1 2	SANTA FE, NEW MEXICO					
3	25 September 1985					
4	EXAMINER HEARING					
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6						
7	IN THE MATTER OF:					
8	Application of Dugan Production Cor- CASE					
9	poration for pool extension and an 8713 unorthodox gas well location, Rio					
10	Arriba County, New Mexico.					
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12	,					
13	BEFORE: Michael E. Stogner, Examiner					
14	BEFORE: Michael E. Stogner, Examiner					
15						
16	TRANSCRIPT OF HEARING					
17						
18	APPEARANCES					
19						
20	For the Division: Jeff Taylor Attorney at Law					
21	Legal Counsel to the Division State Land Office Bldg.					
22	Santa Fe, New Mexico 87501					
24	For the Applicant:					
25						

8713.

MR. STOGNER: Call Case Number

MR. TAYLOR: The application of

Dugan Production Corporation for a pool extension and an unorthodox oil well location, Rio Arriba County, New Mexico.

MR. STOGNER: At the examiner

-- I'm sorry, At the applicant's request Case Number 8713

will be continued and there was a readvertisement on this

also, and will be readvertised and continued for the Examiner Hearing scheduled for October 9th, 1985.

(Hearing concluded.)

CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division 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.

Sooly W. Boyd CS12

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8713 heard by me on 25 Marie 1987

Oil Conservation Division Examiner

1	STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT				
2	OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG.				
3	SANTA FE, NEW MEXICO				
4	9 October 1985				
5	EXAMINER HEARING				
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7					
8	IN THE MATTER OF:				
9	Application of Dugan Production CASE Corporation for pool extension 8713 and an unorthodox oil well loca-				
10	tion, Rio Arriba County, New Mexico.				
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12					
13	BEFORE: Gilbert P. Quintana, Examiner				
14	Datons. Gilbert I. Quintana, Examinat				
15					
16	TRANSCRIPT OF HEARING				
17					
18	APPEARANCES				
19	For the Division: Jeff Taylor				
20	Attorney at Law Legal Counsel to the Division				
21	Energy and Minerals Dept. Santa Fe, New Mexico 87501				
22	For Dugan Production: William F. Carr				
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24	P. O. Box 2208 Santa Fe, New Mexico 87501				
25					

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2	APP	EARANCES	
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MR. QUINTANA: One more, okay.

MR. PADILLA: Mr. Examiner.

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Q Would you refer to what's been marked as Dugan Exhibit Number One, identify this, and review it for the examiner?

A Okay. Exhibit Number One is a structure map prepared using the Niobrara A Zone with the top of that zone as a marker.

We've drawn this structure map as if we're depicting a depositional environment that shows to have this structural relief. I want to make a comment that it is not our opinion that this is the way the formation was deposited. We think probably the structural relief we're depicting on the map is a result of faulting; however, we don't feel we have enough data to draw those faults in. We have enough well data to show the structural relief that we do show on this map, though.

In addition on the map I've identified the existing pool boundary for the Gavilan Mancos Pool in the green coloring and I've also identified the area that would be included in the proposed extension and that's outlined in the purple.

I would ask you to note that the -- within the proposed expansion area there are six well locations
that have been staked that should these wells be drilled in
a manner from south to north, the proposed extension that
we're asking for at this time would automatically occur upon

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the completion of the wells.

I've also identified on Figure Number One, or Exhibit Number One, acreage that's in the dark shading that Dugan Production has leasehold interest in. In addition in the cross hatched, I've identified acreage that we have received word from other operators that is in support of our application.

Briefly, of the ten sections that are within the pool boundary approximately 6400 acres, we have a total acreage of 73.8 percent within the pool boundary that would be in support of our application.

Of this 73.8 percent Dugan Production has 34.7 percent of that acreage.

The cross hatched or the acreage that would be immediately adjacent to our proposed pool boundary, in other words, within a one mile radius of the proposed extension, there is 18 sections that total about 11,520 acres.

We've received notice from leasehold interest within this 18-section area that they support our application, totally 59.2 percent of that leasehold interest or 1620 acres of leasehold of the adjacent acreage does support our application.

might make special note that we have received support from the operator of the Canadao Ojitos Unit to the east.

