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1 2 3	STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG. SANTA FE, NEW MEXICO  5 September 1984
4	3 September 1904
5	EXAMINER HEARING
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8	IN THE MATTER OF:
9	Application of Amoco Production CASE Company for an extension of the \$331
10	Gavilan-Mancos Oil Pool, Rio Arriba County, New Mexico.
11	natural country, New Mexico.
12	BEFORE: Gilbert P. Quintana, Examiner
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14	MDINGODIDM OF THIS THE
14	TRANSCRIPT OF HEARING
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17	APPEARANCES
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19	For the Gil Conservation Charles E. Roybal
20	Division:  Attorney at Law  Energy and Minerals Dept.
21	525 Camino de Los Marquez Santa Fe, New Mexico 87501
22	For the Applicant: William F. Carr
23	Attorney at Law CAMPBEL & BLACK P. A. P. O. Box 2208
24	Santa Fe, New Mexico 87501
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3	CHARLES BOYCE,
_	being called as a witness and being duly sworn upon his
4	oath, testified as follows, to-wit:
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6	DIRECT EXAMINATION
7	BY MR. CARR:
8	Q Will you state your full name and place
9	of residence?
10	A My name is Charles Boyce, B-O-Y-C-E. I'm
11	employed by Amoco Production Company in Denver, Colorado.
12	Q Mr. Boyce, have you previously testified
13	before this Commission and had your credentials as an
14	engineer accepted and made a matter of record?
15	A Yes, I have.
16	Q Are you familiar with the application
	filed in this case on behalf of Amoco Production Company?
17	A Yes.
18	Q Are you familiar with the subject area?
19	A Yes.
20	MR. CARR: Are the witness'
21	qualifications acceptable?  MR. QUINTANA: What did you say
22	your professional your profession is?
23	A I am a Senior Petroleum Engineering Asso-
24	ciate with Amoco Production Company.
25	MR. QUINTANA: The witness is

2 considered qualified.

Q Mr. Boyce, will you briefly state what Amoco seeks in this case?

A Yes. At this time we are requesting an extension of the Gavilan-Mancos Oil Pool, which was originally established in Case Number 7980, Order R-7407.

The acreage to be included would be Sections 10, 11, 12, 13, 14, 23 and 24, Township 24 North, Range 2 West, Rio Arriba County, New Mexico.

Q Have you had certain exhibits prepared for introduction in this case?

A Yes, I have.

Q Would you please refer to what's been marked for identification as Exhibit Number One and review that for Mr. Quintana?

A Exhibit Number One is a map of the general area, which includes the -- the established Gavilan-Mancos Oil Pool, shown by the legend in the dashed black line. That was established under Order Number R-7407.

Range 2 West shows the westernmost boundary of the West Puerto Chiquito-Mancos Pool.

The area that I've designated for our proposed expansion is shown by a solid black line. Also indicated therein are Amoco Production Company leases within the proposed expansion area, other existing oil wells or wells that are being drilled to or tested in the Mancos

To facilitate determining the ownership of the wells prior to drilling, we're requesting the area be spaced at this time rather than piecemeal as wells are drilled.

Q And if the application is granted, it will be on 320-acre spacing?

A That's correct.

Q Will you now refer to Amoco Exhibit Number Two and review this for Mr. Quintana?

A Exhibit Number Two is a two-well log cross section indicated by the dashed line A-A' on our Exhibit Number One.

This two-well section goes from the Northwest Exploration No. 1 Gavilan in the northeast northeast of 26, 25 North, 2 West. The log on the right is our Amoco No. 1 Federal Oso Canyon in the northwest quarter of Section 24 of 24 North, 2 West.

O And what does this exhibit show?

A This exhibit shows the Niobrara section that was designated as the interval to be pooled in the Gavilan-Mancos pooling order. That goes from a depth on the Gavilan No. 1 from 6590 to 7574.

To compare the two wells we've shown the same general section in our well.

The similarity of the Mancos section is quite apparent from this log, particularly the Gallup member, which is that zone that is generally perforated, stimu-

lated, and produces oil from this pool.

On the Northwest Exploration Gavilan No.

1, more particularly the interval from approximately 6900 feet to 7150 feet, indicated by fairly high resistivity readings, on Amoco's No. 1 Oso Canyon a correlative interval would be from approximately 6810 to approximately 7025.

We do have one apparent developed interval above that from approximately 6780 or -- yes, 6780 to 6800 feet.

Q Mr. Boyce, was the Oso Canyon No. 1 Well an oil well?

Well in the intervals 6786 to 6800; 6838 to 6850; 6908 to 6920; 7004 to 7016; stimulated that interval with 100,254 gallons of gelled water and 73,800 pounds of sand.

This data was reported on a summary notice dated August 13th, 1984.

The test results from that perforating and stimulation work are shown on our -- our Exhibit Number Three.

Q Would you go to that exhibit now and review that for Mr. Quintana?

A Exhibit Number Three is a listing of dayby-day swab tests of this well following the fracture operations.

The well is currently shut-in. We're installing pumping equipment and I have no further tests at 2 | this time.

