange. It is a 120-acre lease operated by L. B. Burleson, Inc. It is the Hadfield Lease comprised of the east half southeast quarter and southwest quarter southeast quarter in Section 21, Township 25 South, Range 37 East.

The Hadfield No. 1 is located 660 feet from the south line and 1980 feet from the east line in Unit O.

The 1985 average production for January through April has been 565 MCF per month and as of May 1st, 1985, the cumulative production has been 3,099 MMCF. According to the records of the New Mexico Oil Conservation Division and the Hobbs District Office, this well was reworked in May of 1985.

The Hadfield No. 2 Well is located 660 feet from the south line and 660 feet from the east line in Unit P and in 1985 the average production was 1694 MCF per month; that is for the months of January through April.

As of June 1st, 1985, the cumulative production was 90.4 MMCF.

According to the records of the Commission this well was shut-in for approximately three years.

Q Now, Mr. Aycock, directing your attention to the proposed proration unit, how many wells does Mr.

Hartman propose to have producing from that unit?

A Well, either three or four, depending upon whether the Alpha 21 Production Company Harrison No. 3, located in Unit E can be economically returned to production or not, and also, depending upon whether the option well to be located in the southern window is necessary to efficiently and effectively drain the lease.

So if we have the Carlson No. 1 producing now, the Carlson No. -- I mean, pardon me, and the Harrison No. 2 producing now, and he completes the existing Carlson No. 2 Well in the Jalmat, then we would have three wells.

If in addition to that the Harrison No. 3 Well is returned to production, we would have four.

If in addition to that a second well on the lease to be located in the -- optional well, to be located in the southern window were drilled and completed, that would make five.

Q All wells that are presently in existence or currently being drilled are located 660 from the west line of that proration unit, is that correct?

A That's correct.

Q When was the problem with the Antweil tract discovered?

A The problem was discovered during the approval of title for the Carlson No. 2, which has just been

-- is now being completed and has just been drilled.

When Mr. Hartman discovered that there had been a dual dedication of the 80 acres comprised of the east half southwest quarter of Section 22 to both the 320-acre Jalmat proration unit composed of the south half of 22, and the Antweil proration unit composed of the east half southwest quarter of Section 22.

Q Mr. Aycock, could Mr. Hartman drill a well in the southwest quarter of the southwest quarter of Section 22?

A Not and have the gas taken by El Paso Natural Gas Company, to whom it's contracted.

Q Is that --

A The reason for this is that El Paso's interpretation, or the way they are currently handling it is if any portion of a gas proration unit is contracted, they will take the gas therefrom only if the specific 40 acres upon which the well is drilled is actually contracted, and in this case the southwest quarter of the southwest quarter is not contracted; therefore if he drilled a well on it, he'd be up at the Commission trying to force El Paso to take the gas from him.

Q Would you now go to Hartman Exhibit Number Two and identify this, please?

A Exhibit Number Two are two pages --

Q Just a minute. Would you wait till Mr. Kellahin calms down and we can go forward with your testimony?

MR. KELLAHIN: I'm having a lot of trouble with this.

Q Would you now go to Exhibit Number Two, please?

A Exhibit Number Two is composed of two pages from the July, 1985, Southeast New Mexico Gas Proration Schedule and two copies of the dedication plats for the El Paso -- former El Paso, currently Hartman, Carlson No. 1 and the Antweil Terra 2, and this documents the fact that the entire acreage, that there are 400 acres that were originally dedicated out of a 320-acre tract and it was included on the Commission's records this way until August. Mr. Nutter went to see Harold Garcia about it and we think Harold's probably got it changed but at this time it was as shown here. This is the way it was carried on the Commission's records.

MR. NUTTER: For the record, they're still waiting for Hobbs to correct it.

MR. CARR: Okay.

Q Would you now go to Exhibit Number Three and review that, please?

A Exhibit Number Three is a Yates structure

map of the same area included in Exhibit Number One, and additionally shown on there are the two windows that have been described in the application and were previously mentioned, as well as the traces of two cross sections located, one in basically the north/south direction and one basically in the east/west direction.

We would call the Examiner's particular attention to the note in the lower lefthand corner that I would like to read into the record.

Quote. The proposed 240-acre proration unit for the Carlson-Harrison Federal Com No. 4 is to be composed of 80 acres, west half southwest quarter of 22, out of the 320-acre proration unit consisting of the south half of Section 22 presently dedicated to the Carlson Federal No. 1, and the 160-acre proration unit northwest quarter of Section 27, presently simultaneously dedicated to the Harrison No. 2 and Harrison No. 3.

This proration unit change is being made because the south half Section 22 is presently dedicated to the Carlson No. 1 and the 80 acres, east half southwest quarter of the same 320-acre tract is also dedicated to the Morris R. Antweil Terra Federal No. 2.

Therefore, the reason that Mr. Hartman cannot develop the 320-acre tract is that he would have a discontiguous proration unit because of the window caused by

the Antweil Terra proration unit and he had to restructure in order to drill it. He had ot restructure a proration unit and that is the reason that this application is made and the proposal is before you.

Q Mr. Aycock, do you have pressure data on the Jalmat wells depicted on this exhibit?

A Yes, we do. We have all of the data that -- from the Commission records, as well as a number of repeat formation tester tests on the new Hartman well that is now being drilled and completed, that being the Carlson Federal No. 2.

Q Now this repeat formation tester information, how does that compare to other --

A Well, the normal pressures that are submitted to the Commission are 72-hour wellhead shut-in pressures.

The pressures that we will read into the record here for the Hartman Harrison Federal -- pardon me, the Harrison Carlson Federal 2, are repeat formation tester, or wireline spot measurements at bottom hole conditions and they are not static and make no attempt to be static. They're simply spot measurements at the end of a 30-minute build-up period.

So the conclusion to be reached from this is that the pressures that will be indicated as coming from

the repeat formation tester will be the minimum pressures and in all likelihood the actual static pressure will be somewhat significantly higher than those indicated.

MR. CARR: Could I have a brief recess. I have a telephone call I have to take.

MR. STOGNER: Yes. Let's take a five minute recess for this.

(Thereupon a recess was taken.)

MR. STOGNER: Due to unforeseen emergency, this case will be continued to the Examiner Hearing scheduled for September 11th, 1985.

This record will be left open.

(Hearing concluded.)

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 co[illegible] in
the [illegible] 8690,
heard by me on 28 August, 85.
Michael E. Stogner, Examiner
Oil Conservation Division

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

October 19[illegible]

EXAMINER HEARING

IN THE MATTER OF:

Application of Doyle Hartman for compulsory pooling, a nonstandard proration unit, two unorthodox locations, and simultaneous dedication, Lea County, New Mexico.

CASE 8690

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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Burleson Exhibit Three, Curve

Burleson Exhibit Four, C-122

MR. QUINTANA: The hearing will come to order. We will have the second part of the Docket No. 30-85.

The next case we will call today will be Case 8690.

MR. TAYLOR: The application of Doyle Hartman for compulsory pooling, a non-standard proration unit, two unorthodox locations, and simultaneous dedication, Lea County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr, with the law firm Campbell & Black of Santa Fe.

I represent Mr. Hartman and have two witnesses.

MR. QUINTANA: Are there other appearances in this case?

MR. KELLAHIN: I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Lewis Burleson, and I have one witness.

MR. QUINTANA: Are there --

MR. PEARCE: I'm W. Perry Pearce, of the Santa Fe law firm of Montgomery & Andrews, appearing in behalf of El Paso Natural Gas.

I do not expect to call a witness.

MR. QUINTANA: Any other appearances? Will all the witnesses please stand up at this

time and be sworn in.

(Witnesses sworn.)

MR. CARR: May it please the Examiner, initially I would like to request that the portion of this case that seeks an order pooling the proration unit be dismissed. We obtained a farmout from Terra Resources, and that was the only party against whom we were seeking a pooling order.

There may be an outstanding small interest held by TXO. Should that eventually have to be pooled, we'd have to come back to you, but that was not discovered until just yesterday; so that portion of the case can be dismissed.

Likewise, I'd like to dismiss any portion of the case as it may relate to the Langlie Mattix Pool. The reference to the Langlie Mattix was in there for the first well that was to be drilled on this proration unit by Mr. Hartman. The well has been drilled; it is a Jalmat well, and therefore, it is unnecessary to reference the Langlie Mattix.

And I, for your information, for everyone's information starting out, that location was the west half of the southwest quarter of Section 22, and the well has been drilled at a location 1,650 feet from the south line and 660 feet from the west line of that section. That's the Carlson No. 2.

Furthermore, we are prepared to

stipulate that as to the second well which is to be located in the northwest quarter of Section 27, and we have a certain area within which we're requesting authority to locate that well, that that can also be restricted to provide that the well will be located in Unit C. That means it will be at least a 40-acre tract away from any acreage to the west.

And so, we're prepared to stipulate that at that time that that's what our location will be and that we will not go into Unit D to locate this well.

And at this time I would call Mr. Aycock.

WILLIAM P. AYCOCK,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name for the record, please.

A William P. Aycock.

Q By whom are you employed?

A By Doyle Hartman.

Q Mr. Aycock, have you previously testified before this Commission or one of its examiners and had your credentials as an engineer accepted and made a matter of

record?

A I have.

Q Are you familiar with the application filed in this case on behalf of Mr. Hartman?

A I am.

Q Are you familiar with the subject area?

A I am.

MR. CARR: We tender Mr. Aycock as an expert witness and petroleum engineer.

MR. QUINTANA: Mr. Aycock is considered an expert petroleum engineer.

Q Mr. Aycock, will you briefly state what Mr. Hartman seeks with this application.

A In Case No. 8690 as modified by the dismissal of the pooling as was previously mentioned, this is the application of Doyle Hartman for a non-standard proration unit, two unorthodox locations, and simultaneous dedication as applies to the Jalmat pool only.

Q Would you refer to what has been marked as Hartman Exhibit Number One, identify this exhibit, and review the information contained thereon for Mr. Quintana.

A Hartman Exhibit Number One is a Jalmat gas ownership map that contains all of the -- shows all of the Jalmat previous or current production that surrounds the projected 400-acre proration unit, and these are outlined in varying colors in order to enable an examination of them in an efficient manner, and if you would begin your examination,

please, going in a clockwise direction with the blue lease which comprises the east half northeast quarter of 21, 25, 37, and the west half northwest quarter of 22, 25, 37.

That is the ARCO Federal lease operated by L. B. Burleson. It contains one well, the No. 2Y located 1,770 feet from the north line and 660 feet from the east line in Unit H of 21, 25 South, 37 East, for which the 1985 average production was 54 MCF per month, and as of 4/85 the cumulative production is 14.7 MMCF.

We would respectfully call the Examiner's attention to the fact that this proration unit crosses the section lines.

Proceeding in a clockwise direction, we have outlined in purple the 80-acre Burleson and Huff Stuart lease. This contains one well, the Stuart No. 2, located 660 feet from the north line and 2,310 feet from the west line in Unit C of Section 22, 25 South, 37 East. According to the New Mexico records, the last Jalmat production was in May of 1974, and the cumulative production at that time was 1,439 MMCF.

Proceeding in a clockwise fashion, we have the first piece of acreage that is included in the application acreage, which is the -- was originally a 320-acre lease operated by El Paso Natural Gas Company, and contained the south half of Section 22, 25 South, 37 East. And at the time that, as Mr. Nutter will eventually testify to, there has been a Jalmat well drilled in the southeast

quarter of the southwest quarter by Antweil Production.

And as a consequence of that and the fact that the administrative approval for the drilling of this well specified that it would be the responsibility of El Paso to correct the proration unit assigned to their existing well No. 1 which was the only Jalmat well on the tract, there is an overdedication by a factor of 80 acres.

In other words, there's 320 acres here, but there's 400 acres of Jalmat rights dedicated according to the Commission's records; and as of the September allowable schedule, that -- that is still being carried, I believe, in the yellow book.

Q Now, what -- would you identify for Mr. Quintana what the El Paso well to which that south half unit was dedicated.

A Okay. That is the northernmost of the two wells that's located in the northwest of the southwest of 22, that being the El Paso Carlson Federal No. 1 which was drilled and completed on September 6, 1955, at a location 1,980 feet from the south line and 660 feet from the west line.

Q And what acreage is dedicated to that well on the proration schedule?

A The south half of Section 22 is presently dedicated to that well.

Q Now, the tract that's shaded in green,

the well in that is the Antweil well?

A Yes, the Antweil well.

Q And what is dedicated to that well?

A The 80-acre tract that comprises the east half of the southwest quarter of 22.

Q So that 80-acre tract is dedicated under the schedule to both wells?

A Correct.

Q Would you go on now and review the remaining tracts on this plat.

A Okay. The next one proceeding in a clockwise direction, the next one would be the Antweil tract which we just discussed. It's the Terra Federal lease. The proration unit is the east half of the southwest quarter of Section 22, 25 South, 37 East. It was approved by Administrative Order NSP-1297 dated 3/1/82. The well location is 990 feet from the south line and 2,310 feet from the west line in Unit N of Section 22, 25 South, 37 East. The 1985 average production was 3,881 MCF per month, and as of April, 1985 the cumulative production is 141.4 MMCF.

Proceeding further in a clockwise direction, the next lease is the -- was originally the Alpha 21 Production Company Harrison Federal lease, and it has been incorporated into the requested 400 proration unit. This lease originally was the northwest quarter of Section 27, Township 25 South, Range 37 East, for a 160-acre tract. It contains two presently unplugged Jalmat wells, one

of which is still producing.

The one that is still producing is the Doyle Hartman Harrison No. 2 located 660 feet from the north line and 660 feet from the west line in Unit D of Section 27, Township 25 South, Range 37 East, for which the 1985 average production was 139 MCF per month, and the cumulative production as of 4/85 is 2,097 MMCF.

The presently inactive but formerly active well is the Doyle Hartman Harrison No. 3 that is located 1,980 feet from the north line and 660 feet from the west line in Unit E of Section 27, Township 25 South, Range 37 East. The last production from this well was in November of 1983, and at that time the cumulative production was 63.6 MMCF.

At the time Mr. Hartman acquired the lease, Alpha 21 told him that the reason that they had ceased producing the No. 3 well was because of the expense of hauling water. He is -- Mr. Hartman is currently evaluating the economics of providing a disposal connection to the well, and if it can be economically done, he will return the well to production.

Q Do you have any idea what that well was producing at the time it was abandoned?

A If you'll give me just a moment, I can look it up for you. In 1983 the monthly production was as follows: In January it produced 3,830 -- I beg your pardon, 2,039 MCF; in February it produced 161; in March it produced

none; in April it produced 1; in May it produced 137; in June it produced none; in July 125 MCF; in August 218 MCF; in September 559 MCF; in October 1,308 MCF; in November 405 MCF, and that was the last month of production. Also, the -- there was -- the last water that had been -- while there was a substantial amount of water comprising 28,745 barrels that had been reported by Alpha 21 to New Mexico Oil Conservation Commission in 1982. The only -- there are only two months in 1983 in which water production was reported, and those were January and February: 3,830 barrels of water in January, and 150 barrels of water in February, and no water for the rest of -- of 1983.

Q Will you now proceed with the other proration units depicted on the map.

A Proceeding farther in a clockwise direction to the lease, a 120-acre lease that's outlined in pink, which is the -- pardon me -- is the east half southwest quarter of 27, and the southwest quarter of the southwest quarter of Section 27, Township 25 South, Range 37 East.

This acreage is assigned to the Doyle Hartman Santa Fe Federal No. 1 well, located 660 feet from the south line and 660 feet from the west line in Unit M of Section 27, Township 25 South, Range 37 East. In 1985 average production for this well was 346 MCF per month, and as of April, 1985, the cumulative production was 59.3 MMCF.

Proceeding in a clockwise direction, the next lease is the El Paso Natural Gas Company

Harrison lease that is a 40-acre lease comprising the northwest quarter southwest quarter of Section 27, Township 25 South, Range 37 East, with the location of the well at 1,980 feet from the south line and 660 feet from the west line in Unit L. The 1985 average production for this lease, this one well lease, was 497 MCF per month, and as of April, 1985 the cumulative production was 988.7 MMCF.

Proceeding in a clockwise direction, the next lease is the Lewis B. Burleson Cook lease. This is a 160-acre proration unit comprised of the southeast quarter of Section 28, Township 25 South, Range 37 East. It has two Jalmat wells on this proration unit.

The Lewis B. Burleson, Inc. Cook No. 1 is located 660 feet from the south line and 1,980 feet from the east line in Unit O of Section 28, Township 25 South, Range 37 East. The 1985 annual production average for this well was 2,518 MCF per month, and as of April, 1985 the cumulative production for this well was 687.6 MMCF.

The Lewis B. Burleson, Inc. Cook No. 2 well is located 660 feet from the south line and 660 feet from the east line in Unit P of Section 28, Township 25 South, Range 37 East. The last production is August of 1980. At that time the cumulative production was 591.6 MMCF.

The next lease proceeding in a clockwise direction is the -- pardon me -- the Reserve Oil & Gas C. J. Lanehart lease, for which the proration unit is the northeast quarter of Section 28, Township 25 South, Range 37

East. The well located thereon is originally the Reserve Oil & Gas C. J. Lanehart No. 1 located 825 feet from the north line and 1,980 feet from the east line in Unit B of Section 28, Township 25 South, Range 37 East. The last Jalmat production on this well was September of 1958, and at that time the cumulative production was 550 MMCF.

Proceeding further in a clockwise direction around the proposed 400-acre proration unit, the next lease is outlined in orange, and it's the Lewis B. Burleson, Inc. Hadfield lease. This is a 120-acre proration unit that contains two wells. The proration unit is the south half of southeast quarter and northeast quarter southeast quarter of Section 21, Township 25 South, Range 37 East.

The Lewis B. Burleson, Inc. Hadfield No. 1 well is located 660 feet from the south line and 1,980 feet from the east line in Unit O of Section 21, Township 25 South, Range 37 East. The 1985 average production for this well was 565 MCF per month. As of April 1985, the cumulative production from this well was 3,099 MMCF. And according to the Commission's records, this well was reworked in May of 1985.

The Lewis B. Burleson, Inc. Hadfield No. 2 well is located 660 feet from the south line and 660 feet from the east line in Unit P of Section 21, Township 25 South, Range 37 East. The 1985 average production for this well was 1,694 MCF per month, and as of

June of 1985, the cumulative production was 90.4 MMCF.

These are all of the leases that include those that are proposed to be included within the requested 400-acre non-standard proration unit, as well as those that surround it on all sides.

Q Mr. Aycock, would you now look at the 400-acre non-standard proration unit that Mr. Hartman is proposing, and identify the first well that Mr. Hartman has drilled on this unit and needs to have approval of -- for the well location, and advise the Examiner as to the -- as to the status of that well.

A Okay. That well is indicated as having a number "4" by it, which is -- which is incorrect. That is actually the Hartman Carlson Federal No. 2 well, and it's the southernmost of the two wells located in Unit L of Section 22, 25 South, 37 East. As previously mentioned, the location of the well is 650 feet from the south line and 660 feet from the west line in Unit L.

This well was spudded on August the 14th, 1985, completed September the 12th, 1985, with a TD of 3,625 feet, a plug back TD of 3,275 feet, 9-5/8 inch casing set at 412 feet with 350 sacks of cement, and 7 inch casings set at 3,625 feet with 750 sacks of cement. The perforated interval, overall perforated interval, is from 2,885 feet well depth to 3,067 feet well depth, with 21 holes. The well was acidized with 5,100 gallons and sand water fraced with 171,000 gallons of salt water and CO_2, and

320,000 pounds of sand. The well produced 147 MCF per day on a 20/64 choke from 2-3/8 inch tubing set at 3,149 feet, pumping with eight 54-inch strokes with a 1-1/4 inch stroke, and the date of that test is September the 13th, 1985.

Q Mr. Aycock, would you again give the Examiner the -- the well location for that well. I think you misstated it.

A 650 feet from the south line and 660 feet from the west line.

Q Is that "650" or --

A 1,650, I'm sorry.

Q From the south line?

A From the south line, I'm sorry.

Q Would you now refer to the red box in the north half of the northwest quarter of Section 27, and identify that and -- and explain what that shows.

A Oh, that's the -- that's the original window for the second proposed required well for this proration unit.

Q And that has -- Mr. Hartman is willing to contract that to the acreage that is included within that box located in Unit C?

A That is correct. That portion of the indicated outline is located within Unit C.

Q Now, how long did the south half of -- was the south half of Section 22 dedicated to the one El Paso well?

A It was dedicated from the time that the El Paso well was originally completed, which was September the 6th, 1955, until the Morris Antweil Terra Federal well was completed in 1982. It was -- that entire south half was dedicated to that one well.

MR. CARR: Mr. Examiner, I would ask that you take administrative note of Commission Order R-766 which approved the 320-acre south half unit, and also NSP-1297, which approved the Antweil tract.

MR. QUINTANA: Will you repeat those numbers to me again?

MR. CARR: NSP-1297.

MR. QUINTANA: And our Order number?

MR. CARR: 766.

MR. QUINTANA: Thank you.

Q Mr. Aycock, if this application is approved, how many wells will Mr. Hartman be producing on this 400-acre unit?

A He will be producing the following: The pre-existing original El Paso Natural Gas Company Carlson Federal 1, which is the well we were just discussing, that is located 1,990 feet from the south line and 660 feet from the west line of Section 22; the recently completed Doyle Hartman Carlson Federal No. 2 Well, which is located 1,650 feet from the south line and 660 feet from the west line of Unit L; the still-producing Doyle Hartman Harrison No. 2, located 660

feet from the north line and 660 feet from the west line of Section 27, Township 25 South, Range 37 East; and the required well which will be drilled in that portion of the area of the window outlined in blue that is located within Unit C of Section 27, Township 25 South, Range 37 East, assuming that that well is successfully drilled and completed in the Jalmat zones --

Q How did --

A -- which is at total of four wells.

MR. QUINTANA: Excuse me, what was the third well?

A The third well is the Harrison No. 2 Well located 660 feet from the north line and 660 feet from the west line of 27.

MR. QUINTANA: All right. Thank you.

MR. TAYLOR: The one right above that that's listed as the Federal "Com" No. 4, is that supposed to be the Federal "Com" No. 2?

A That is actually the Hartman Carlson Federal No. 2, the one that says "4" by it. And the one that says "3A" by it is actually the original El Paso well, the Carlson Federal No. 1.

Q Based on your prior testimony, it is possible that the old Alpha well in the southwest of the northwest might also be eventually returned to production?

A That is correct.

Q How did Mr. Hartman acquire his interest in the south half of Section 22?

A He farmed it in from El Paso Natural Gas Company.

Q Does that farmout agreement provide that the pre-existing El Paso well will be produced prior to any other well on the unit or any other subsequently drilled well on the unit being produced?

A It does.

Q When was the problem with the Antweil tract discovered?

A At the time Mr. Hartman accepted the farmout and began preparations to drill the well and began to examine title.

Q Now, one last question. The well that Hartman has recently drilled in the northwest of the southwest of 22 is in the same 40-acre tract. Why could that well have not been located to the south?

A Why could it have not been located in the 40 acres immediately to the south of it?

Q Yes.

A The problem is this. According to the way that El Paso's policies are, regardless of the fact that this acreage was all included in a proration unit, a previously producing proration unit, if the specific acreage on which the well is located is not that that's described in the contract, El Paso will not connect the well. So he could

not drill it in the southwest of the southwest because that acreage is not specifically described in the contract, and he would not been -- have been able to effect a connection had he drilled it on that acreage.

Q Would you now refer to what has been marked as Hartman Exhibit Two, and identify that, please.

A Exhibit Two is the Jalmat Gas Proration Schedule for July of 1985, and attached thereto are -- well, there are two copies, two pages of the July 1985 proration schedule, and a form C-104 and the predecessor thereto, which is the form C-128, that documents the fact that the -- the original proration unit was a 320-acre unit. It was assigned to the El Paso Natural Gas Carlson Federal No. 1, and that the 80 acres was carved out of that and assigned to the Morris Antweil Terra Federal No. 2, and that they're -- according to the records of the Commission, there is, therefore, dual dedication of the 80-acre proration unit on which the Terra -- the Antweil Terra Federal No. 2 is located.

Q Would you now refer to Hartman Exhibit Number Three, identify that, and review the information contained thereon.

A The Hartman Exhibit Number Three is a structure map on the top of the Yates that covers an area over and immediately adjacent to the proposed 400-acre non-standard proration unit, and shown thereon is the location of the Hartman Carlson Federal No. 2 Well. At the juncture of

the two cross section traces, i.e., A-A' basically in the north-south direction, and B-B' basically in the east-west direction, with some deviations thereto.

Also shown on this are the -- is the contours on the top of the Yates with a contour interval of 25 feet, and I think it is -- we would like to have the following note that's included on this Exhibit Three read into the record forthwith. "The proposed 400-acre proration unit for the Carlson-Harrison Federal "Com" 4 and the optional Carlson-Harrison Federal "Com" 5 is to be composed of: (A) 160 acres, comprised of the west half southwest quarter and west half southeast quarter of Section 22, out of the 320-acre proration unit, consisting of the south half of Section 22, presently dedicated to the Carlson Federal No. 1." Also the 160-acre proration unit in the northwest quarter of Section 27, presently simultaneously dedicated to the Harrison No. 2 and Harrison No. 3 wells, and the 80 acres which is the west half of the northeast quarter of Section 27. And this change in proration unit is being made because of the 320 acres consisting of the south half of Section 22, is presently dedicated to the Carlson Federal No. 1, and 80 acres of this 320, that being the east half southwest quarter of this same acreage is also dedicated to the Morris R. Antweil Terra Federal No. 2.

Q Do you have anything further to add to your testimony concerning Exhibit Three?

A No, other than to point out once again

that Mr. Hartman would -- has agreed to and will contract the application acreage for the second well to that portion of the window that's located in the northwest quarter of Section 27, but only that portion that's located in Unit C.

Q Would you now go to Exhibit Number Four and review this. This is the cross section A-A'.

A Beginning at the lefthand side of Exhibit Four with the Chevron Arnott Ramsey NCTA No. 2 well. This well is located 660 feet from the south line and 1,980 from the east line of Section 16, Township 25 South, Range 37 East in Unit O. The original completion for this well was open hole between depths of 2,894 and 3,153 feet, and the completion date is May the 13th, 1940. Without stimulation the well flowed 15 million cubic feet per day on a potential test, at -- with a tubing pressure of 600 pounds, and a casing pressure of 1,160 pounds. The 1985 average production was 41 MCF per day, and as of April, 1985 the cumulative production from this well is 8,467 MCF.

The second well from the left on cross section A-A' is the Lewis B. Burleson B. T. Lanehart No. 1 located 2,310 feet from the north line and 1,990 feet from the east line of Section 21, Township 25 South, Range 37 East, in Unit H. This well was completed on December 26, 1936, from perforations between 3,026 and 3,074 feet, with 22 perforations. The indication is that there was blockage in the hole and the well was shot with a 180 quarts of nitroglycerin between depths of 3,025 and 3,072 feet. The

initial potential flowing was 7 million cubic feet per day. The last production from this well from the Jalmat was in February of 1973. The average 1973 production for the well prior to it being plugged was 6 MCF per day, and the cumulative production at the time it was plugged was 2,584 MMCF.

The third well from the left is the Lewis B. Burleson ARCO No. 2Y. This well was -- has -- is a dual completion in the Jalmat and Langlie Mattix. It is located 1,770 feet from the north line and 660 feet from the east line, Section 21, Township 25 South, Range 37 East, in Unit H. The well was originally completed on the 22nd of December, 1975, with perforations between depths of 3,365 and 3,375 feet in the Langlie Mattix, with 20 holes. It was acidized with 1,000 gallons and sand/water fraced with 20,000 gallons and 22,500 pounds, and on initial potential it flowed 12 barrels of oil and 5 barrels of water per day. According to the Commission records on January the 6th, 1976, the interval from 3,009 to 3,048 feet in the Jalmat interval was perforated, acidized with 1,000 gallons and flowed 35.5 MM -- M -- pardon me -- MCF per day on dual completion. The 1985 average Jalmat production for this well was 2 MCF per day, and as of 4/85 the cumulative production was 14.6 MMCF.

The fourth well from the left is the Doyle Hartman Carlson Federal "Com" No. 4. Now, I point out to the Examiner that on our exhibits this well is called "Com" No. 4. On the forms that were submitted to the

Commission, it was called "Com" No. 2. And so, if you look at the Commission forms, you will get confused, but it's the same well.

This well was completed on the 12th of September, 1985, from Jalmat perforations between depths of 2,885 and 3,067 feet, for a pumping potential of 147 MCF per day. The -- during the time that the well was being drilled, seven repeat formation tests for reservoir pressures were measured from the Jalmat interval. The mean of those seven values is 169 PSI and the median of those seven values is 164 PSI. So, while there is some variation, the tendency is very well established at about 167 PSI.

This well has obviously not gone on production because there's no approved proration unit yet for the well, and the approval of the non-standard proration unit is part of this application.

The fifth well from the left is the Morris R. Antweil Terra Federal No. 2 well. This well was completed on the 6th of April, 1982, from Jalmat perforations between depths of 2,925 feet and 3,001 feet, after an acid job of 2,000 gallons and sand fraced with 20,000 gallons and 42,000 pounds of sand. It flowed 262 MCF per day with a tubing pressure of 100 pounds. 1985 average production for this well was 132 MCF per day, and as of April, 1985 the cumulative production was 137 MMCF.

The sixth well from the left was originally the Alpha 21 Production Company, it's now

owned and operated by Doyle Hartman, Harrison Federal No. 2. It's located 660 feet from the north and 660 feet from the west line of Section 27, Township 25 South, Range 37 East. The well was completed on the 8th of June, 1956, from perforations between depths of 2,880 and 3,040 feet. It was fractured with 10,000 gallons and 10,000 pounds of sand, and the calculated absolute open flow potential was 5,000 MCF per day, at a tubing pressure of 718 pounds, with 2-1/2 inch tubing set at 3,300 feet.

On the -- on August 18, 1977, an additional interval between the depths of 2,765 and 2,848 feet was perforated with 12 shots, acidized with 2,000 gallons, sand fraced with 31,000 gallons and 48,500 pounds, and it flowed 140 MCF per day. So, the current -- the current production is between depths of -- the original completion was between 2,880 and 3,040, and it's now completed in the Jalmat between 2,765 and 3,040 in two separate intervals. In 1985 average production for this well was 5 MCF per day, and as of April, 1985 the cumulative production is 2,097 MMCF.

The seventh well from the left is the originally Alpha 21 Production Company, now Doyle Hartman Harrision Federal No. 3 well. This well is located 1,980 feet from the north line and 660 feet from the west line of Section 27, Township 25 South, Range 37 East, in Unit E. The well was completed on the 7th of May, 1980, through perforations between depths of 2,869 feet and 3,016 feet,

with 17 holes. After being acidized with 3,000 gallons and the sand/water fraced with 52,000 gallons of -- of gelled water and 109,000 pounds of sand, for 210 MCF per day, and 50 barrels of water per day, through a 48/64 choke, 2-3/8 inch tubing, with a casing pressure of 110 pounds, with the tubing set at 2,910 feet. April of 1983 was the last production, as we've previously testified. The well was temporarily abandoned on June the 1st, 1984. The 1983 average production for the months of January through November was 41 MCF per day, and 33 barrels of water per day; and the 1983 cumulative production, which is the same cumulative at the time the well was temporarily abandoned, was 63.6 MMCF.

The eighth well, or the well from the left, or the well at the right of cross section A-A' is the El Paso Natural Gas Company Harrison Federal No. 1 well, located 1,980 feet from the south line and 660 feet from the west line of Section 27, Township 25 South, Range 37 East, in Unit L. This well was completed on the 13th of December, 1955, from perforations between depths of 2,838 feet and 2,930 feet, after having been sand fraced with 10,000 gallons of Jal salt water and 10,000 pounds of sand for a flowing potential of 9,700 MCF per day, with a casing pressure of 890 pounds, through 2-1/2 inch tubing set at a depth of 2,930 feet.

There was, as you will notice -- pardon me -- in the description at the bottom of the page for this well, there's -- there were two intervals in the Langlie

-- the lower Jalmat and the -- and/or the Langlie Mattix, and it would appear that they are the -- that they are actually -- the lower one is probably in the Langlie Mattix and the upper one may be in the Jalmat or it may be in the -- the Langlie Mattix. I don't have the exact data, I don't have the well log, and can't correlate it with the Commission's standard cross section in order to be able to tell exactly, but it would appear definitely that the lower interval is definitely in the Langlie Mattix, and the upper one may be -- and both of those were abandoned after failing to establish commercial production in the Langlie Mattix.

Q Mr. Aycock, going back to the Alpha 21 Harrison Federal No. 3, what was the date of last production on that? You stated April 1983.

A I beg your pardon, it was November of 1983.

Q Now, the red perforations indicated across these, on each of the --

A Those are the Jalmat perforations that either were or are being produced.

Q What does this cross section show you?

A It shows, basically, that all the wells have been completed in a correlative interval in the -- within the Jalmat section.

Q And have been produced from that interval?

A Correct.

Q Would you now go to your next exhibit, which is your cross section B-B'.

A Starting at the west, the lefthand side of the cross section, the first well is the Lewis B. Burleson, Inc. Hadfield No. 1 Well that's located 660 feet from the south and 1,980 feet from the east line of Section 21, Township 25 South, Range 37 East, in Unit O. This well was completed on the 23rd of February, 1947, from open hole between depths of 2,650 feet and 3,024 feet, without stimulation, for an indicated flowing potential of 3,225 MCF per day, casing pressure of 965 PSI through 2 inch tubing set at 3,000 feet. The 1985 average production for this well was 20 MCF per day, and the April '85 cumulative is 3,098 MMCF.

The second well from the left is the Lewis B. Burleson, Inc. Hadfield No. 2 well. This well is located 660 from the south line and 660 feet from the east line of Section 21, Township 25 South, Range 37 East, in Unit B. This well was completed -- pardon me -- March 30, 1949, through a perforated interval between depths of 2,973 and 3,040 feet, which had been shot with 100 quarts of nitroglycerin, for a flowing potential of 3,040 MCF per day. As of May the 12th, 1977, the well was plugged back to a depth of 2,940 feet, was perforated between depths of 2,878 feet to a depth of 2,924 feet, acidized with 1,000 gallons and flowed 40 MCF per day. The last production from this well from the Commission's records was in April of 1982. The

1982 average production for the months of January through April was 2 MCF per day, and the April, 1982 cumulative production from this Jalmat interval was 87 MMCF.

The third well from the left is the Doyle Hartman Carlson Federal "Com" No. 4, which we've previously referred to as the Hartman Federal -- "Com" Federal -- Hartman Harrison Federal "Com" No. 2, because that is the way the forms were filed with the Commission originally.

This well is located 1,650 feet from the south line and 660 feet from the west line of Section 22, Township 25 South, Range 37 East, in Unit L. The well was completed on September 12, 1985, through perforations between depths of 2,885 feet to 3,067 feet, that had been perforated with 21 shots, acidized with 5,100 gallons sand/water frac with 171,000 gallons and 320,000 pounds of sand, for 147 MCF per day, pumping eight 54-inch strokes per minute, with a 1-1/4 inch pump through a 20/64 choke and 2-3/8 inch tubing set at 3,149 feet, with a casing pressure of 58 PSI.

The Langlie Mattix was tested on September 4, 1985, through perforations between depths of 3,303 feet to 3,396 feet, acidized with 5,050 gallons, swabbed 3 barrels of oil a day and a trace of water. It was non-commercial, so a cast iron bridge plug was set at 3,275 and the previously referred to completion was affected in the Jalmat interval.

There's a note there about the average bottom hole pressure reading. We've already previously reviewed that on the other cross section.

The fourth well from the left is the El Paso Natural Gas Company Carlson Federal No. 1. well, which is located immediately north of the Carlson Harrison Federal "Com" No. 4 or "Com" No. 2, depending on which set of information you're reviewing. The well is located 1,980 feet from the south line and 660 feet from the west line of Section 22, Township 25 South, Range 37 East, in Unit L. It was completed September 6, 1955, through perforations between depths of 2,822 to 3,062 feet, that had been sand/water fraced with 20,000 gallons and 20,000 pounds of sand, for 16,500 MCF per day flowing --

MR. QUINTANA: Mr. Aycock, may I ask you a question?

A Sure.

MR. QUINTANA: What's the purpose of the -- of your -- are you trying to show me that this --

A That the whole thing is gas productive and that it basically produces from the same intervals through the Jalmat. They're all basically producing from correlative intervals.

MR. QUINTANA: Fine. I was just wondering if there was a reason for your reading each individual one.

MR. CARR: Mr. Quintana, what we've been doing so far is really background. As we move now to the eastern part of this cross section, we're getting into the area where there may be questions as to the productive acreage. I think it's important, particularly at this point, to be able to bring in at least these last three wells which are, I think, in the area which is really the -- the focus of today's case.

MR. QUINTANA: You may proceed.

A Okay. The well was completed with 16,500 MCF per day flowing at 606 pounds on both the tubing and the casing through 2 inch tubing set at 3,062 feet. It is interesting to note that this same -- the Jalmat intervals were drill stem tested three times during the progress of drilling the well.

The first test was between a depth of 2,710 feet and 2,802 feet, which is the uppermost of the three intervals indicated by the "Z"-shaped symbol on the well log. The tool was opened 30 minutes; there's no indication of how long it was shut in. It recovered -- I beg your pardon. It was 15 minutes shut in, it recovered 15 feet of slightly gas-cut mud, the flowing pressure was 25 pounds, and the shut-in pressure was 25 pounds in 15 minutes, indicating that there was no permeability feeding it and no feed-in during the progress of the test.

The second drill stem test which is the middle of the three "Z"-shaped symbols indicated

by those depths on the well log is between depths -- pardon me -- 2,852 feet and 2,962 feet. The tool was open one hour with gas to surface to 16 minutes. They flowed an estimated 115 MCF per day during the flow period, recovered 570 feet of heavily gas-cut mud, with a flowing pressure of 235 PSI, and a 15 minute shut-in pressure was 900 pounds, indicating that there was excellent reservoir quality and productivity at that level.

The third drill stem test indicated by the lowermost of the three "Z"-shaped intervals on the well log is between depths of 2,957 feet and 3,074 feet. The tool was open one hour and 20 minutes, with gas to surface in three minutes, flowing at an indicated rate of 2,744 MCF per day, recovered 150 feet of gas -- heavily gas-cut mud, with flow pressures of between 400 and 450 pounds, and a 15 minute shut-in pressure of 665 PSI, once again indicating excellent productivity from the Jalmat interval.

The fifth well from the left-hand side is the El Paso Natural Gas Company Pritchard Federal No. 1. This well is located 660 feet from the south line and 1,980 feet from the west line of Section 15, Section 25 South, Range 37 East, in Unit N. The well was completed on July the 12th, 1956, through perforations between depths of 2,799 feet and 2,934 feet, that had been shot with 392 perforations and fractured with 60,000 pounds and 60,000 gallons, for a flowing potential of 9,500 MCF per day, with

an indicated tubing flowing pressure of 669 PSI through 2 inch tubing set at a depth of 2,939 feet.

The perforations between depths of 2,898, which is the lowermost of the two indicated red intervals on the well log, and 2,934 feet were separately sand-fracked with 30,000 gallons and 30,000 pounds, and a bridge plug was set at 2,870. The thing was perforated between the -- the depth and the upper interval, the 2,789, the 2,844 and perforated with 204 feet. So, the lower interval was tested separately on this well.

The cumulative -- the 1985 average production for this well was 91 MCF per day, and as of April '85 it had accumulated 3,048 MMCF of gas production.

The sixth well from the left is the Lewis B. Burleson, Inc. Stuart No. 2. This well is located 660 feet from the north line and 2,310 feet from the south line -- from the west line, pardon me, of Section 22, Township 25 South, Range 37 East, in Unit C. It is presently producing from the Jalmat between depths of 3,243 feet and 3,342 feet as of 9/23/74. It was originally completed in the Jalmat between depths of 2,790 feet and 3,391 feet on December the 12th, 1956, through 536 shots that were sand-fraced with 10,000 gallons and 10,000 pounds of sand, and it flowed 7,100 MCF per day, with no indication of pressures. The -- in 1974 the cast-iron bridge plug was set at 3,362 feet, and the well was re-completed in the Langlie Mattix. The last Jalmat production was in May of 1974. The average

Jalmat production during 1974 was 37 MCF per day and 2 barrels of oil per day, and the 1980 -- the 1974 cumulative Jalmat production was 1,439 MMCF.

The last well, which would be the seventh well from the left, or the righthand well, located at B* to the furthest east is the Mobil Langlie Mattix Queen Unit No. 40. This well is now completed in the Langlie Mattix between depths of 3,278 and 3,285 feet as of October the 28th -- 29th, 1971. It was originally completed on May 3rd, 1938, in the open hole interval between 3,285 and 3,300 feet, all of which is in the Langlie Mattix interval. But in -- on December the 2nd, 1958, the original completion in the Langlie Mattix was abandoned and it was perforated between depths of 2,697 and 2,864 feet in the Jalmat. It was sand-fraced with 15,000 gallons and 8,500 pounds. It was then dually completed after the removal of the separating equipment between the Langlie Mattix and the Jalmat, reclassified as Jalmat gas duo with Langlie Mattix, and in 1971 these perfora-tions were squeezed off and it was returned to production as a Langlie Mattix single completion. The last Jalmat production was in October of 1969, and the 1969 -- as of that date, the cumulative Jalmat production was 172.3 MMCF.

Q Now, Mr. Aycock, what does this cross section show?

A It shows once again that the -- that the wells have been completed in the Yates portion, largely in

the Yates portion of the -- of the Jalmat interval, and that all of them have been in intervals that are easily correlatible sic) from east to west, and all of them have produced gas in paying quantities at one time or another from the Jalmat.

Q Based on this information, can you make -- reach any conclusion as to the productive capability of the acreage within the proposed 400-acre proration unit?

A Based upon the data that's available, and based upon the fact that Mr. Hartman has, in his application, has rejected from a proration unit that was originally found by the Commission to be productive of gas, has rejected the east 80 acres, it is entirely reasonable to expect that it is all productive of gas.

Q Would you now refer to what has been marked for identification as Hartman Exhibit Number Six.

A Hartman Exhibit Number Six is a structure map on the top of the Yates that is intended to demonstrate the -- a conservative estimate of the porosity pinchout in the Jalmat zones. We would call the Examiner's attention to the four green circles that are located to the east of the pinchout -- five green circles, I beg your pardon; one of them in Section 15, three of them in Section 23, and one of them in Section 26.

All of these wells were produced and carried by the Commission as Jalmat wells. They are approximately a half mile to a quarter of a mile from the

pinchout, the conservative pinchout, that has been interpreted on this figure, and this shows the reason Mr. Hartman chose to omit the east half of the southeast quarter of Section 22 from the proposed proration unit because even though there had been gas production in commercial quantities from the Jalmat east of it, he felt upon reviewing the data that it was not sufficiently indicative of commercial production, and he made a conservative estimate and chose to omit that 80 acres that was on the far east side of the original proration unit assigned to the -- originally assigned to the El Paso Carlson Federal No. 1 well.

MR. KELLAHIN: Mr. Examiner, I'm going to raise an objection as to the last narrative response from this witness.

I thought when he began his testimony, this was his interpretation of the geologic porosity pinchout for the Jalmat, and he's gone on to tell us that this is -- this is Mr. Hartman's geologic interpretation. He is a geologist; if that's his testimony, he ought to come today to testify about it.

I'm going to object to that portion of Mr. Aycock's testimony that refers to what Mr. Hartman may or may not have concluded as a geologist because he's not here, and we request that Mr. Aycock either restate his testimony so he gives us only his opinions and not someone that's not.

A Mr. Hartman's review was based upon -- his opinion was based upon my review and recitation of the facts to him. I was the one who reviewed it and drew the conclusions and recommended to him that that 80 acres be removed in order to avoid controversy and avoid the appearance of trying to put in non-productive acreage into a gas proration unit.

MR. QUINTANA: Is that acceptable to you, Mr. Kellahin?

MR. KELLAHIN: I'll take it for what it's worth, Mr. Examiner.

Q Mr. Aycock, the red line on this is the porosity pinchout that you've been discussing?

A Yes.

Q And the blue line on this is a trace for a subsequent cross section?

A That's correct.

Q Is there anything further that you would want to present from this exhibit?

A Not really.

Q Would you now -- do you have pressure data on the Jalmat wells on this area?

A Yes.

Q Is that contained on what has been marked as Exhibit Six-A?

A It is.

Q Would you refer to that at this time,

please?

A Exhibit Six-A is a -- a list of all of the gas -- the Jalmat gas wells that are in the vicinity of the proposed 400-acre proration unit, and those five wells that are located to the east of the interpreted pinchout are highlighted in yellow on this list.

Q And what does this show, then, Mr. Aycock?

A This shows that there was substantial -- there has been substantial Jalmat gas production from areas immediately east of -- or substantially east of the pinchout that I have interpreted and convinced Mr. Hartman should be used in this case in order to avoid the appearance of attempting to include any acreage that could be in any doubt of being reasonably productive of Jalmat gas. It shows substantial gas having been produced.

If you will look at the five numbers in columns 7 under "Gas, NCF Initial to Date," that is the cumulative production for those wells, and you will notice that those numbers range from a low of 24,450 MCF to a high of 6,375,000 MCF, and a million number of somewhere around a billion cubic feet of gas that has been produced in the Jalmat from those five wells located to the east of the indicated, conservative, red pinchout line.

In addition to that, they're all -- listed on Exhibit Six-A are the last shut-in wellhead pressures that were submitted to the Commission and the date

on which those were submitted, and you'll notice that the latest ones that are in the records are in 1983, some of them are in 1981, and there are a few as early as 1971, and the pressures are all over the map. The low numbers are about -- is 13 PSI and the high number is 139 PSI, and a cursorial (sic) evaluation and perusal of these numbers would indicate that there's no particular pattern to them.

Q Mr. Aycock, referring to Exhibit Six-A, the wells that are highlighted, are these the same wells that are indicated by green well spots --

A Yes, they are.

Q -- on the preceeding exhibit?

A They are.

Q Is there anything else you'd like to present from Exhibit Six-A?

A No.

Q Would you now refer to what has been marked as Exhibit Number Seven and briefly review the information on that exhibit.

A This is cross section No. E-E', the trace of which was indicated on Exhibit Number Six, which is a north-south cross section that runs immediately to the west of the indicated interpretive pink line.

Mr. Examiner, if -- you have expressed a desire to short-cut the -- if you wish me to, I will go through each well. I think it is apparent that if you will -- if you will peruse it, that up to the north you

can see that the Jalmat has been productive, and as you approach the south, it has been tested but not been productive. However, gas has been tested in many of these wells, and if you will look at the date of those that were never completed, you'll notice that they are in the 1938-1939 range when gas was not a -- an object of intensive exploration and exploitation in southeast New Mexico.

Presumably, one or both of the wells that were not completed in the Jalmat on the south end could have been completed in it but because there were indications that there was gas present, as indicated by the -- the far south well, the Amerada Hess, for instance, which is the lowest well structurally and the furthest south. This well was drill stem tested several times up and down the holes, and the drill stem test between depths of 2,875 feet and 3,100 feet was open four hours with gas to surface in 50 minutes, recovered 250 feet of heavily gas-cut mud with a trace of oil, and 60 feet of heavily oil-cut mud, with flowing pressures of from 285 to 320 pounds, and a shut-in pressure of 665 pounds in 30 minutes, indicating with little doubt that a commercial Jalmat gas well could have been perfected in that wellbore.

So, it is my -- this is the reason that I made the recommendation to Mr. Hartman that we -- we use this to tie down the -- the indicated -- the interpreted pinchout of the Jalmat intervals and not exceed this, even though the Commission has previously made findings that

there is acreage to the east of the line and even though there are five wells that were originally produced and carried by the Commission in the Jalmat field that have been produced from this area east. In order to avoid criticism and controversy, it was my recommendation to him that we drop the 80 acres out and move on further to the west so that we would not appear to be trying to stretch the facts.

MR. KELLAHIN: Mr. Examiner, I've been very patient with Mr. Aycock, as I've always tried to be, but his errant editorial, argumentative comments have gone too far. I would request that the Chairman, or the Examiner, direct him to confine himself to the testimony and data, and not editorialize.

MR. CARR: Mr. Examiner, Mr. Aycock is an expert witness in petroleum engineering. He was qualified as such, and he's entitled to give you his opinion.

MR. QUINTANA: Mr. Kellahin, I'm going to overrule your objection, but, Mr. Aycock, I'm going to warn you to keep your opinions strictly to the exhibits that you've prepared and only to those exhibits.

A Yes, sir.

Q Mr. Aycock, now, as to the productive capability in the Jalmat of the proposed 400-acre proration unit, what is your conclusion?

A My conclusion is that the whole 400 acres would have been productive of gas and is productive of gas; the only difference will be the rate at which a well

completed on a given tract would be able to deliver gas.

Q Based on your review of the area and your understanding of -- of the data that you've presented, in your opinion are the wells that Mr. Hartman proposes to operate on this unit necessary to produce the reserves from that unit?

A Yes, they are.

Q And Mr. Hartman is seeking today not only the creation of the unit, but the approval of the two unorthodox well locations?

A That's correct.

Q In your opinion, will granting this application protect correlative rights and prevent the waste of hydrocarbon?

A Yes, it's my opinion that that's correct.

Q Would you now refer to Hartman Exhibit Number Eight and identify that, please.

A Hartman Exhibit Number Eight is a tabulation of monthly production by years starting with 1976 and coming forward for those -- well, not 19- -- starting with 1970 and coming forward for those that have it, for Jalmat wells that are -- that -- to which our testimony has previously referred. They're on the previous figures and are in the area, and we would call the Examiner's attention to the fact that, without burdening him with going through and reading every month or every year, in -- that in late years in particular, for many of these wells, the production has

been quite variable, indicating that the wells are loading up and have reached the limit of time that they're going to be able to produce by natural flow, and some of them will probably be abandoned at this point, and others will probably not be. But the point in this being that to go ahead and drain the remaining reserves it's apparent that additional development is needed.

Q Now, Mr. Aycock, do you have anything further to add to your testimony?

A No.

Q Were Exhibits One through Eight and Six-A prepared by you or compiled under your direction?

A Were compiled under my direction.

Q Can you testify as to their accuracy?

A I can.

MR. CARR: At this time we would offer into evidence Hartman Exhibits One through Six, Six-A, Seven and Eight.

MR. QUINTANA: The exhibits just described by Mr. Carr will be entered as evidence.

MR. CARR: That concludes my direct examination of Mr. Aycock. I pass the witness for cross.

MR. QUINTANA: For the record, though, I would like to make a statement about my -- Mr. Aycock, I was not trying to shorten your testimony in any way. I was just trying to -- there is so much data that I

have to -- have to look at here, and I only want the data that's essential to my -- to me to be able to make a decision. If I have extra stuff that I have to listen to that has no bearing on the case, it's just extra stuff for me to look at, and I have to sit through it all night. I don't feel like I want to do that.

MR. AYCOCK: I apologize, Mr. Examiner. The previous time we presented it, Mr. Stogner requested that we put all of it in, so it's my fault. I should have asked you before I did it.

MR. QUINTANA: I just want the record to reflect that I wasn't trying to restrict you in your testimony, but I just wanted the essential facts because of the sheer volume of information that's going to be presented to me at this time.

Mr. Kellahin -- excuse me. We'll take a short five-minute recess.

(Thereupon a recess was taken.)

MR. QUINTANA: Let the record show that Mr. Aycock has finished his testimony, and we have entered Exhibits --

MR. CARR: One through Eight, plus Six-A.

MR. QUINTANA: -- One through Eight, plus Six-A, into evidence, and it's Mr. Kellahin's turn to cross-examine the witness, if he would like.

You may proceed.

MR. KELLAHIN: Thank you, Mr. Quintana.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Aycock, let me direct your attention to Exhibit Number Four, which is your A-A' cross section. And if you'll count over from the left, the fourth well, which is the subject well, the Carlson Harrison Federal "Com" No. 4, the well located in the northwest of the southwest, the No. 4 well, is the one that was drilling or being tested when we had this hearing back in September, is that correct?

A That's correct, yes.

Q I notice in the log on that well you've given us an initial potential of 147 MCF of gas a day. Then, down below that in the yellow shading, it says you have a September 20th test. It shows a flow of 343 MCF per day. What is the difference between those two?

A It's just a further test after the well was flowed some more and cleaned some more. The 147 was the test that was the official test that was submitted to the Commission to establish the gas productivity is all.

Q Subsequently, then, you ran a -- another production test, and when it flowed, I guess, on September 20th, then we had a flow rate of the 343 MCF?

A That's correct. That -- you will notice that was on the 28/64 choke. Various -- versus it was on a 20/64 choke on the original test of 147 MCF per day. So,

it's a combination of the well cleaning itself up more and the fact that a larger choke size was used.

Q Based upon the test for this well, Mr. Aycock, are you able to conclude as an engineer that the subject well, the No. 4 well, has the capacity or the ability to effectivey and efficiently drain the proposed non-standard proration unit?

A I think it probably could. I can't tell you unequivocally because, obviously, on a short-term test I can't -- I can't determine that it's going to be able to drain a 400-acre proration unit in conjunction with a second well that will be drilled on the -- in the southern location, assuming that this application is approved. I would say that there is a preponderant (sic) probability that they -- the two wells between them will be able to drain that.

Q Is it -- is it your opinion that the No. 5 well, which is the one we've talked about being restricted to Unit C in Section 27, is it your opinion that the No. 5 well needs to be drilled and completed in the Jalmat in order for that well and the No. 4 well to effectively and efficiently drain the proration unit?

A At the present time, lacking demonstrable evidence that the No. 4 would drain it by itself, if -- I believe so, yes, I would recommend that both wells be drilled.

Q And has Mr. Hartman made the decision based upon the information available now to go ahead and

drill the No. 5 well?

A If the application is approved, he will proceed forthwith to drill it. He has already staked the locations. He's looked at several locations; among them are those that -- he's looked at several in addition to those that are in Unit C, and after our discussions and a review of all the data prior to this hearing, I recommended to him that he consider confining the application to Unit C because I felt that, number one, it would be a more propitious location for the drainage of whatever reserves remain, and it would avoid unnecessary controversy over drainage across lease lands.

Q Can you give us today the actual footage location for the No. 5 well?

A I cannot. It would be within Unit C, that's all I can tell you at this point.

Q Is there a reason that you're aware of that we can't more specifically locate that well?

A The reason is at this point that Larry Nyrmer, who is the engineer that's in charge of drilling and production for Hartman, has not had an adequate chance -- or the last I talked to him, he had not had an adequate chance to examine the ground and see what would be the most propitious location from the standpoint of the surface. And, as you know, these are crowded areas of -- there is no telling what's out there. There may be nothing, but there could be something. So, I just can't tell you.

Q We could use any of the structure maps. I have in front of me Number Six, Exhibit Number Six, which is a structure map on the top of the Yates. If we look at Section 22 and the west half of the southeast quarter, within that 80-acre tract, Mr. Aycock, has there ever been a Jalmat gas well?

A The west half of the southwest of 22, yes, the original --

Q I'm sorry, the southeast. The west half of the southeast of 22.

A Not to my knowledge.

Q As we move down into Section 27, the Terra Resources well up in Unit B of 27, is that the only Jalmat gas well in the west half of the northeast quarter?

A Yes.

Q And when we look at the northwest quarter of 27, and within that quarter if we look at the east half of the northwest of 27, there haven't been any Jalmat gas wells in that 80-acre tract?

A That's correct.

Q Have you -- looking at the Terra Resources well, have you made a calculation of the drainage effect that the production from that well has in the Jalmat?

A No, I have not.

Q When we look at the structure maps, and you've made your analysis of the various cross sections, is it fair to conclude from your testimony that in your opinion

as we move to the west and to the north within the proposed non-standard proration unit, we're moving into a better portion of the Jalmat reservoir?

A Not necessarily. The reason for my recommending to Mr. Hartman that he confine the second well to Unit C was that I believe that drilling it in Unit C achieves a structural position that is essentially equivalent to the existing Carlson Federal 4 Well, and I think there's a good chance that he could have as good or better well than the Carlson Federal 4 because of that.

So, I wouldn't say necessarily just going to the west. I think there's a fairway in there like there is in -- throughout the Jalmat. You find north-south trends on which the sands are better developed from the standpoint of particularly permeability, and it is most fairways that you can most efficiently develop and drain whatever reserves remain.

Q Let's talk for a moment, Mr. Aycock, using the structure map as an example, just to help us with the well locations, let's talk for a moment about gas prorationing in the Jalmat. The Jalmat is a prorated gas pool in New Mexico, is it not, sir?

A That's correct.

Q And is the proration formula used for the Jalmat one that is affected by the acreage that's allocated to the wells?

A It is if the well is a -- is not a

marginal well, that's correct.

Q All right. Can you give us an example of how we would determine the allowable for a proration unit the size as you've proposed of 400 acres?

A Divide 400 by 160, and apply that to the allowable that is -- that portion of the total number of units that are non-marginal, as applied to the gas that remains to be distributed among the non-marginal wells after taking into account the nominations as adjusted by the Commission, less the amount that's allocated to the marginal wells.

Q All right, sir, if we use -- if we use an acreage factor of 1 for every 160 acres, then in order to find the allowable, we'll have to see how many 160's there are in the 400?

A That's correct.

Q I get 2.5, all right?

A That's correct.

Q Can you approximate for us what the allowable would have been using the July or the August proration schedule in '85 for a total allowable for a 480-acre proration unit?

A Not right off, I can't.

Q When we look at the wells that you've proposed to -- or Mr. Hartman proposes to dedicate to the 400-acre non-standard proration unit, the advertisement talks about the two subject wells, which would have been the newly

drilled and completed No. 4 well, the proposed No. 5 well, and it also lists the Carlson Harrison 1, 2 and 3. You've told us today that the No. 3 is not currently producing.

A It's temporarily abandoned and has been since, when did I say, 1984, I believe, June of 1984, if I recall correctly.

Q That leaves us, then, with the No. 2 well in the northwest of the northwest of 27, and the two wells in the west half of 22 -- 2, 3, and then the undrilled well, that would be 4.

A That's correct; five, if you include the one that's TA'd or four if you include only the three that are now producing plus the projected No. 5.

Q With regards to the No. 4 well, do you have an opinion as to whether or not that well is going to be non-marginal or marginal?

A My opinion is that it will be non-marginal.

Q Under the prorationing rules with regards to the wells producing from a unit, would you propose to produce that allowable first out of the marginal wells, and then the balance out of the non-marginal wells?

A Yes, Mr. Kellahin, I would, for several reasons that I'd be glad to elaborate on, if you wish.

Q Does Mr. Hartman have any requirements with El Paso Natural Gas with regards to how their well, the No. 1 well just north of the 4 Well, is to be produced in

relation to the total allowable?

A In the farmout agreement, it is required that that well be allowed to produce. I don't have the exact language, but Mr. Carr has a copy of the farmout agreement; but there is a prescription, yes.

Q Is the prescription such that that El Paso well, the No. 1 well, will be allowed to produce at its total capacity?

A That's correct.

Q Okay. Can you tell us what the current ability of that well is to produce?

A If you give me a moment, I can recite what the production history has been. I have the data through May of 1985, and the production is as follows by months for the former El Paso, now Doyle Hartman, Carlson Federal No. 1 Well.

It produced 68 MCF in the month of January; nothing in the months of February and March; 147 MCF in the month of April; and 44 MCF in the month of May.

I might add that the shut-in periods -- and Mr. Hartman assumed operations of the well on -- effective August 1, 1985, so there is no -- there is no data available from the public record as of the time I had this prepared that would reflect the history subsequent to the time he took it over. But I do know that the well is operated strictly in conformance with what El Paso requires.

Q Does Mr. Hartman propose, or does he have a contractual commitment that requires him to rework the No. 1 Well to increase its ability to produce?

A I don't believe that's permitted under the current agreements in force and I suspect Mr. Kendrick would have to tell us, but I suspect El Paso would resist any attempt to -- for Mr. Hartman working on the well. That's their well and they have -- they effectively have control there, even though Mr. Hartman is the operator of record, because they determine how the well will be operated.

Q So the last month of reported production for that well was May and we have 44 MCF for the total month?

A That's correct.

Q All right. And what is the last reported production on a monthly basis for the No. 2 Well in the northwest of the northwest of 27?

A The Carlson Harrison No. 2? I mean the Harrison Federal, what was originally the Harrison Federal No. 2 Well is what you're talking about.

It produced the following amounts in -- in 1985, January, 132 MCF; February, 143 MCF; March, 128 MCF; April, 132 MCF; May, 158 MCF.

Q Okay, that's a monthly number.

A That's correct.

Q And what is your best opinion as to the productive ability of the No. 4 Well, the new well, to produce?

A I haven't made any estimates as yet because I don't have enough long term deliverability data to do them.

All I have is preliminary tests from a -- essentially a shut-in time and I don't have a stabilized deliverability test to enable me to make a very -- a specific and relatively accurate guess as to what the deliverability is going to be.

I would guess it's going to be in the range of 200 MCF a day, which would be 6000 MCF a month, in round numbers.

Q Have you determined whether or not you could continue the dedication of the south half of Section 22 to the No. 4 Well rather than reform the proration unit as you propose?

A Well, we'd have a -- the only way we could do it would be an 80-acre proration unit and that would be ridiculous to have the well on an 80-acre proration unit when the Commission some time ago had a finding that the No. 1 Well could efficiently and effectively drain 320 and that 320 was dedicated to it, it would make no sense to

drill it on an 80, and in fact, he would not have done it at all if he had realized the dual dedication but for the time he recognized that there was dual dedication and that he had a discontiguous proration unit he was already committed to drill the well.

Q Have you made a determination of whether the No. 4 Well and the El Paso No. 1 Well in combination, whether the production from those wells will exceed an 80-acre allowable?

A Probably they would, at least initially. Whether they would on a long term basis, obviously, I don't have sufficient data at this time to give you a precise answer.

Q With the exception of the No. 4 Well do you anticipate that the other wells on the nonstandard proration unit would be marginal wells?

A Yes, I do, because the No. 3 Well, when it's returned to production, will doubtlessly be a marginal well. I suspect it would.

Now, once again, when that's re-equipped and if it is, a pumping unit on it, I could be surprised, but at the present time I would expect it to be, yes, based upon its previous performance.

Q The purchaser for the gas in the proration unit will be El Paso?

A That's correct. Have you made a determination of whether the acreage as you propose to dedicate to the well is all subject to the same type of gas pricing?

A I have not made any such determination, no.

MR. KELLAHIN: Thank you, Mr. Examiner. I have nothing else.

MR. QUINTANA: Are there other questions of the witness?

MR. CARR: I have no further questions.

MR. QUINTANA: At this time I have no questions of the witness. He may be excused.

MR. CARR: At this time I'd call Mr. Nutter.

MR. QUINTANA: You may proceed.

DANIEL S. NUTTER,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Would you state your name, please?

A Dan Nutter.

Q Mr. Nutter, by whom are you employed?

A I'm a consulting engineer in Santa Fe, New Mexico, employed in this particular case by Mr. Doyle Hartman.

Q Have you previously testified before this Commission and had your credentials as a petroleum engineer accepted and made a matter of record?

A I have.

Q Are you familiar with the application of Mr. Hartman in this case?

A I am.

Q Are you familiar with the subject area?

A I am.

MR. CARR: We tender Mr. Nutter as an expert witness in petroleum engineering.

MR. QUINTANA: He's considered an expert petroleum engineer.

Q Mr. Nutter, in reviewing the application of Mr. Hartman, have you reached an opinion as to what impact granting this application would have on correlative rights of interest owners in the area?

A I don't see that the application as applied for, if approved, would impair the correlative rights of any offset operator.

Q And upon what do you base that determina

tion?

A Okay. In the first place, we're asking for a 400-acre unit comprising two 80-acre tracts in the south half of Section 22, a 160-acre tract and an 80-acre tract in the north half of Section 27.

To reiterate what Mr. Aycock had said, the El Paso well in the northwest quarter of the southwest quarter of Section 22 in 1956 was approved for a 320-acre unit. That well was 660 feet from the north boundary and 660 feet from the west boundary of that 320-acre unit. It had an entire acreage dedication factor of 2 assigned to it.

Now we're seeking a 2.5 acreage factor here today, but that acreage factor is going to be divided among four and possibly five wells to be produced.

Now, if we go a little bit -- attack this with a little bit different perspective, we could take the south half of Section 22 and the north half of Section 27, and we would have a standard 640-acre unit in the Jalmat Gas Pool. The only thing that would be nonstandard would be the fact it was crossing the section line, but it would be a 640-acre block.

Now, a location in Unit C would be a standard location for one well on that 640-acre tract. We're asking for one of five -- one of four and possibly five wells to be dedicated to that pink area in Unit C of

Section 27.

So again, the well could be dedicated to the entire 640 by itself, but we're only asking for it to share the allowable with several wells and an allowable of 400 barrels -- 400 acres rather than 640 acres.

So for this reason, any way I look at it, I don't see that the correlative rights of any offset operators can be impaired.

Q What happens if there's a problem selling the gas once the wells are drilled?

A Well, we don't anticipate any problem selling the gas other than normal gas bubble problems; however, we do anticipate that there might be a delay in hooking up the well in Unit C of Section 27. Operations are underway at this present time to get the No. 4 Well hooked up and we would propose that we would run a line from Unit C of Section 27 up to Well No. 4 in Unit L of Section 22.

We would have a meter on that and the gas would be sold through a common meter at the -- at the No. 4 site.

Q Is this consistent with Division rules and precedent?

A Yes. It's not commingling because all the gas is coming from the same proration unit. What we would be doing would be passing the gas from one well on the

proration unit to the meter located at another well on the same proration unit and selling the gas through a common meter and furnishing the pipeline company with our readings of the gas production that comes from the new No. 5 Well, and then the subtraction method would determine how much came from the No. 4 Well, which is the existing well.

Q In your opinion would anyone's correlative rights be impaired if there were limits imposed on the rate with which -- that any of these wells could be produced other than the general proration limitations?

A No, I don't think so because we'd still be limited to the total allowable that could be produced.

The other wells, the No. 2 Well in the northwest of the northwest of 27, it has its own meter installed by El Paso.

The No. 3 Well that has been shut in for a couple or three years, still has its meter run on it.

The old El Paso Carlson No. 1 has its meter run on it.

So there are three meters in existence. A fourth meter is being installed, and we would install our own fifth meter to try to expedite sales from the new No. 5.

Q Do you believe any other limitation should be imposed on production on any of the wells other than those that result from prorationing or that arise from

the farmout agreement?

A No. No. There's no reason for any imposition of production limitations on any of the wells.

I would add, also, that in the event the Commission should see this as commingling, we could apply for it administratively, I believe, but I don't think it's commingling.

The Rule 21A of the general gas rules for southeast New Mexico specifies that every well must have a meter on it, but I think what that's referring to, it was thinking about a one well proration unit, and certainly every proration unit ought to have a meter on it, but when you're combining sales from two wells, I don't believe it's critical to -- I don't believe you have to interpret that as commingling. That's up to the Commission. We'll apply for commingling if they want us to.

Q Do you have anything further to add to your testimony?

A No, I don't.

MR. CARR: And I have nothing further of Mr. Nutter.

MR. QUINTANA: Mr. Kellahin?

MR. KELLAHIN: Thank you.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Nutter, your hypothetical was that you would form a standard proration unit out of the south half of 22 and the north half of 27.

A Yes.

Q What would be a standard location for a standard, full size proration unit?

A 1980/1980.

Q And the proposed No. 5 Well in Unit C, would it be 1980 from the west line of that section?

A That's the easternmost boundary that has been specified in the application today, 1980 from the west line, and, of course, the hypothetical proration unit cuts across the middle of Section 27, so you could come up from the hypothetical south boundary 1980 and be in the pink square, also.

Q So the No. 5 Well would be at a standard location from the west boundary of the section.

A If it were 1980, yes, sir.

Q When we look at the currently drilled and completed Well No. 4 --

A Uh-huh.

Q -- in the southwest of 22, that is not at a standard location, is it?

A For what size of a unit?

Q For a 320 or for a 640. It's only 660 from that west line, isn't it?

A Yes, 660 from the west line. It would be a standard unit for 160-acre -- a standard location for 160-acre unit.

Q Is it a standard location for a 400-acre unit?

A No. The -- the -- a standard location for a 400-acre unit is not specified by the rules of the Division. It only specifies in this pool standard locations for two unorthodox -- or standard locations for two sizes of nonstandard units.

It says you'll be 660/660 for a 160 and 660/1320 for a 321. It doesn't say what you have to be for a 400 or a 480-acre unit, or any other size of a unit.

It only says that a standard shall be 1980/1980.

Q So in fact for the No. 4 Well Mr. Hartman, by his application today, is seeking an unorthodox well location.

A Yes. It's specified in the application, for the 400-acre unit, yes.

Q Have you made a calculation of what the maximum allowable will be for a 400-acre unit?

A No, I haven't. I haven't looked at the allowables; I sure haven't.

Q Have you looked to see what the maximum allowable is for Mr. Burleson for the 120-acre unit in the southeast quarter of 21?

A No, but it would have an acreage factor of .75.

Q Have you made any determination of the effect of drainage and counter-drainage across the common section line between Mr. Burleson's wells and Mr. Hartman's wells?

A The wells are all equidistant from the proration unit line.

Mr. Hartman's wells are 660 from the proration unit line and Mr. Burleson's are all 660 from the proration unit line, so there is no drainage or counter-drainage in that respect.

Q With another respect, however, what would be -- is Mr. Hartman's allowable for a 400-acre unit larger or smaller than Mr. Burleson's allowable in the pool for 120-acre unit?

A Well, I would imagine the allowable would be larger if -- the top allowable allowable would be larger.

But he has more acreage dedicated, of course, to it.

Q All right. And if the acreage factor is used as part of the prorationing formula, Mr. Hartman's No. 4 Well is going to have a maximum allowable that exceeds Mr. Burleson's allowable by at least threefold, isn't it?

A For which well of Mr. Burleson's? We're talking about --

Q No. 4 Well.

A We're talking about -- we're talking about four wells Mr. Hartman is operating on the west 160 acres of the proration unit.

Q And the only nonmarginal well, Mr. Nutter, the one we're talking about --

A I don't know if any of the wells would be nonmarginal. You can't look at allowables today and say what an allowable is because there's -- they fluctuate so widely. I'm expecting they'll go up. I think the nominations this morning indicated that the allowables are going up.

You mentioned in your cross examination of Mr. Aycock if he had looked in the July schedule. July allowables were terrible, and I don't know what the allowables are going to be and I don't know if the No. 4 Well is going to be a top allowable well or not.

If allowables go up, it won't be. Let's hope they do.

Q Have you taken into consideration in reaching your opinion that the correlative rights of parties will not be affected, have you taken into consideration the effect of the allowables on the ability of Mr. Burleson's well to compete with Mr. Hartman's well in the adjoining section?

A Mr. Burleson's wells are all producing at capacity right now.

Q And capacity is determined in terms of its allowable, is it not?

A No. No. They're producing at the wells' capacity. All of Mr. Burleson's wells are classified as marginal even under the low allowable, but that No. 2 Well, which directly -- which diagonally offsets the No. 4 Well, that well has been shut in since --

Q You're absolutely certain of that, Mr. Nutter?

A Yes. It's indicated on one of our exhibits, the shut-in date on that.

Q And that well being shut-in --

A The No. 1 Hadfield is still producing.

Q The No. 2 Well.

A I don't believe the No. 2 Well is producing.

Q And you've reached the conclusion that

Mr. Burleson's correlative rights are not affected based upon the fact that you believe that No. 2 Well not be be producing and to be shut-in.

A I believe that one of our exhibits indicates that it's not producing.

From your line of questioning, it sounds as though you suspect I may be wrong.

Okay, I stand corrected. It was another -- it was another -- it was another Burleson well that was not producing. I'm sorry.

No. 2 Well is producing.

Q And what is your information with regards to the ability of the No. 2 Well to produce?

A The No. 2 Well has averaged, I would say, 50-some MCF per day during 1985.

Q And that would cause that well to be classified as a marginal well, then. I assume that would be low enough to be a marginal well.

A I haven't looked at the allowables, as I stated.

I don't have the allowables here. You've got the proration schedule. I don't, Mr. Kellahin.

Q Mr. Nutter, have you examined the producing ability of the wells Mr. Hartman proposes to dedicate to his nonstandard unit to determine how much of the allowable

Mr. Hartman can anticipate to be able to produce out of the No. 4 Well?

A No, because we haven't drilled the No. 5 yet and it would depend on the productivity of the No. 5.

It would also depend on whether it becomes economically feasible to restore the No. 3 to production.

Now we know that the No. 1 and the No. 2 are producing a given amount of gas at the present time. Assuming those wells would continue to produce, then we have three unknowns. We've got the ability of the No. 4 to produce. We've got an unknown, totally unknown quantity in the No. 5, and there's no way of telling right now what the No. 3 would produce. It was making about 41 MCF a day when it was abandoned because of water problems, but --

Q Are you telling me you're not going to produce the No. 4 Well until after the No. 5 Well is drilled and completed and tested?

A Well, we would hope to. We would hope to.

We wanted to start drilling this No. 5 as soon as possible. We don't have a connection for the No. 4 yet.

Q When do you anticipate having a connection for the No. 4 Well?

A We hope before the first of the year, certainly.

Q Will that be before or after you drill and complete the No. 5 Well?

A I don't know. We anticipate starting the No. 5 as soon as possible.

Getting these connections is not always a -- it's not our prerogative as to the date; it's the pipeline's prerograti ve when they're going to connect you.

Q Do you propose to request the Commission to set an allowable for the No. 4 Well based only upon the El Paso Well, the No. 4 Well and the No. 2 Well, or are you going to wait for the others?

A No, we want a unit allowable for the 400-acre unit.

Q And what will that unit allowable be, Mr. Nutter?

A That would vary from month to month. It would be the current allowable times 2.5 if it's not marginal.

Q What is the current allowable?

A I don't know. I don't have a proration schedule.

Q I show you an August, 1985 proration schedule from southeast New Mexico.

A August was another bad month.

Q Do you want to pick a good month?

A There hasn't been one for three years.

Q All right, let's go with August, then.

A Okay, let's find a nonmarginal allowable. A nonmarginal allocation in August of 1985 was 7,822 for a factor of 1.

Q All right, so in order to reach a nonmarginal allowable that equates to the August '85 schedule, --

A You'd multiply 7822 by 2.5. You'd come up with about 18,000 a month, I would imagine.

Q 19,555.

A 19,555. Divide that by 30 now, or 31, that's August.

Q You divide by 31, the actual days in the month?

A Yeah, divide that by 31 and you'll see what the allowable per day would be in August.

Q The per day allowable, then, in August would have been 650 MCF a day for the unit.

A Yeah, we'll have to get a good well then in No. 5 in order to make our allowable for the 400-acre unit.

Q So under the proration formula, the total unit, using the August numbers, you could produce 630 MCF a

day and we know from Mr. Aycock's testimony that the No. 2 Well produced only about 5 MCF a day, is that right?

A I don't remember what the figure was, Mr. Kellahin.

Q He told us that the No. 2 Well had 158 MCF a month.

A There were some zero months there, too, weren't there?

Q Uh-huh.

A I don't know what it will average per day.

Q And the El Paso --

A With all those zeros in there and then a large number and then a couple of zeros, probably gaved it a chance to build up, so its daily production is not going to be that great.

Q All right. And when we look at Mr. Burleson's top allowable for nonmarginal production from his unit in Section 21, 120 acres, what would that allowable be?

A Well, it would be .75 times that, what was it, 7822?

Q Yeah.

And we'll have to divide that number again by 31.

A Right.

Q I get 189 MCF a day for Mr. Burleson's -- looking at the August proration schedule, Mr. Nutter, did either one of Mr. Burleson's wells, were they classified as nonmarginal?

A I'll have to look them up again.

MR. BURLESON: I'm under the L's.

A You've got your first name first, huh?

This is a poor copy of the schedule. Okay, it was the Hadfield's, right, talking about the Hadfield's?

Q Yes, sir.

A The unit is classified as a marginal unit with a .75 factor and it had produced in June 2456, which would be about 80 a day, and so its allowable for August was 2456.

Q Thank you, Mr. Nutter.

MR. KELLAHIN: I have nothing further of Mr. Nutter.

MR. CARR: I have no redirect.

MR. QUINTANA: I have no questions of Mr. Nutter.

Are there questions of Mr. Nutter?

If not, Mr. Nutter, you may be excused.

A Thank you.

MR. CARR: That concludes our direct case.

MR. KELLAHIN: If the Examiner please, we'll call as our witness Mr. Lewis Burleson.

LEWIS B. BURLESON,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Burleson, would you please state your name and occupation?

A All right. Lewis Burleson, practicing geologist and operator of L. B. Burleson, Inc., Oil Properties.

Q Mr. Burleson, do you hold any professional degrees?

A Yes, I have a BS in geology, University of Texas in 1948.

Q Would you describe for the Examiner what has been your experience as a petroleum geologist with re-

gards to Jalmat production in the area that's under discussion here today?

A I have been a New Mexico geologist since 1948 and I have worked on the platform for thirty-seven years.

Q Do you individually and your company along with others own interest and operate Jalmat gas wells in this portion of the Jalmat Pool in Lea County?

A Yes, we do.

Q Can you give us an approximation, Mr. Burleson, of the number of Jalmat wells that you operate?

A We operate approximately 25.

Q Let me direct your specific attention to the offsetting section to the proration unit that's under hearing today, within Section 21, and ask you, sir, whether or not you are the operator of the nonstandard proration unit located in the southeast quarter of 21?

A Yes, we are. Hadfield Lease, the 120-acre lease in the southeast quarter of Section 21.

Q Have you made a study of the geology with regards to the Jalmat Pool in this portion of Lea County, New Mexico?

A Yes, I have.

Q Are you familiar with the operation of your Hadfield wells and of the operations of other operators

in the affected area?

A Yes, I have.

MR. KELLAHIN: We tender Mr. Burleson as an expert petroleum geologist.

MR. QUINTANA: Mr. Burleson is considered an expert petroleum geologist and Jalmat operator in the area.

Q Mr. Burleson, I'd like to direct your attention to what we have marked as Exhibit Number One.

I want to ask you a series of questions based upon this exhibit, Mr. Burleson.

First of all, would you identify what this exhibit is?

A This is a plat of the area in -- that we are discussing today, which shows the cumulative production of all the wells offsetting the proposed unit, 400-acre unit.

It shows where Mr. Hartman had requested his wells to be when he called this -- this hearing, which is in blue.

It shows in green the wells that produced gas, that produced water with the Jalmat gas on top of the Crosby structure, and outlines Burleson and Huff's, Lewis Burleson's holdings in yellow, and outlines the 400-acre proration unit in red.

Q Have you also, sir, prepared a geologic cross section through certain effected wells in this area?

A Yes, we have.

Q I wonder if I could direct your attention at this point to Exhibit Number Two, a copy of which we have placed on the wall, and if you'll describe the information that's contained on that exhibit, Mr. Burleson, I'll then ask you some conclusions.

Can you see it well enough or would you like to go to the board?

A No, I'd rather go up there.

Q Do that.

A This is cross secton A-A' that goes north and south through the wells that are affected by this 400-acre proration unit.

Q All right, hang on just a minute. Let's get oriented on where we are.

A The line of cross section is shown by the plat that is on the cross section and goes through -- through five wells which I will identify as the ARCO, ARCO Lanehart 22- No. 1, the El Paso, now Doyle Hartman, Carlson No. 1, the now Doyle Hartman Harrison No. 2 in Section 27, the now Doyle Hartman Alpha 21 Harrison No. 1, No. 3, excuse me, and down through the El Paso Natural Gas Harrison No. 1.

Q From your knowledge of the area, Mr. Bur-

leson, and your examination of the information contained on the cross section, what do you conclude as a geologist with regards to the Jalmat as it is found or encountered underlying the proposed nonstandard proration unit?

A In studying these logs I have come up with a net pay figure in the Yates Sand and it is noted on the bottom.

The ARCO Well to the north, 30 feet.

The well that Mr. Hartman just twinned has 27 feet.

The well to the south of that, the Harrison No. 2, has 23 feet.

Doyle Hartman now Alpha 21 has 16 feet, and the El Paso Harrison No. 1 has 19 feet.

Then picking up the cumulative figures from the proration book, you see, since this is a Langlie Mattix well, we go to the Jalmat wells, that the well in Section 22 has produced four billion six cubic feet.

South of there the well produced three billion.

The Alpha 21 Well produced 63,000, and the El Paso Harrison No. 1 produced 986,186 cubic feet of gas.

Q From that information, Mr. Burleson, what can you conclude with regards to the Jalmat as it underlies

Mr. Hartman's proposed unit?

A Obviously, from the production and the net pay, the 80-acre tract that Mr. Hartman has in the west half of the southwest quarter of Section 22, which offsets my Hadfield to the east --

Q West.

A -- to the -- my Hadfield lease to the west, has the most pay and has produced most of the gas, or more gas than the other three wells that are on a 320-acre plot.

So therefore more permeability, porosity, and pay are present under the 80-acre tract.

Q Is this portion of the Jalmat Gas Pool sensitive to water production in the area?

A Yes, it is, and I would discuss that with -- with --

Q Let's go back to Exhibit Number One. Are you looking at Exhibit Number One now?

A Yes.

Q All right. Let's look at Mr. Hartman's 400-acre nonstandard unit. You have discussed with us what portion of that unit you consider to be the best portion of the Jalmat and what is that acreage?

A The best portion of that unit will be the 80-acre tract in Section 22, and I would like to discuss the

green triangles that are wells in Section 28 and 27.

Q All right. Explain to us what that means and what conclusion you reach.

A Just a slight lesson in geology, but the Crosby structure, which does produce in the Devonian, in the Fusselman, and I believe the Ellenburger, was high when the reef was laid down in Seven Rivers time and there probably is a reef development in here that did not trap oil but it did trap large volumes of water.

Subsequent, when the -- when this area was first drilled the wells did not produce water, but we have about seven wells that were plugged in the thirties and early forties that probably weren't plugged correctly and that Seven Rivers zone has charged the Yates with water.

One of my wells, the Saunders No. 2, which would be in Unit F in Section 28, is one of the highest producing wells on top of the Yates in the whole Jalmat Field yet it produces water from contamination with the poorly plugged wells in this immediate area.

When you have water production to pick up and go along with the gas, the total amount of reserves are cut by some figure. It would -- it would depend on the amount of water and the amount of initial pay.

When you get to the north in Section 21 and 22, then the wells to the north in these two sections do

not produce water. So it just reinforces that the best part of this proration unit is in the west half of the southwest quarter.

Q Focusing on the question of the water problem in the area, can you give us an opinion as to what portions of Mr. Hartman's proposed unit is going to be affected by water production whereby you would conclude that it is not contributing productive acreage to that unit?

A Okay. I would like to have Exhibit Three.

Q All right, Mr. Burleson, we're looking at Exhibit Number One and we're directing your attention to the impact, if any, that the water encroachment in the Jalmat has on Mr. Hartman's proration unit, and I have marked for you and I now show you Exhibit Number Three.

Would you identify Exhibit Number Three for us and describe it?

A Exhibit Number Three is a production curve, gas and water, on the Alpha 21 Harrison No. 3, which is colored in green, being in Unit -- Unit F of Section 27, which shows that almost initially this well produced water and --

Q Excuse me, you have said Unit F and I think it's Unit E.

A A, B, C, D, excuse me, Unit E, that when this well was brought in in 1980, the gas is in red, the

water is in green, and for the first year, 1991 MCF against 2787 water, and in '81, and this is in MCF per month, barrels per month, in '81 it produced 1995 against 2275 water; in 1982 it produced 1730 against 2395 water; and in '83 when they gave up the ghost on it, it produced 619 MCF per month and 1990 water, and you can see that the cumulative for barrels of water is greater than the cumulative of MCF of gas.

Therefore, because of the proximity of this lease to the wells to the west, Mr. Hartman will be producing water on his wells in the northwest quarter of Section 27.

Q Can you approximate for us, Mr. Burleson, what portion of the nonstandard proration unit within Section 27 is going to be affected by water in such a way that you reached the opinion that it would not contribut productive Jalmat acreage to its well?

A The northwest quarter of Section 27 will be productive of some Jalmat gas but with a large volume of water, so te reserves will be cut by an estimated factor of two, but this cutting in reserve will not take place in the 80-acre tract in the west half of the southwest quarter of 22.

Q You have also shown us on Exhibit Number One a brown shaded line running vertically on the exhibit. Would you describe for us what that is intended to portray

and what its significance is?

A I drew this a month and a half ago when this hearing first came on and have not changed it, and -- but I still go by it because there's -- in this immediate area there is no Jalmat gas production to the east of that line.

And this isn't a hard anf fast line and that you can say this 40 doesn't produce gas and this one would, but just a moment of why that pinchout is there, is the sands come off of this margin that is productive in the Yates to the west, and goes to the east. Those sands turn to anhydrite and we're not going to have a hard and fast thin line saying, this is productive over here, and this isn't.

But I notice that Mr. Hartman is not drilling his wells or his proposed location over in B, Unit D, or Unit G, or to the north in Section 22 in Unit -- in Unit I or O, because he's too close to that pinchout line where the productive sands turn to anhydrite.

Q Mr. Burleson, I would like to show you a copy of Mr. Hartman's Exhibit Number Six, which is his structure map on top of the Yates, in which Mr. Aycock has drawn a porosity pinchout line running north to south. I'll give you a copy of that, Mr. Burleson.

Do you concur or disagree with Mr. Ay-

cock's opinion as to the approximate location of the porosity pinchout in the Jalmat as he's depicted it on his Exhibit Number Six?

A I would move this over approximately one 40-acre tract and put it down through almost where this blue line comes through.

Q Upon what basis would you relocate that line?

A The reason I'd move it over there, there has never been in Section 22 and 27 any Jalmat wells that have been drilled or produced in this -- in this area.

Q In examining the cross sections that have been depicted in this case, do you find any of those that would cause you to believe that the Jalmat can be produced in economic quantities to the east of the line that you propose to draw?

A No, I do not, I do not think it -- you could produce gas in economic quantities to the east of this line.

Q What is your explanation for the wells that are shaded farther to the east there in the green on Mr. Aycock's --

A All right, as the sand turns to anhydrite, you are going to have a few stringers, and you're getting higher, you're going to have a few stringers that

carry through, but on -- and you could, you could try that and you might get a well, but the total cumulative of these wells are very nil because, as you know, most Jalmat gas cums for this date, they're always in the billions and we're dealing with a lot less gas over here.

Q Would you, sir, take the marking pen that I gave you and draw for us on that same exhibit where you as a petroleum geologist would conclude would be the productive Jalmat limits insofar as it affects Mr. Hartman's proposed unit?

A And this blue line I drew will almost be the same as the brown line on my Exhibit Number One.

MR. KELLAHIN: Mr. Examiner, I'd like to have Mr. Burleson, if it's acceptable to Mr. Carr, duplicate his opinion of where that boundary is on a Commission copy of Exhibit Number Six.

In the alternative we can simply mark this as another exhibit. I'm not sure that another copy of the same exhibit --

MR. QUINTANA: I'll just switch your exhibits here.

MR. CARR: We have no objection to Mr. Burleson placing his interpretation with a blue line on Hartman Exhibit Number Six.

Q Let's talk specifically now, Mr. Burle-

son, of your property to the west of Mr. Hartman's No. 4 Well.

When we look in the southeast quarter of Section 21, would you describe for us the size and the location of your nonstandard proration unit and what wells are dedicated to that unit?

A We have 120-acre proration unit called the Hadfield, which is made up of the south half of the southeast quarter and the northeast of the southeast quarter, which has two Jalmat producing wells, the No. 1 in Unit O that is producing approximately 20 MCF a month -- I mean, excuse me, 20 MCF a day, and is a stripper well, and the No. 2, which we recently worked over in May and the first part of June of this year, and have re-potentialed this well.

Q Let me direct your attention to Mr. Hartman's Exhibit Number One, and I'll hand you a copy of that exhibit, Mr. Burleson, and I'd like to direct your attention to the legend for the wells in your proration unit and if you'll look at that Exhibit Number One, would you correct for us, sir, what is the information that should be supplied for your well?

A All right. He has that the --

Q Excuse me, we're not all together. Mr. Hartman's Exhibit Number One.

All right, Mr. Burleson, we're all look-

ing at Mr. Hartman's Exhibit Number One now. Would you go to the legend that describes your wells in your proration unit in Section 21 and correct the information as you understand it to be?

A All right. Under the Hadfield No. 1 it says "reworked 5-85" and they have that on the wrong well. That well has not reworked.

The Hadfield No. 2 was the one we reworked in May of 1985.

Q Would you describe for us after reworking your No. 2 Well what in your opinion is the productive capacity for that No. 2 Well?

A I would like to give Exhibit -- Exhibit Number Four.

All right, sir, I have marked the Commission Form C-122 as Exhibit Number Four?

A Yes.

Q Would you identify that for us?

A This is a C-122 test run on the -- on the Hadfield No. 2 after this well was CO2 fraced with 65,000 pounds of sand and 37,000 gallons of water and CO2 equivalent.

What this shows, this test was run by Mr. Murray in Jal, and shows that this well had a potential AOF of 1,000,547 and had flows -- I won't read all the flows,

but the bottom flow was 146 MCF a day.

Q Would you take a copy of the August, 1985 proration schedule for southeastern New Mexico, Mr. Burleson, and find your wells on that schedule and tell us what the allowable is for your 120-acre proration unit?

A The August allowable for this unit was 5866, I mean for a 120-acre unit in August the allowable is 5,866 MCF per month, and our August production from those two wells was approximately 4000 MCF, or about 1500 MCF under top allowable.

I have a comment about this. This is an old well drilled many years ago and we had pipe problems and abandoned it and at that time it qualified for a 108 price, and now we've gone into enhanced recovery and are being paid a 108 price.

And this will have a bearing on how much gas we pull out of there because of the price would be approxiamtely $5.00 an MCF.

Q The August schedule reflects production allowdable numbers for this well prior to the CO2 treatment of the well?

A Does the August --

Q Was the restimulation or the recompletion of the well with the CO2 treatement --

A Yes, that --

Q -- was it before or after this schedule?

A No, it was before this schedule, which was done at the end of May and first of June.

Q Would you describe for us, Mr. Burleson, what it is about Mr. Hartman's proposed application here that in your opinion adversely affects your interest on the adjoining property?

A A study of the wells and the geology in the area shows that Mr. Hartman's 80-acre tract will produce the largest volume of gas from this proposed unit, and since, if this is approved, he will have a much larger allowable than I do on my offsetting 120-acre tract, and I will -- and I will suffer because he has more poorly productive acreage assigned to that well.

Q Can you quantify for us the magnitude of the effect of Mr. Hartman's assigning 400 acres to his No. 4 Well in relation to the 120 acres assigned to your Hadfield No. 2 Well?

A 120 acres, it would be the difference between the .75 and the 2.5, since that's the same ratio of 120 acres to 400 acres.

Q In order to -- in order to balance the correlative rights across the common section line, Mr. Hartman -- Mr. Burleson, do you have a recommendation to the Examiner as to how he might place a limitation on Mr. Hart-

man's No. 4 Well so that drainage not otherwise compensated by counter-drainage might be avoided?

A I would hope that he would turn down the 400-acre unit and let all of the acreage in Section 27, and if he wishes, that part being the west half of the southeast of 22, stay in one unit. It's always been one unit, and leave Mr. Hartman with the 80-acre tract as a unit in Section 22.

If he does grant part of this, I would like to see that the well in Section 22, the one he just recently completed, be granted only one-fifth of the allowable from that 400-acre unit.

Q What is the rational for limiting the allowable to one-fifth of the unit allowable?

A There are five 80-acre tracts in this proposed unit and so what it would be -- what it would insure, that the gas that came off of the 80-acre tract would not carry more than its share for that in Section 27.

Q Would that set the allowables for both your wells in relation to Mr. Hartman's wells so that it would more closely balance the reservoir in terms of drainage and counter-drainage across the common line?

A Yes, it would.

Q Mr. Nutter suggested awhile ago in his testimony that it might be abvisable for Mr. Hartman to have

a common meter for production on his Jalmat wells. Do you have any comments or objections to that taking place?

A I certainly have an objection. What it would show is you would never know what the well in Section 22 produced because it would be mixed with the other wells and it's -- or you would be relying on other people's information instead of that that is sent to the Oil Conservation Commission.

That way we would never know what part of the share of this unit that that new well pulled in the 80-acre tract as comparison to the whole 40 -- 400-acre tract.

Q Are each of your wells in the Hadfield proration unit separately metered?

A Yes, they are, and to my knowledge, I know of no wells that are jointly metered and I think this is just an expediting thing, but everybody has to wait on El Paso and, you know, he can also wait two or three months, too.

Q Mr. Burleson, is Mr. Hartman's No. 4 Well in Section 22 completed in a correlative interval with your No. 2 Hadfield Well?

A Yes, it is..

Q Anything else?

A No.

MR. KELLAHIN: Mr. Examiner, that concludes my examination of Mr. Burleson.

We'll move the introduction at this time of his Exhibits One through Four.

MR. QUINTANA: Exhibits One through Four will be admitted as evidence.

Mr. Carr?

MR. CARR: Thank you, Mr. Quintana.

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Burleson, let's look for a minute at just your Hadfield lease.

You have two wells on that lease at the present time.

A That is correct.

Q And as I understand your testimony, those wells are not now currently restricted by prorationing.

A No, they are not.

Q Together they produce about two-thirds of the allowable.

A For August, that's correct.

Q And you have dedicated 120 acres to those wells.

A That is correct.

Q And what you're recommending is that the

two wells on the offsetting Hartman tract have actually two-thirds of the allowable that under your recommendation you would be entitled to to the two wells in your tract.

A I don't understand that. Say that again.

Q Well, you're recommending an 80-acre allowable for Mr. Hartman in the 80-acre tract in the south half of the south -- the west half of the southwest of 22.

A No, I'm not. What I said is that they get one-fifth of the total gas assigned, and that's a difference.

Q You are not recommending an 80-acre allowable for that tract?

A No, they get one-fifth of the 400-acre allowable.

Q But you've -- I want to be sure we understand what your recommendation is.

You're not coming in and recommending that an 80-acre allowable be assigned to that 80-acre tract?

A Only if they --

Q I'm just --

A Yes, I would like that if they turned down this whole unit and go back the way it was.

Q One-fifth of the 400, though, would in fact be an 80-acre allowable, would it not?

A No, because it gets on whether it's a

marginal or nonmarginal.

Q If you have a marginal allowable, that's going to continually restrict those wells so isn't that going to continue working to your benefit if the unit doesn't earn the nonmarginal status as a whole, then you're further restricting that by applying the one 80.

A That is correct.

Q And so you would have an 80-acre allowable or less, depending on how it's classified, where your wells would enjoy a full 320-acre allowable in the offsetting 120-acre unit.

A No, it would enjoy 120 acre --

Q That's what I mean, I'm sorry, 120 as opposed to 80.

A That's true.

Q Now have you considered the development of your 120-acre tract by locating an additional Jalmat well in the 40-acre tract being the northeast quarter of the southeast quarter of 21?

A Up until this time we have not.

Q Do you have any plans for that at this time?

A Well, I -- I go on the premise that the -- that when proration schedules were set up, that wells, even a well drilled on a 640-acre tract, or 160-acre tract, will drain that unit, and it's only Mr. Hartman's come in

who really wants to drill wells at a lot denser spacing, and we may never drill a well on that in that 40-acre tract, and we do have the option to.

Q And you have a cross section, a cross section running really due north/south on the west half of Mr. Hartman's proration unit.

A That's correct.

Q Did you compare the pay interval in, say, the Hartman well to the pay interval that you encountered in your wells in your Hadfield lease?

A On the amount of pay, the No. 2 Well was not logged or drilled to the entire Yates section and I would assume that it had a comparable amount of pay which is offset to Mr. Hartman's 80-acre tract in Section 22.

Q But you don't have the data to construct an --

A No.

Q -- east/west in that area.

A No, sir, I did not do that.

Q Now are the two wells in the -- the new well Hartman drilled during the last couple of months and the old El Paso Well in the west half of the southwest of 22, are they completed in the same interval?

A I have never seen Mr. Hartman's log so I cannot say.

Q I want to jump to your cross section and just -- this is just to clarify the record.

I think as you testified you indicated that the two wells on the extreme right, you indicated the production figures at the bottom in cubic feet; those are actually MCF, are they not?

A Okay, they are, yes.

Q Now, we had your Exhibit Number Four, which was the test run on, I believe, September 2nd, on your well following -- your No. 2 Well following the CO2 work on the well.

A That's correct.

Q Was that run in preparation for today's hearing?

A It was run -- yes, it was run after we had that other hearing and if we'd been able to have that hearing that time, I would not have been able to have that exhibit.

Q Now it shows an absolute open flow of 1,547. Is that MCF per day or --

A No, that is in MCF but that's calculated absolute open flow.

Q Okay, now a calculated absolute open flow is always a high figure, is it not?

A Well, you could never, that well would

never produce at that.

Q It wouldn't produce at that volume into a pipeline.

A No, it sure wouldn't.

Q One last thing, to be sure we understand your recommendation, your recommendation is to restrict the allowable for the Hartman well in the west half of the southwest of 22 to a figure that would in essence be an 80-acre allowable or less.

A That is correct.

Q Even though the existing El Paso well that it twins has enjoyed the 320-acre allowable for many years.

A No, -- yes, yes, I do, because in between in there was Antweil and I would -- this unit was set up in the fifties as if you had had that whole 320 acres, but in essence, what you'll find that Mr. Antweil drilled in there, so you're now pooling all this other acreage in there and expanding your world to get your ox out of the cart, because you went in there thinking you had 320 acres, and now you want a 400 acre.

Q Well, that Antweil well would have -- is draining certain acreage in the south half, is it not?

A Yes, but you should have known -- you should have known it was there when they made their deal

with El Paso.

Q And we should be entitled to offset that drainage, certainly.

A Well, I would have no objection to you drilling the 80-acre well in the southeast quarter of 22.

Q All right, thank you.

MR. CARR: No further questions.

CROSS EXAMINATION

BY MR. QUINTANA:

Q Let me -- I know Mr. Carr questioned you on this, and I want to question you one more time, also, because I wrote this down and I want to clarify that you said it.

What you recommended to me was an 80-acre tract on the far west half of Section 22 on the southwest quarter or a one-fifth allowable for the 400-acre nonstandard proration unit for the specific well that's in question that you say is going to possibly drain your area.

A No, it would have the right to only produce one-fifth of the gas assigned to that proration unit.

Q One-fifth of the allowable --

A Of the allowable.

Q -- of the allowable for the 400-acre non-

standard proration unit.

MR. QUINTANA: I have no questions of the witness.

Any further questions of the witness?

MR. KELLAHIN: No, sir.

MR. QUINTANA: You may be excused.

MR. KELLAHIN: Mr. Quintana, we have some closing comments if it would be appropriate.

MR. QUINTANA: Are there further questions? Is there anybody further that wishes to testify on this case?

In that case, I think we're ready for closing statements.

MR. KELLAHIN: Mr. Quintana, I appreciate the time you've devoted this afternoon to this case.

I think the point we were trying to make is very apparent to you at this juncture in the afternoon, and I'll try to be concise and brief, it is our position, we think it's unrefuted, that Mr. Hartman is simply seeking to gain an unfair advantage over Mr. Burleson's acreage.

This is an interesting little

arrangement and it's not the first time he's tried this. You can see by the unusual pattern he's devoted for a nonstandard proration unit, it is our contention and we believe his own exhibits demonstrate that there's a significant portion of this nonstandard proration unit that is not productive or has been depleted.

Why then the fuss? Who cares? You care because the acreage factor is an integral, essential part of the proration formula by which you determine how much of the allowable is going to be assigned to the unit.

How has Mr. Hartman used that to his advantage? The very essence of prorationing is one that was established to protect the correlative rights of offsetting operators, to maximize production, to avoid waste. It's an intricate, complex system. It's made even more difficult when Hartman as an operator gerrymanders nonproductive, drained acreage to jump the allowable factor by increasing the acreage that goes into the calculation so that he can take garbage wells and garbage acres and get one decent well that is in close proximity to Mr. Burleson's property, and produce that well under the allowable formula at three times the rate that Mr. Burleson is allowed to produce from his own well.

There are several solutions to

this.

One is we can adjust the drainage/counter-drainage across the common section line by setting a specific allowable for Mr. Burleson's well as well as Mr. Hartman's well. They're both the same distance from the common line. We could set up a penalty on the allowable for each of those wells.

As a matter of fact, you already have in place a mechanism where you can accomplish that.

If you want to accommodate Mr. Hartman on fixing up all this acreage, that's fine, but let's do what Mr. Burleson suggests, let's preclude Mr. Hartman from taking more than one-fifth of the allowable out of the No. 4 Well, because if it exceeds that amount you put Mr. Burleson to a distinct disadvantage.

I think we have come up with the actual numbers now through Mr. Nutter's assistance and Mr. Burleson's review of the August prorationing schedule. Using the August schedule you can see Mr. Burleson has the ability under the formula to produce 180 MCF a day.

By packing his acreage allocation with depleted and nonproductive acreage, Mr. Hartman is allowed an opportunity under the formula to produce 630 MCF a day.

There's a significant difference and if you let that take place without restricting it in some fashion, you're going to create drainage from Mr. Burleson's acreage that he cannot compensate by counter-drainage.

We're not asking you for anything unique, unusual. We're not breaking any new ground here. The Commission has done this very same thing to Mr. Hartman before.

In Case 8078 and Order No. R-7525, a case very much like this case, the Commission, at a full Commission hearing, restricted Mr. Hartman to an allowable that was in proportion to the acreage offsetting him.

In that instance he had a 480-acre proration unit; he was allowed to produce no more than one-third of that assigned allowable from the offending well.

We have a precedent and we suggest that it's appropriate to use that in this case.

Mr. Carr would have you believe that there's nothing wrong in this. We contend that it's very obvious that there is something wrong.

You ought not to do this. We've suggested a solution, a remedy, that protects everyone and allows Mr. Hartman to hold his acreage, to produce his

gas, but only in relationship to his ability not to take our gas.

Thank you.

MR. QUINTANA: Mr. Carr?

MR. CARR: Mr. Quintana, Mr Hartman is before you here today seeking approval of a non-standard 400-acre unit in a pool that's spaced 640 acres.

He's seeking approval of two unorthodox locations and a simultaneous dedication of a number of wells in that unit. The evidence presented here today shows that when Mr. Hartman started to proceed with further development of a 320-acre unit he discovered that because of various problems there was an 80-acre tract carved out of the center of it and dedicated, in fact, to two wells, and he has had to now come up with a plan to correct the problem that he did not create, that he was confronted with.

Mr. Antweil, who's surrounded on three sides by the unit with a producing well, he's not here opposing it, but Mr. Burleson is, and Mr. Burleson is here seeking allowable limitations that would in fact not equalize things but give nim an advantage over Mr. Hartman.

He's concerned about drainage. He's concerned about drainage from a tract that Mr. Hartman has expended the money to properly develop; drainage from a

tract on which he could drill an additional well, a tract upon which he had no plans to do that.

He came before you today and he presented a cross section, a straight up and down north/south cross section. He presented no testimony and constructed no cross section showing you what happens when we look at what happens in this area as we move from west to east, but he gave you an opinion that a part of the acreage to the east was nonproductive.

If you compare his Exhibit One and the line he drew on our Exhibit Six it shows the width of a 40-acre tract off even in his testimony here today, and yet he comes in with only one cross section, only looking up and down, and contends that the acreage on the eastern part of this proration unit will not contribute productive gas reserves to it, in the face of a Commission order, incidentally, that's already determined that the entire south half of Section 22 will contribute to the old El Paso well.

He comes in and he says, oh, yes, it's watered out. But the testimony shows you that the Alpha 21 Well, when it was abandoned was producing approximately 40 MCF a day. I suggest you compare that with the figures on Exhibit One. That wasn't a poor well in the area and we submit to you that the water costs were too great and that's what the testimony showed here today and that that

well can in fact be returned to commercial production.

We look at the well locations. We're talking here today, or Mr. Kellahin is, about drainage and not being able to offset it with counter-drainage.

He seems to be thinking that drainage offset by counter-drainage means you drill exactly at the same location across the same lease line and that's not the case. You can have wells that don't exactly offset one another but because of their proximity to the offsetting tract do work out to offset drainage with counter-drainage, and that's in essence what we have here.

The fact of the matter is if we still want to think about it as Mr. Kellahin would like us to, offsetting exactly the same distance from the same lease line at the same position, we submit Mr. Burleson could do that by drilling an additional well on this Hadfield lease. That's not, however, what he proposes.

Mr. Kellahin comes before you and he says, oh, yes, Hartman wants to throw some garbage acreage in because he has a good well in the west half of the southwest quarter of Section 22.

Mr. Hartman is also here before you today proposing to drill a well almost in the center of the entire 400-acre proration unit and I submit to you if you'd like to take a look at the proration schedules, Mr.

Hartman doesn't drill garbage wells and he doesn't dedicate garbage acreage. He has more nonmarginal factors in this pool than anybody and the well he proposes to drill in the center of this proration unit is going to be drilled because he has looked at the evidence that Mr. Aycock prepared and he has concluded, as the evidence shows, that this proration unit is capable of contributing reserves throughout to that well as well as to the other wells on the unit.

Now Mr. Kellahin says, of course we have a precedent here, and he cites the Winningham situation as an example; makes me wonder if maybe all non-standard units look the same to Tom. Now that was a unit that was a mile and a half long and had one well in the extreme northern portion of it.

Here we have three to five wells that will be producing from the unit.

Mr. Burleson comes in and he has an interesting penalty he would like you to impose on production on the well that Mr. Hartman recently completed in Section 22; one-fifth of the allowable. That means that if the unit as a whole remains nonmarginal forever, it gets an 80-acre allowable. If it ever as a whole becomes nonmarginal, it has less than an 80-acre allowable.

So if we look at that 80 acres we have at best an 80-acre allowable, very likely and

through the long part of its producing life, less than an 80-acre allowable, and Mr. Burleson gets to offset it with wells producing 120-acre allowable. That's how we protect, according to Mr. Burleson and his attorney, Mr. Burleson's correlative rights.

Well, I think this draws us to a point where we have to look at what correlative rights means. It doesn't mean Mr. Burleson has to produce the same as Mr. Hartman or Mr. Hartman the same as Mr. Burleson.

It means that each of these operators has the opportunity to produce his just and fair share of the reserves and I submit what we have here today is one operator who's incurred the cost of developing his acreage and is prepared to go forward with the necessary and -- and make the necessary investment to continue and finish developing his 400-acre proration unit, and we have an individual who won't come in and fully develop his own, and he says the way to protect his correlative rights is to deny the other operator the opportunity to develop his tract and produce his.

We submit to you the only possible way that correlative rights as defined in our statutes can be protected is to grant the application of Mr. Hartman as it appears before you in the amended application which we filed.

MR. QUINTANA: Thank you, Mr. Carr.

I have no further questions of the witness.

Are there other questions of the witness? Further statements? Further -- anything else?

MR. KELLAHIN: We would like to take the opportunity, Mr. Quintana, to submit a proposed order for entry by the Division in this case.

MR. QUINTANA: I was just about to ask that, Mr. Kellahin.

Mr. Carr, if you'd like to do the same thing.

MR. CARR: Yes, we will do the same thing.

MR. QUINTANA: If there is nothing further in Case 8690, it will be taken under advisement.

(Hearing concluded.)

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.

_____

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____ 19____.

_____, Examiner
Oil Conservation Division