In addition on this map I've identified a line of cross section that I'll show in an upcoming exhibit, starting in the south at Letter A, it's Jerome P. McHugh's Native Son, located in Unit A of Section 34, 25 North, 2 West, and this goes to the north through the original discovery well, a well currently operated by Mesa Grande Resources, the Gavilan No. 1 in Unit A of Section 26, and on further to the north and it includes a well that is just being completed by Southland Royalty in Unit C of Section 24 of 25 North, 2 West.

All three of these wells are within the existing pool boundary.

Also on the cross section continuing north, we've got two wells that have recently been completed by Mallon Oil. These wells are within the proposed area that we are asking for this extension.

The first well would be Mallon's Howard Federal Well No. 1-8 in Unit H of Section 1, 25 North, 2 West, and then his Fisher Federal No. 2-1 in Unit A of Section 2, 25 North, 2 West.

And then the most northerly well would be Dugan Production's Tapacitos No. 2, located in Unit L of Section 25, 26 North, 2 West.

Q Mr. Roe, Exhibit Number One shows all wells which have penetrated the Gavilan Mancos Oil Pool, is

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that correct?

A That is correct, as of this hearing date.

Q You indicated in your testimony that if the locations which are indicated in the extension area were drilled that the area would automatically be extended. Now why do you recommend that the Commission extend the pool into this whole area at this time?

A The area would automatically be extended only if the more southerly well was drilled first. We feel that there's a real likelihood that Dugan Production will probably drill some of the initial or drill some of the first -- will drill wells in 26 North, 2 West, before we actually have the pool automatically extended. This is an area where the leasehold interest is really broken up and to have an idea of what your proration unit is at the time that you propose the well is very important.

Q There's a pool indicated on this exhibit in Townships 26 and --25 and 26 North, Range 3 West. What pool is that?

A Okay, the pool that you're making reference to would be the Ojito Gallup Oil Pool.

Q Now, have you contacted Amoco Production Company concerning this application?

A Yes, we've been in contact with Amoco.
We notified Amoco by letter of our application and Amoco has

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indicated that they have no -- that they do not oppose our application.

Did you provide notice of this application to all the interest owners you could identify within the proposed extension and also within a mile of the extension?

> A Yes, we did.

And at this time are you aware of any opposition to the application?

> Α I am aware of no opposition.

Extension of the pool rules will, if your 0 granted, the existing Gavilan Mancos pool application is rules will be extended and apply to the lands indicated within the extension area and also within a mile thereof, is that correct?

> Yes, that is correct. Α

At the present time, however, the two southernmost sections in the extension area are already governed by the Gavilan Mancos pool rules.

Yes, and I -- if we exclude those sec-A tions from our application, and consider only the most northerly eight sections, we would have approximately 88 percent of the acreage within the pool boundary in support of our application.

Would you now go to what has been marked Q as Dugan Exhibit Number Two, identify that and review it for

Mr. Quintana?

A Okay. Exhibit Number Two is the cross section that is identified by line A-A' on Exhibit Number One. As I've indicated earlier, it starts in the south with Jerome P. McHugh's Native Son No. 1 and goes to the north to basically the northern end of our area that we propose for this extension, and so the well on the right would be Dugan Production's Tapacitos No. 2, which is the northernmost well.

The purpose of this exhibit is to, one, the second well from the left is a well that I've identified as Mesa Grande Resources Gavilan No. 1. This well is located in Unit A of Section 26, 25 North, 2 West. This well was the discovery well for the pool and it is also the type log from which the pool vertical limits were established.

I have identified the top and bottom of the Gavilan Manco Pool on the type log, the top of the Gavilan Mancos Pool being at 6590 in the Gavilan No. 1 and the bottom of the Gavilan Mancos Pool being at 7574 on this type log.

In addition on the cross section I've indicated in the yellow, green, and brown, zones that we feel will be the primary zones contributing production within the Gavilan Mancos Pool and I have colored them across the cross section for visual purposes in correlating. I feel that

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what we have within the Gavilan Mancos Pool, again, the three wells on the left of the cross section are within the pool. The two wells on the right of the cross section are outside the pool in the proposed extended area.