The swab tests are definite indication of oil productivity. The average swab production during the eight-day period after we saw our first show of oil on August 8th if related to a 24-hour period would be approximately 70 barrels of oil per day and 273 barrels of water per day.

There is certainly no exact correlation between swab rates and pump rates but the indications from these early swab rates are that the oil well will be successfully completed and that the productivity will be suitable to maintain economic production.

Q Do you believe there's any evidence of fracturing in this area?

A The drilling of this well, realizing that other wells in the area suffered quite severe lost circulation through this Mancos interval, was planned to try to minimize that, due to the damage, not permanent damage but temporary damage created by mud loss in these fracture systems, the mud weight was maintained as low as possible; however, at a depth of approximately 6300, which on our log is right at the top of it, we did lose approximately 200 barrels of mud.

Through the remainder of the Gallup section the mud weight was maintained as low as possible. It was 8.8 pounds per gallon and lost circulation material was utilized.

The area was basically selected as a re-

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Mancos Oil Pool?

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sult of the well we drilled, the Amoco No. 1 Federal Oso Canyon No. 1, which was drilled on a lease which was expiring some time in the near future.

Once we had logged that well, realized the comparison of the pay with that to the north, and having a fairly substantial acreage picture in the area, we then recommended an area which included the Oso Canyon Well to the south and also based on existing wells in the -- in the Gavilan-Mancos Pool, included an area where we did have some well control.

Was established, during the -- the hearing that I referred to previously, testimony was presented that very possibly fracturing in the Mancos was developed north and south of the area outlined; however, the parties that recommended that different outline limited it to the well control only. So there was belief at that time that the area north and south would probably be related and in my opinion the initial shows of our well does give evidence to the south.

Q Mr. Boyce, in your opinion if this application is granted, will it result in better control of the development of this area?

A In my opinion it will, yes.

O Does Amoco have additional drilling plans for the area which is governed by this application?

A Yes, we do.

Q Do you believe that this proposed expan-

MR.

CARR:

Mr. Quintana, a few

14 1 minutes ago we were handed a letter from Dugan Production 2 Company in support of Amoco's application and would ask that 3 it be incorporated into the record. 4 MR. QUINTANA: Did you wish to 5 include this as an Exhibit Four or --6 If you'll note, it's MR. CARR: 7 just a letter from Mr. Dugan and it would -- if you'ld like 8 it marked as an exhibit, we can do that. He requested it be 9 incorporated into the record. I'11 be glad to mark it as 10 exhibit, if you'd like me to. 11 MR. QUINTANA: Mark it as an 12 exhibit. 13 MR. CARR: I'd move the admis-14 sion of Exhibit Number Four. 15 MR. QUINTANA: Let the record 16 show that Exhibit Number Four for Amoco Production will 17 be admitted. That exhibit is a letter from 18 Dugan Production to Amoco Production in support of their ap-19 pliction of today. 20 MR. CARR: And, Mr. Quintana, 21 that concludes my direct examination of Mr. Boyce. 22 MR. QUINTANA: Let me make a 23 correction on that. 24 letter was addressed That to

Joe Ramey.

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2	Q And how many wells do you have proposed
3	for this area of extension?
4	A The two that our management has author-
_	ized would be in, as shown in the not exact locations, the
5	quarter section locations, in the northwest quarter of 11
6	and the northwest quarter of 14 of 24 North, 2 West.
7	Q But these have not yet been permitted or
8	drilled?
9	A No, they have not been drilled. If per-
10	mits have been issued within the past few days, I'm not
11	aware of them.
	Q What is the approximate distance between
12	the Northwest Exploration No. 1 Gavilan and the Amoco No. 1
13	Oso Canyon?
14	A It one, two, three, four, it's approx-
15	imately five miles.
16	Q And there are no wells on the cross sec-
17	tion that you had between these two wells?
	A No.
18	Q So it is possible that there that
19	there the zone could possibly be noncontinuous or they
20	could be separate zones.
21	A As far as this cross section is con-
22	cerned, I'm drawing the conclusion that they are continuous.
23	The the only other well closer to our
24	well than Northwest Gavilan, basically two of the McHugh,
25	No. 1 Rightway and the McHugh No. 1 Mother Lode, which are
	year a praisoned and one hounds not I morner node, witch are

tion in this well?

A The Dakota production, or the Dakota horizon, as reported on our sundry notice of July 30th, 1984, was perforated and fractured as indicated on our sundry notice of August 13th, 1984, which I referred to previously.

The Dakota perforations which were perforated and tested were cement squeezed prior to opening the Mancos formation.

The Dakota production was indicated to be noncommercial and it was squeezed.

Q However, there is Dakota production in the No. 1 Gavilan Well, is there not?

A Yes, there is.

Q So in short, there's not continuous Dakota production for that five mile stretch.

A Well, I certainly don't believe I've mentioned anything that would imply that. The Dakota in the Oso Canyon was perforated, fractured, tested. It swabbed shows of oil. It was a wildcat well and our next objective was the Mancos and the decision was made to squeeze off the Dakota at that time feeling it was probably not of a commercial enough quantity to justify temporary bridge plug, et cetera.