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feel there's a fairly good correlation I of the primary zones of production that we feel exist within the Gavilan Mancos Pool. In addition, if the top of the -or above the zone I've colored yellow, there's a gray-shaded area which has also been completed in two of Mallon's wells in the proposed extended area. I've colored this across the cross section because I feel that I can correlate it. feel there's no doubt that it is better developed as we north; however, I feel that because that zone is not chosen as the completion interval in Dugan Production's Tapacitos having evaluated that well in a fairly -- fair amount of 2, detail, I again, even in the northern extended area, we feel our primary zones contributing production are the yellow, green and the brown colored.

Q In the Tapacitos No. 2 Well the gray zone appeared. How did it appear on the -- on the logs?

Well, in the Tapacitos No. 2 the zone we've colored gray, it has the substantial resistivity development, as you can see on the log. These logs are all induction electricals and whole logs. Even though the resistivity develops as we see, the lack of SP development

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plus an analysis of the samples that were taken or the mud log that was recorded in this well, we felt the upper zone was not the primary objective and we did not perforate it during our completion efforts of the Tapacitos No. 2.

I feel that there's one thing I need to make -- add that is a correction on the cross section. We, in making the cross section, inadvertently left off a plug that exists in Southland Royalty's (not clearly understood) Federal No. 1. This would be the third well log from the left.

There is a cast iron bridge plug at 7784 and the only reason I mention this is in Southland's well they also perforated the Greenhorn and I've placed the Greenhorn on this cross section to help in correlating the logs, should there be any question that we made a proper correlation. The Greenhorn is at least a zone that almost nobody argues with.

And so the Greenhorn perforations in Southland's well are not in communication with the Mancos perforations by virtue of the bridge plug that is set.

Q So Exhibit Two shows that the primary producing zones can be correlated from the existing pool into the extension area.

A Yes

Q And all these zones are within the verti-

cal limits of the Gavilan Mancos Pool, as defined by the order that created that pool.

A Yes. I did not mention that, but we have identified the perforated intervals in the depth margin of each log and in all cases the top perf is below the top of the Gavilan Mancos Pool and the bottom pool is above the base of the Gavilan Mancos Pool.

Q Would you now refer to Dugan Exhibit Number Three, identify that and review it for the Examiner?

A Okay. Exhibit Number Three is a tabulation of well and production data for all wells that are currently in the Gavilan Mancos Pool boundary or located within a one mile radius of the existing boundary. There is a tremendous amount of information presented on this tabulation. As you can see, it consists of three pages. The first two pages presents the -- basically the operator, the well names, the well location, its completion date, perforated interval, initial potential that was reported to the Commission, and production from that well during August of 1985, and the cumulative production from the Mancos formation as of September 1st of 1985.

And where appropriate, there are either additional remarks necessary, on page three I have provided those remarks.

A brief summary of Table Three, or Exhi-

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bit Number Three, there are eight operators that have wells or locations within the existing pool boundary. Presented on this exhibit there's 29 wells that have been completed. Of that 29, 22 are producing. During August of 1985 production from these wells, these 22 wells averaged 2579 barrels of oil per day plus 4.2-million cubic feet of gas a day.

From these 22 wells as of September 1st, we've produced 1.01-million cubic -- million barrels of oil and 1.46-billion cubic feet of gas from this area.

In addition to the 29 wells that have been completed, there are 8 wells that are in the completion process and 8 additional locations that are planned to be drilled.

Q What basically does this show about the Gavilan Mancos Oil Pool?

Q Our purpose for showing this is with special emphasis on the daily production and the cumulative production during August and as of September 1st, it indicates that we have wells that are capable of some faily substantial production rates.

If I might just go through one well, for instance, a well that is on the cross section, and this would be Jerome P. McHugh's Native Son No. 1, located in Unit A of Section 34, 25 North, 2 West.

This well was completed in June, on June

of 198 barrels of oil per day with a 1636 GOR.

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averaged 436 barrels of oil per day and the GOR averaged 462. The gas is being sold so this is a realistic and a good GOR. We have a good handle on the gas production.

During August of 1985 production actually

7th of 1984. It was perforated from 6765 to 7443; had an IP

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As of September 1st this well has produced 97,384 barrels of oil and approximately 22.8-million cubic feet of gas.

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Are the production rates that you depict Exhibit Three indicative or consistent with production from a fracture system?

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We feel they are, both from the stand-Α that what we know about the Mancos formation, point doesn't have any zones within the Mancos that have substantial productivity, and we do feel that fractures are prevalent in the area and contribute to productivity that we see in actual production figures.

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0 In your opinion is this area being

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tively developed at this time?

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Α Yes, the fact that we have eight locations, eight wells in the completion process, there's a tremendous amount of activity in this area.

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

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pated the second one to be waiting on completion,

logging and so they will be completing in the very

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still

near future.

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In addition, there are six indicted locations that operators have staked and plan to drill in the very near future.

there was a reported production of 955 barrels of oil per day, and as of September 1st, 45,222 barrels of oil have been produced from the four wells that are on production.

Q Mr. Roe, I direct your attention to the Mallon Oil Howard No. -- or Howard 1 Well No. 8, and ask you if this well is drilled at a standard location?

A This well was drilled at a standard location for Undesignated Gallup; however, it is an unorthodox location for the Gavilan Mancos Oil Pool.

Q And as part of this application are you seeking approval for the location for that well?

A Yes, we are. We're asking the Commission to grant this well an exception to the pool rules by virtue of the fact that it is currently drilled as unorthodox.

Q Are there any other wells in the area at unorthodox locations or any other locations staked in an unorthodox position?

A Dugan Production has staked the Tapacitos

No. 4 at a location that will be unorthodox for the Gavilan

Mancos Oil Pool.

Q And would you request that if it can be

done, that any existing well or location be grandfathered in as part of this, any order that would result from this hearing?

A Yes, we would request that. This is an area where topography is really tough, and that is the reason the Tapacitos 4 is unorthodox, is we are as close to 1650 feet from the adjacent boundary between West Puerto Chiquito and Gavilan as we can be; however, that location is 1600 feet from the line and therefore is 50 feet unorthodox.

Q Would you now refer to Dugan Production Corporation Exhibit Number Five and review that for Mr. Quintana?

A The Exhibit Five is a production plot on which I've plotted actual production in terms of barrels of oil per day for six wells, two of which are within the Gavilan Mancos Oil Pool and four of which are within the proposed extended area.

I've identified as Well #1, that is Northwest Exploration originally and the current operator is Mesa Grande Resources. It's the Gavilan No. 1.

This well commenced production in May of 1982 at an initial rate of 65 barrels of oil per day. As you can see, the production inclined to a peak rate of approximately 120 barrels a day in February of 1984, and since declined to a current rate of 61 barrels of oil a day in

August of '85.

Well #2, also within the Gavilan Mancos Pool, is -- began production in July, 1984, at 312 barrels a day. Again this production has been fairly flat or inclined to a rate in August of 1985 of 436 barrels of oil per day.

Well #3, I've identified with the blue line. This is Dugan Production's Tapacitos No. 2, which is the most northerly well on our cross section which is Exhibit Number Two.

The most obvious thing here is the production's been fairly flat at approximately 45 barrels a day beginning, even though the well was completed in October, 1980, we were not able to actually get the well to produce until we installed rod pump in the well during August of 1984. At that point production began and has averaged approximately 45 barrels a day pretty steady.

Well #4 I've identified with the green line. This is actual production from Mallon Oil's Ribeyowids, I'll spell it, R-I-B-E-Y-O-W-I-D-S, and I'm sure Mr. Mallon will have a reason why that name, but I am not aware of that, but at any rate, this well was -- began production in March of 1985 at the initial rate of 36 barrels a day and as indicated in the green line, it's increased in production; during August of '85 it averaged 154 barrels of oil per day.

well #5 I've identified with the orange lines. This well has production for only two months, July and August.

July's production overlaps with the Native Son No. 1 production rate averaging 363 barrels during the ten days that it did produce in July.

During August the well produced 14 days and averaged 339 barrels a day.

Well #6 I've identified with the yellow coloring. This is Mallon's Howard Federal Well No. 1-8. It produced five days in July averaging 371 barrels a day and 20 days in August, averaging 420 barrels a day.

Q What conclusion can you draw from this exhibit?

A Well, the basic thing that comes to my mind is that production from the wells that we have, in the Gavilan one we have several years of production and the Native Son No. 1 we've got nearly a year of production. Productivity is either fairly stable or inclining with time.

Q And does that tell you that they are probably in the same pool?

A Yes, the similarities in the production rates between Wells Nos. 4, 5, and 6, with the Native Son No. 1, which is Well No. 2, are better than the Gavilan No. 1, which is Well No. 1, suggests that they all have similar

year and a half to two years.

Q How does that information compare with what you have seen in the Gavilan Mancos Oil Pool and what does that tell you about drainage?

A Well, it suggests to me that we're -our productivity is more influenced by fracturing than matrix flow and because of existance of fracturing the 320-acre
spacing that is in existence in Gavilan Mancos is -- is probably more appropriate than should the fracture not be
there.

Q Would you identify what has been marked as Dugan Exhibit Number Six?

A Okay. Exhibit Number Six is a letter that I wrote dated August -- or September 17th, 1985. It was addressed to the people who -- it was addressed to leasehold owners within and adjacent to the proposed area of extension for the Gavilan Mancos Oil Pool.

We forwarded this letter to the leasehold interest we could identify that was either within the pool or within the one mile radius of our extension. An address list of the people we sent this letter to is attached to this letter.

Q Would you identify Dugan Exhibit Number Seven?

A Okay. Dugan Exhibit Number Seven is a letter dated October 1st, 1985. It was written by Mr. Al

Greer on behalf of Benson-Montin-Greer Drilling Corp. It's a letter indicating that as operator of the Canada Ojitos Unit in the West Puerto Chiquito Pool Mr. Greer is in support of our application.

Q Mr. Roe, in your opinion would granting of the application of Dugan Production Corporation in this case provide better control of the development in this general area?

A Yes, it would.

Q Would it prevent the economic loss that could occur by the drilling of an excessive number of wells in the area?

A Yes.

Q Would it result in a greater ultimate recovery of hydrocarbons than might result if too many wells in fact are drilled in the area?

A Yes.

Q And in your opinion would it otherwise be in the best interest of conservation, the protection of correlative rights, and prevention of waste?

A Yes.

Q Were Exhibits One through Seven either prepared by you or compiled under your direction and supervision?

A Yes, they were.

MR. CARR: At this time, Mr. Quintana, we would offer into evidence Dugan Exhibits One through Seven.

MR. QUINTANA: Exhibits One through Seven will be accepted as evidence.

MR. CARR: That concludes my direct examination of Mr. Roe.

CROSS EXAMINATION

BY MR. QUINTANA:

Q Mr. Roe, to your knowledge, are you aware if the Aztec District Office of the Oil Conservation Division is in agreement with your recommendations?

Me -- I, Mr. Dugan, and Al Greer, have met with Frank Chavez at least twice to discuss this application, and it's my feeling that Frank has no opposition. Frank has not actually told me that he supports this but I think we had Frank's encouragement to go ahead with the pool rule extension, or the proposed application that we have today, and it was only after meeting with Frank that we made our application.

MR. QUINTANA: I have no further questions of the witness. He may be excused.

I'd like to direct that same question to our Aztec District Office Representative.

both in the adjacent unit to the east of the (not clearly understood) as well as owner of interest within the area proposed to be spaced. We would also offer our support to Dugan Production. MR. MALLON: My name is George Mallon. We have interest only in the extension and we do support Dugan in requesting that the boundary be extended to the north. Thank you. MR. QUINTANA: If there is no-thing further in Case 8713, Case 8713 will be taken under advisement. (Hearing concluded.)

CERTIFICATE

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

Sacryler Boyd CSR

I do hereby certify that the foregoing Is a complete record of the proceedings in the Examiner hearing of Case No. 87/3, heard by me on October 9

Examiner

Oll Conservation Division