--

The Dakota is productive in -- in the two wells that I mentioned, which are two miles closer to the Oso Canyon. That would be the McHugh No. 1 Rightway in Section 2 and the McHugh No. 1 Mother Lode; therefore the Dako-

It does

2 is present in all of the wells I've mentioned. show indications of oil production and I have no information 3 which would lead me to believe that it's not present in the area.

You stated that extension of the Gavilan-Q Pool by these seven sections would result in better control of development in this area. Why would it result in better development control?

Because the wells to the north are spaced on 320-acre spacing. Evidence presented at the original Gavilan-Mancos hearing supported the fact that very probably fracture productivity is controlling this area.

With 640-acre Gallup spacing to the east, it's my opinion and I certainly support the testimony presented, that initial development in this area in the Mancos on reasonably wide spacing is certainly the best way to proceed.

With that type of spacing the area can be developed with a minimum number of wells still at a density that appears will -- will ultimately drain the area. evidence obtained from that drilling shows at some time, particularly three years from now when this is reviewed, that some other spacing is necessary, then it would be considered then.

Based on that I feel that this extension would lead to orderly development.

> Q Mr. Boyce, the proposed Amoco well in the

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northwest quarter of Section 11, that would already be controlled by the current Gavilan-Mancos rules, would it not?

A Under State rules a well that is completed in a zone that is spaced, within a mile of that zone must be drilled and spaced, so yes, it -- it would, to my knowledge, be spaced on 320-acre spacing.

And then if you drilled that well, then the second Amoco proposed well in the northwest quarter of Section 14 would also be within that mile rule and would be subject to those same Gavilan-Mancos rules, would they not?

That's our problem. We have several leases to develop in this area with fairly short fuses and the timing of wells may not allow that -- that advantage. That's one of the reasons we're asking that the entire area be spaced. It -- it gives us the opportunity to develop at our choice rather than step-wise.

Q So in other words, there is really a mechanism to expend as least effort to hold your leases as possible.

A No, it's not a mechanism and this -- I think our testimony is based on the Oso Canyon well, and the log indications, the early production indications, in my opinion supprot the recommendation that the area we've recommended is -- is a part of the pool to the north and I think the sooner that's recognized and is spaced, the better able all operators will be to develop the acreage.

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0 Well, what harm would occur to Amoco by a piecemeal extension, in other words, stepping out from the current Gavilan-Mancos Pool?

Well, as far as harm goes, one -- one I think I alluded to is not knowing what the ultimate ownership will be, determining who will actually join in a given well when we're drilling on the Mancos, which, if not within a mile of this area, would be on 40-acre spacing.

Knowing what I know and if drilling proceeds to the south, in the one, two, three step fashion, we will know then information that we can determine right now by I think doing the proper thing.

As far as a loss, I don't see any immediate cause for loss, no.

Q Well, I recognize you're not a landman, but doesn't Amoco generally have title opinions on this area before it goes --

Certainly would, yes.

MR. BRUCE: I have no further questions except for a closing statement at the end.

MR. QUINTANA: Any other questions of the witness?

Any closing statements?

MR. PADILLA: Mr. Examiner, I'd

like to enter an appearance.

My name is Ernest L. Padilla on behalf of Benson-Montin-Greer Drilling Corporation,

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so be noted.

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would urge the approval of the application.

OUINTANA: Let the record

MR.

If there's no further questions

of the witness, the witness may be excused.

MR. BRUCE: All I would like to Mr. Examiner, is that Mesa Grande Resources urges that say, application be denied based upon the -- it is highly this speculative that the formations are continuous and furthermore, we believe it's premature to extend the pool at this time without any drilling in this area. Only the one Amoco well has been drilled and we do not think that that that the zone is continuous.

MR. CARR: May it please the Examiner, we believe that granting the application will result in prudent development of the area very simply if Amoço drills in this same formation, and we believe it isn't speculative. It's been established that the zones do correlate by the evidence presented here today; that if Amoco drills in this Mancos formation in excess of a mile from the existing pool boundary, that they would have to dedicate 40 acres to the well.

We believe that that is supported by the evidence presented in this case and in the prior case, and as the pool expanded could result in a readjustment of equities in terms of those individuals who participated in the drilling of the well.

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.

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Sillet P. Quitana

Oll Conservation Division. Examiner

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2	STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION
3	STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO
4	12 December 1984
5	COMMISSION HEARING
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8	IN THE MATTER OF:
9	Application of Amoco Production CASE Company for an extension of the 8331
10	Gavilan-Mancos Oil Pool, Rio Arriba County, New Mexico.
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15	BEFORE: Richard L. Stamets, Chairman Commissioner Ed Kelley
16	TRANSCRIPT OF HEARING
17	
18	APPEARANCES
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20	For the Oil Conservation
21	Division:
22	For the Applicant:
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STAMETS: We'll call next MR. Case 8331. Application of Amoco Production Company for extension of the Gavilan-Mancos Oil Pool, Rio Arriba County, New Mexico. At the request of the applicant this case will be continued to the Commission Hearing on January 10, 1985. (Hearing concluded.) 

## CERTIFICATE

I,

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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.

Savy W. Boyd CSR

SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY