NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10510

IN THE MATTER OF:

The Application of Meridian Oil, Inc., for downhole commingling and for an administrative downhole commingling procedure within the Huerfano Sand Unit Area, San Juan County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

July 23, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE APPLICANT:

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BY: **W. THOMAS KELLAHIN, ESQ.**

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EXAMINER CATANACH: At this time we'll call Case 10510, Application of Meridian Oil, Incorporated, for downhole commingling and for an administrative downhole commingling procedure within the Huerfano Sand Unit Area, San Juan County, New Mexico.

Are there appearances in this case?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey, appearing on behalf of Meridian Oil, Inc., the applicant. And I have three witnesses to be sworn.

EXAMINER CATANACH: Are there any other appearances in this case?

Will the three witnesses, please, stand to be sworn in.

[The witnesses were duly sworn.]

MR. KELLAHIN: Mr. Examiner, my first witness is Mr. John Zent. He spells his last name Z-e-n-d-t. He's a petroleum landman with Meridian Oil Company in Farmington.

THE WITNESS: Excuse me. There's no D in the name. Z-e-n-t. No D.

MR. KELLAHIN: My prehearing statement says D, John. There's got to be a D.

THE WITNESS: No D.

EXAMINER CATANACH: Strike the D.

JOHN ZENT

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. For the record would you, please, state your name and occupation?

A. My name is John Zent. I'm a petroleum landman employed by Meridian Oil, Inc.

Q. Mr. Zent, have you on prior occasions testified as a landman before the Division?

A. Yes, sir, I have in 1983 while I was employed with Southland Royalty Company.

Q. Where do you reside now?

A. Farmington, New Mexico.

Q. Describe for us the general involvement you have with the project such as the Huerfano Unit?

A. The Huerfano Unit is in my present unit of assignment. I am involved in all communications between Meridian Oil, the operator of the unit, our working parties as far as proposing wells, receiving elections, of paying

consent to drill and recomplete or plug wells. I also communicate with the royalty owners and other burden owners if they have any questions regarding their interests.

Q. Are you generally familiar with the mechanics of the operating agreement and the joint operating agreement with regards to this unit?

A. Yes, sir, I am.

Q. And do you have the ability within Meridian to tabulate a list of owners that will share in production realized from the unit?

A. Yes, sir, I have that ability with the assistance from other departments.

Q. And have you made the tabulation of ownership with regards to the Dakota Formation and the Gallup Formation for this particular unit?

A. Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Zent as an expert petroleum landman.

EXAMINER CATANACH: Mr. Zent is so qualified.

Q. (BY MR. KELLAHIN) Let me have you turn to the exhibit book. Let's start with Exhibit

No. 1. Simply identify for us what that is.

A. Exhibit No. 1 is -- the first page of Exhibit No. 1 is the notice of the application for Meridian Oil, Inc., regarding the commingling of this proposed well, the Huerfano No. 131 well.

Q. Summarize for the Examiner what Meridian is seeking to accomplish with this application.

A. Meridian is -- may I go off the record, sir?

Q. Sure.

A. Would you like me to address -- I'm not prepared to address any engineering or geologic inferences, but mainly the ownership and equity shared in the commingling.

Q. Let me rephrase my question to you, John. What have the engineers and geologists asked you to accomplish with regards to operations within the unit as they affect the Dakota and the Gallup Formations?

A. The engineering and geologic department has asked the land department, which conducts the business end of Meridian's operations, to contact all the equity owners in the Gallup participating area, the Gallup portion of this drill block, and

the Dakota participating area in the Huerfano Unit and seek their approval in commingling or allowing the production stream from the two horizons to share equally out of one production string.

Q. What is the initial well that the engineers and geologists propose to utilize within the unit boundary for commingling purposes?

A. It is the Huerfano Unit No. 131 well, which is currently a nonproducing Dakota well.

Q. Let's turn to the information behind tab Exhibit No. 2. Identify the first display for me.

A. The first display is a plat showing the offset ownership to the north half of Section 34, 26 North, 10 West, which is the Gallup proration unit and the Dakota proration unit for the Huerfano Unit No. 131 well. It indicates that all the offsetting drill blocks are within the boundaries of the Huerfano Unit agreement, and therefore the offset ownership is controlled and maintained by Meridian Oil, Inc.

Q. All right. Let's turn to the next display within this exhibit tab and identify and

describe that one for us.

A. The next display is a plat indicating the Huerfano Unit agreement, the Huerfano Unit area, and the Dakota participating area within the Huerfano Unit. The Huerfano Unit is indicated by the bold black lines. And the slashed horizontal lines southeast -- or northeast to southwest indicates the current Dakota participating area within the unit.

Q. The yellow or the lime colored highlighter indicates what?

A. That is the drill block for the Huerfano Unit No. 134 well, the north half of Section 34.

Q. And what is the spacing for that well?

A. Three hundred and twenty acres.

Q. Will that be the same spacing for both the Dakota and the Gallup?

A. Yes, it will be.

Q. The next display following that one?

A. The next display is a plat showing the boundaries of the Huerfano Unit area again in solid black lines. The horizontal or the diagonal lines indicate the current Gallup participating area within the Huerfano Unit

agreement. And again the drill block where the Huerfano 131 well is indicated in the fluorescent marking.

Q. Have you had Meridian individuals tabulate and compile for you the equity interest owners that would share in production in the north half of this section, which is the spacing unit in question for the 131 well?

A. Yes, sir, I have.

Q. And how is that represented in the exhibit book?

A. Following the plat we've just looked at is a listing of the names of the individuals, corporations that have an equity ownership in the north half of Section 34 as to both -- as to the Gallup Formation. It lists all owners who will share in the Gallup production from the north half of Section 34.

Q. The north half of Section 34 is not currently in a Gallup participating area?

A. That is correct.

Q. When you look at the Dakota, that half section is in a Dakota participating unit?

A. That is correct.

Q. Do you have a list that will include

all owners of production regardless of the formation within this section?

A. Yes, sir, tabulated under Section 7.

Q. Let's turn to that.

A. Section 7, if I may, the first document is a certificate executed by me showing a compliance with a mailing order indicating that this order and --

Q. The application.

A. -- the application was sent to all the parties. Then we have, of course, the application itself. And immediately behind the application are 18 pages of names and addresses that received this application notice. Those 18 pages represent everybody who could possibly show or share in the allocation or equity interest in a commingled well in the north half of Section 34 being the Huerfano Unit No. 131.

We addressed and notified all current participants in the current Dakota participating area. We notified all current participants in the current Gallup participating area. And those geographic boundaries were shown on the maps we looked at earlier.

We also addressed those parties that we

just looked at in part 3 that are the Gallup drill block owners in the north half of Section 34.

This list then would be a compilation of everybody who could possibly share in equity at one point or another in this Gallup-Dakota commingled.

Q. Would that list be the same, not only with regards to the north half of the section for the 131, but for anyone that might be affected if we adopted an administrative procedure pursuant to an Oil Conservation Division order to let us do further comminglings of Gallup and Dakota without additional notices and hearings?

A. Yes, sir, it is.

MR. KELLAHIN: Mr. Examiner, I have marked as Exhibit No. 8, and it's not in the book, but this is a copy of the unit agreement.

Q. Mr. Zent, would you give us a general summary of the mechanics of the unit and how it functions with regards to this particular property and particularly how these participating areas are expanded as Dakota and Gallup continue to be developed?

A. Okay. The Huerfano Unit agreement was

entered into in July of 1949. It originally encompassed 63,000 acres, and it obligated the designated operator to a drilling of six Dakota wells at widely spaced locations within the 63,000-acre unit designation.

The unit provided that if one or more of those wells would encounter oil and gas and a commercial substance, that it would form the actual unitization process and that the well would be deemed commercial. Upon a well being deemed commercial, the unit operator would form a participating area, which is essentially a pooling.

The unit operating agreement also provides a mechanism where additional wells can be drilled beyond the original six wells that were obligated. If any of those subsequent wells are proposed and drilled, they're proposed and drilled and paid for by the working interest owners owning a cost-bearing interest in the particular proration unit.

If that well is drilled, completed, and deemed commercially productive, that well has the opportunity to be pooled into the initial participating area established by one of the six

original Dakota wells.

Upon that happening, costs are reallocated amongst the working interest pool then or the participating area as additional lands are pooled in. And revenue is shared equitably among the then enlarged participating area.

To date the Dakota participating area within the Huerfano Unit agreement has gone through 51 such expansions and currently contains in excess of 44,000 acres. The Gallup has also been drilled subsequent to the initial six wells, and an initial Gallup participating area was established. It has gone through 20 expansions and now includes in excess of 10,000 acres.

Q. Using the 131 as an example, tell us how the expansion will occur.

A. What would happen, of course, the 131 is currently within the Dakota participating area. And so there will be no further expansion in the Dakota. But if the well is recompleted in the Gallup and commingled, the Gallup is deemed commercial, Meridian will offer evidence to the Bureau of Land Management, New Mexico Oil & Gas Conservation Division, and the State Land Office

evidencing that the Gallup is commercial in that particular 320-acre spacing unit.

And we will apply for an application for the 21st expansion of the Gallup participating area. And the equity, the allowable gas or product from this north half of Section 34 as to the Gallup, then, would then be shared equitably amongst the balance of the owners in the 10,000-plus acre current Gallup PA.

And then again the unit operating agreement provides a mechanism for reallocation of costs and revenues from the date of completion.

Q. If I am an equity owner in the Gallup and I am not in a participating area, can I trigger or take action that will obligate the other interest owners to develop the Gallup for me?

A. Yes, sir, you can. One of the obligations placed upon the unit operator in the Huerfano Unit agreement is that annually we polled all of the owners in the unit agreement to ask if they have any desire for any wells to be drilled in the succeeding year.

Any owner can propose a well. And if that well is proposed, the unit operator is obligated to initiate drilling AFEs, cost estimates, forward those to the cost-bearing interest in the particular proration unit and drill the well upon return receipt of assigned AFEs.

So any owner could trigger an additional Gallup well or new drill well or essentially a recompletion to protect their interests or further develop the Gallup participating area.

Q. Do the contracts provide a means to allocate equities and share of production among all interest owners within the unit area?

A. Yes, they do.

MR. KELLAHIN: That concludes my examination of Mr. Zent. We'll move the introduction of Exhibits 1, 2, 7, and 8.

EXAMINER CATANACH: Exhibits 1, 2, 7 and 8 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Zent, is this unit mostly federal land?

A. It is mostly federal land. Some state lands, some fee lands, some allotted Indian lands. But I'd say about 80 percent is federal leasehold.

Q. Okay. The parties that you notified of your application today, if I understand correctly, were the parties owning an interest in the current Gallup and Dakota PAs?

A. Yes, sir, as well as the Gallup owners of the north half of Section 34.

Q. Okay. If I understand correctly again, what you're asking for is an administrative procedure where you wouldn't have to notify these parties every time you wanted to downhole commingle a well?

A. That is correct.

Q. Are there parties owning an interest in the Gallup within the unit that were not notified?

A. Every Gallup owner also owned an interest in the Dakota participating area. We would surmise that the ownership between the two horizons between working interest owners and overriding royalty owners is identical as royalty owners. There appears to be no severance that we

could identify between the equity ownership between the two horizons.

So we believe that we could have accomplished the same thing just by notifying the Dakota participating area owners and not gone through a second list and identifying Gallup owners.

If you look at the pages in Exhibit 7, you'll notice that many parties are listed twice. Those parties listed twice are those parties who had an interest in the Gallup and also an interest in the Dakota PA. Those parties that are only listed singly did not have an interest in the current Gallup participating area because it is considerably smaller than the Dakota PA.

So we feel we have notified every party in the Huerfano Unit that has an interest in both formations, whether it's currently developed to the Gallup or not.

Q. Okay. That's what I was after. In a future drilled or developed well, you think you'd be covered with the notification that you provided with this hearing?

A. Yes, sir, I do.

Q. Even if it's not in a Gallup PA --
A. Yes, sir.
Q. -- at the current time?
A. Yes, sir.
Q. Have you had any comments or questions from any of the interest owners about your application?
A. No, we have not. We contacted the cost bearing owners as early as February of 92 and sought their participation in the cost portion of the well. And there were eleven parties who were involved in that.

And with the exception of one party owning a 2/10 of 1 percent interest, all parties are encouraging Meridian to do this and feel it is an economic way to develop the Gallup Formation in the unit. But we have had no response from the mail out, positive or negative on notification.

Q. Do you know how many of these wells in the unit may eventually be downhole commingled?
A. I'm not prepared to address that. Hopefully a subsequent witness can.
Q. Every time some acreage is put into the PA, it changes the percentage of ownership that

the parties --

A. Yes, sir, it does.

Q. But you said that all the owners in the Gallup also have ownership in the Dakota?

A. That's correct.

EXAMINER CATANACH: Okay. I believe that's all I have of the witness, Mr. Kellahin.

MR. KELLAHIN: Mike Dawson is a geologist with Meridian, Mr. Examiner.

MICHAEL K. DAWSON

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

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

A. I'm Michael K. Dawson. I'm a geologist for Meridian Oil, Inc., Farmington region.

Q. Mr. Dawson, on prior occasions have you testified before the Division as a geologist?

A. Yes, sir, I have.

Q. And pursuant to your employment as a geologist, have you made a review of the geology in the Dakota and Gallup formations that underlie the Huerfano Unit?

A. Yes, sir.

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

EXAMINER CATANACH: Mr. Dawson is so qualified.

Q. (BY MR. KELLAHIN) Mr. Dawson, let me ask you to turn to the displays following Exhibit No. 6, and let's pull out the type log for the subject well. Identify and then describe the display for us and give us a description of the relationship of the Gallup and the Dakota as we find it in this wellbore.

A. The wire-line log from the Huerfano 131, as displayed here, indicates the Gallup producing interval from approximately 5600 feet to 6100 feet. We've indicated the zones that we propose for completion on this wire-line log.

It's significant that the left-hand curve, or the SP curve, shows a negative deflection, that is to the left, and by and large in the zones in which we have an interest. The curves on the right-hand side of the log are resistivity curves. You can also see a deflection to the right in those zones. A combination of these log responses was used to

select the zones for completion.

At the time bottom of the log as shown, we have indicated the Dakota producing interval, and we've indicated the zones that are currently completed in the Dakota.

Q. When we look at the unit area and see Mr. Zent's participating areas, there has been substantial development of the Dakota within the unit boundary, yet the Gallup itself has not been separately developed to any significant extent.

Is there a geologic explanation why the development has occurred with that kind of pattern?

A. Yes, sir, there is. The development in the northern part of the unit was largely carried forward based on the presence of the Tocito sandstone within the Gallup interval. This Tocito sandstone is coarse- to medium-grained and generally has rather high matrix permeability. It tends to be distributed as a bar within the unit.

Throughout the rest of the unit, we have overlying very fined-grained sandstones and siltstones that have productive potential but very, very low matrix permeability. And these

types of reservoirs will be dependent on natural fracturing for commercial production.

These reservoirs we think at this time do not warrant new drilling. We don't believe that they're capable of producing reserves that would pay out new drill wells in general.

Q. What does Meridian achieve with this downhole commingling program within the unit that it cannot achieve if this program is not initiated?

A. We see this program as a means to recovering the reserves that are in the tight but naturally fractured part of the Gallup interval. We see this as a way of commercially developing these in a situation where we can't afford to drill new wellbores specifically for this interval.

Q. Let's turn to some of your other displays and have you describe the distribution of the reservoirs within the unit area.

A. The first display following the type log indicates -- it's a map of SP feet within this Gallup interval. And it's a map of the footage of SP that has greater than 5 millivolts of negative deflection.

We take this as an indication of permeability in that tight part of the Gallup interval. This display demonstrates a certain continuity in the trends of the spontaneous potential development.

Q. Is there sufficient distribution of the Gallup Formation over all unit area to make this project viable?

A. Yes, sir.

Q. Let's look at the structure map on Gallup. Is there any particular significance to this structure in the Gallup?

A. The structure map indicates a very gentle homoclinal dip to the northeast of about 70 feet per mile. It's useful as an indication of the -- actually the lack of structural deformation.

Q. There shouldn't be any structural component that would put at risk the opportunity to downhole commingle production in these two fields?

A. No, sir. We expect no significant faulting or folding that would provide permeability barriers.

Q. And then the next display?

A. This is a net pay isopach of the Dakota A sandstone, which is the upper interval completed in the subject well. This sandstone was deposited at a shoreline sequence with strong marine influences. This particular exhibit illustrates the degree of continuity of this particular part of the Dakota producing interval.

Q. Why have you selected the Dakota A upon which to prepare the isopach?

A. We feel that the Dakota A is the primary reservoir sandstone within the Dakota interval.

Q. And is this the primary productive interval as we look at the Dakota wells within the unit area?

A. Yes, sir, in general it is.

Q. Let's go to the next display.

A. This is another net sandstone isopach but of the Dakota sands underlying the Dakota A. These sandstones are in general much less continuous. They represent fluvial and deltaic or non-marine deposition. In general they don't contribute as much to the Dakota production in the unit as does the Dakota A.

Q. Do you have an opinion as a geologist

whether or not the Division ought to approve the application?

A. Yes, sir. I believe that it is a reasonable application and should be approved.

Q. You don't see any geologic reason not to have it approved?

A. No reason.

MR. KELLAHIN: That concludes my examination of Mr. Dawson. We move the introduction of his displays contained within No. 6.

EXAMINER CATANACH: Exhibit No. 6 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Dawson, what approximately is the productive potential of the Gallup in any individual well within this unit?

A. That's a difficult question to answer in that in wells without Tocito sandstone development, such as this, we're looking at naturally fractured reservoirs, and production rates vary widely. Natural fracturing is so difficult to predict.

We have reason to believe that it could

range from, say, a cumulative production of 100 million to as great as 1 Bcf of gas. And, of course, some completions probably will not encounter well developed natural fracturing, and we'll have sub-commercial production from those.

We believe also that there is some oil potential in this interval. It could range from a couple thousand barrels up to as much as 20- to 30,000 barrels. I would defer a more specific answer to Jimmy Smith, who has modeled the economics and looked at production analogies as part of his preparation and proposal of this project.

Q. Are you able to map where within the unit the Tocito interval is present?

A. Yes, sir, quite easily. We have enough density log control that we can map and indicate the Tocito sand bar. In this particular well it is not developed at all.

Q. Approximately what percentage of the acreage within the unit contains that Tocito interval?

A. I would say approximately 20 percent.

Q. Would that be the main producing interval from the Gallup, the one that would

contribute the most reserves in your opinion?

A. Yes, sir, I believe so.

Q. There is currently some Gallup production within the unit?

A. Yes, sir. As I said, in the northern part of the unit, the Angell Peak-Gallup Pool is developed. There are a few odd Gallup completions.

Other than that the nearest one is indicated on the Gallup interval net SP isopach. It's approximately a mile-and-a-half to the northwest. That well is indicated with a large G under the enhanced gas well symbol.

Apart from that there are few recent Gallup recompletions in the interval -- in the unit.

Can I go off the record for just a moment, sir? I wanted to find the map that Jimmy includes.

[A discussion was held off the record.]

A. If I could call your attention to the second page in Exhibit 3, the map that Jimmy Smith prepared indicates with a diamond symbol plugged-back recompletions to the Gallup in this area. These were Dakota wells that were plugged

back for completion in the Gallup.

Q. Okay. In terms of the Dakota within the unit, has that basically been fully developed?

A. Yes, sir, it has.

Q. So the wellbores that you're going to target for downhole commingling will have already produced from the Dakota for a significant amount of time probably?

A. I believe so, although some of our more recent infill wells have reached their commercial limits or are nearing that limit, and those wells are maybe as young as, say, ten years old. Some of the newer infill wells probably will be considered as potential commingled candidates within the near future.

Q. Is there a substantial amount of acreage within the unit that has not been infill drilled in the Dakota?

A. I feel at this time that perhaps about 20 to 25 percent of the total Dakota PA has not been infilled. And the decision not to carry forth the infill program in the case of this acreage, this 20 to 25 percent, is based on the lack of reservoir potential within the Dakota.

In other words, we've looked at the Dakota reservoir sandstones, mapped them, looked at offsetting production, and the decision has been made not to go forward with infilling and, say, that 25 percent of the Dakota PA that remains to be infilled.

Q. So there may not be any more infill drilling in the Dakota?

A. Yes, sir.

EXAMINER CATANACH: That's all I have of the witness, Mr. Kellahin.

MR. KELLAHIN: I call at this time Mr. Jimmy Smith.

JAMES A. SMITH

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

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

A. James A. Smith. I'm a senior production engineer with Meridian Oil in Farmington, New Mexico.

Q. On prior occasions, Mr. Smith, have you testified as an engineer before the Division?

A. Yes, sir, I have.

Q. And pursuant to your employment have you made an analysis of the Huerfano Unit with regards to the downhole commingling potential of the Gallup and Dakota Formations within the unit area?

A. Yes, sir.

MR. KELLAHIN: We tender Mr. Smith as an expert engineer.

EXAMINER CATANACH: Mr. Smith is so qualified.

Q. (BY MR. KELLAHIN) Let me direct your attention, Mr. Smith, to Exhibit 3 and the first display behind Exhibit No. 3. Would you identify that for us? I'm in the next section. All right, sir.

The first is simply an orientation map, a land plat showing the subject well. If you'll turn beyond that and pick up with the display Mr. Dawson described to us that showed the status of the wells in the near vicinity of the 131.

Describe for us, from your perspective as an engineer, what is so interesting about the potential to continue to develop the Gallup with this downhole commingling program.

A. First, this map that we're looking at is a locator map, as you can see in Section 34, the Huerfano Unit 131 well. To date we have four recompletions in the Gallup. Three of those can be seen here, the 194-E, the 219 and the No. 216.

As you move to the southeast, the Gallegos-Gallup pool thins out. At this point we are reaching the extent for the new -- trying to encounter new Gallup sand that has previously not been developed.

Q. Based upon your analysis of that potential in the Gallup, what is the most economic way and efficient way to develop or test for those reserves?

A. By recompleting in existing Dakota wellbores.

Q. What causes to you reach that conclusion?

A. The costs of new drills is roughly twice as much than a recompletion.

Q. Have you identified the 131 well as a well in which there is sufficient potential to recomplete that well in a downhole commingling configuration so you can produce both the Dakota

and the Gallup?

A. Yes, sir.

Q. What's interesting about that well, and why is it selected as the first well?

A. First off, we've been notified by the New Mexico OCD that remedial work must be taken on this well. It has not produced for roughly ten years. And we feel that there are existing recoverable Dakota reserves, however, not economic at this point. However, commingled with the Gallup, the commingled stream will be economic.

Q. Following the display is a, what's identified as a recompletion procedure. Without going through all the specifics of the detailed procedure, give us a summary so that we can have an understanding of how you propose to handle the recompletion and particularly how you propose to allocate the production between the two reservoirs.

A. We intend to move onto this well, attempt to establish production capability from the Dakota Formation. At that point we will isolate the Dakota with a bridge plug, recomplete the Gallup Formation, frac it, test it for

production capability, and remove the bridge plug and test the commingled production. Based on the flow rates of both zones, production will be allocated from that.

Q. Have you determined whether or not that is a typical way by which production has been allocated between commingled Gallup and Dakota wells in other areas of the basin?

A. Yes, that's typical.

Q. Did you prepare the recompletion procedures outlined in this exhibit, Mr. Smith?

A. Yes, sir.

Q. Let's go to Exhibit tab 4. Identify and describe for us the first display.

A. This is a production history plot of the Gallup -- or excuse me, of the Dakota production from the Huerfano Unit 131 well.

Q. When you look at the current status of that well, it has been shut-in for some time?

A. Yes, sir.

Q. Is there any indication of what the line pressure was at the time of shut-in?

A. That cannot be determined from this; however, line pressures in this area are the main reason why this well is not producing.

Q. It no longer had the capacity to produce against the existing line pressures?

A. That's correct.

Q. Turn to the next display within the exhibit section. What's identified here?

A. This is a well completion log of the Huerfano Unit 131 well. This depicts the drilling and completion of the Dakota.

Q. And then continuing on, describe each of the next displays within the exhibit section.

A. The next exhibit is the completion log submitted to the BLM and the state. It shows the completion procedure perforations and fracture treatment.

The next exhibit is a back pressure test of the Gallup Formation from the Huerfano Unit 219 well. This, we feel, shows that pressures in the area are not in excess of 50 percent required by commingling.

And last is a shut-in pressure of the 131 well showing the initial pressure of the Dakota and the most current pressure in 1979.

Q. Let's go back and touch again on the pressure differential. Have you made an investigation of what you would expect to be the

ranges of pressure in the Gallup and compared those to Dakota to see if you have a significant pressure differential?

A. Yes.

Q. And do you find instances that would cause to you believe that you're going to have a higher pressure zone that's more than 50 percent greater than the lower pressure zone?

A. No.

Q. So no pressure problems between the two zones?

A. That's correct.

Q. Do you see any opportunity that one zone would feed the other zone; that we're going to have some kind of problem between the reservoirs if we commingled production?

A. No, sir.

Q. Do you see any incompatibility of the fluids?

A. No, sir.

Q. Turn to the pressure plot, which is the last display in Exhibit tab 4. Describe that for us.

A. The pressure plot shows the original reservoir pressure in the 131 well as 1300 pounds

and the last pressure as 704 PSI.

Q. Have you had some economic analysis to determine whether or not the opportunity for increasing production from both zones in a commingled manner is a realistic, achievable objective?

A. Yes, sir.

Q. What did you conclude?

A. That it is an economic venture.

Q. When we turn to Exhibit tab 5, describe for us what this shows.

A. Exhibit 5 is a laboratory analysis of fluids from both the Dakota and Gallup, from both Dakota and Gallup wells in the area. This was conducted by the Western Company. It shows that the fluids are compatible.

Q. Okay. And then you have additional oil analysis and other information under this section to further confirm for you that the fluids in fact are compatible?

A. Yes, sir.

Q. I was looking for the section that had your AFEs and your economics in it. Where did we put that?

A. I don't know.

MR. KELLAHIN: I don't know either.

May we have a minute to figure out where that went?

EXAMINER CATANACH: Sure.

MR. KELLAHIN: All right. Let's describe them anyway.

UNIDENTIFIED PERSON: May these exhibits be purchased or be had?

MR. KELLAHIN: We'll be happy to provide you a copy. They're available for the public out of the case file. But if you would like a set, I'll give you one.

UNIDENTIFIED PERSON: I appreciate it. I'm a royalty owner under the well adjacent to it.

MR. KELLAHIN: We're happy to share some exhibits with you.

Mr. Examiner, I did not put all the AFE cost items in the exhibit book. There is a complete set of that information which we filed with you when we sought administrative approval of this particular well, and it is in this case file. Let me have Mr. Smith simply describe in summary the economics.

Q. (BY MR. KELLAHIN) Take us through a

summary, Mr. Smith, of how you approached analyzing the issue of whether or not it was more efficient to continue to test for development in the Dakota by commingling with the Gallup.

A. First off, we have recompleted several wells in the Huerfano Unit and in 1991 drilled one well. Costs, typical costs for recompletion is $200- to $250,000; whereas, a drill well is $500- to $600,000. Economics were run based on the offset wells.

Offset wells, the closest offset well, being the Huerfano Unit 219, one mile to the northeast, that well has currently been producing for three-and-a-half months. Based on its rate economics were modeled after that. And with the addition of the Dakota flow stream, economics are favorable; whereas, Meridian would recomplete this wellbore in the Gallup.

Q. Without approval of the process to have commingling continue in the unit area, do we run the risk of leaving hydrocarbons in the reservoirs that might otherwise be recovered?

A. Yes, sir.

Q. From your point of view as an engineer, do you see any limitations? Do you have any

reservations about having the Division approve the 131 for commingling and adopt an administrative procedure that we might do for others like this within the unit?

A. No, sir.

Q. Have you had a chance to figure out how many potential candidates you have for the downhole commingling project within a certain range? Have you identified a number of wells?

A. Yes.

Q. Approximately how many?

A. Based on today's prices and economics, I would say we have between 20 and 50 commingles currently.

Q. And this is an opportunity to recover additional hydrocarbons for benefit of all interest owners that might not otherwise be achievable?

A. Yes, sir.

MR. KELLAHIN: That concludes my examination of Mr. Smith. We would move at this time the introduction of the balance of the exhibits. And I must tell you I've lost track of the numbers, but whatever they are, we submit them.

EXAMINER CATANACH: The balance of the exhibits will be submitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Smith, on your exhibit on your multi-point pressure test for the well No. 219, you show an absolute open flow of 1731 Mcf per day?

A. Yes, sir.

Q. Do you think this is indicative of the type of production you're going to be getting from the Gallup Formation?

A. No, sir.

Q. What do you estimate that to be?

A. Based on offset wells, I estimate the initial gas potential to be 100 to 200 Mcf per day. Actually this well is currently producing 120 Mcf per day for the last three-and-a-half months.

Q. What do you base that estimate on?

A. The 120 a day?

Q. The 100 to 200 Mcf a day.

A. This well right here.

Q. Within the Dakota wells that you've targeted for possible downhole commingling, what

is the Dakota range of production in those wells currently?

A. Zero Mcf per day to 70 to 80, in that range.

Q. So they're all pretty marginal --

A. Yes, sir.

Q. -- Dakota producers?

A. [Nodded.]

Q. I think I heard it from the geologist, but have you done any kind of calculations that might indicate what kind of additional reserves you might recover from the Gallup by commingling?

A. Yes, sir. Currently I feel that there are approximately 300 million cubic feet of gas remaining in the Dakota reservoir that is currently nonrecoverable.

Q. That is nonrecoverable?

A. At this point, in other words, being produced through the Dakota only.

Q. How much of that might you recover through downhole commingling?

A. We anticipate all of it.

Q. Mr. Smith, can we go over a little bit the methods you plan to utilize to allocate production?

A. Yes. In Exhibit 3, starting on the third page, prior to doing any work on the Gallup, we are going to attempt to get a flow test on the Dakota. That flow test will more than likely be to the atmosphere because of current line pressures. We will then isolate the Dakota with the bridge plug, complete the Gallup interval, and flow test it.

Based on the ratio of these flow streams and the subsequent commingled flow stream, production will be allocated.

Q. Okay. Will the recompletions to the Gallup aid the wells -- will that enable them to get gas into the line better?

A. Yes, sir. We feel with a pump jack and a compressor and the flow streams -- or the commingled flow streams, that economics warrant that.

Q. It would still have to be compressed?

A. Yes, sir.

Q. Do you have an idea what the remaining Dakota reserves within the unit are?

A. Within the unit?

Q. Right.

A. No, sir, not at this time.

EXAMINER CATANACH: I believe that's all I have, Mr. Kellahin.

MR. KELLAHIN: That completes our presentation, Mr. Examiner.

EXAMINER CATANACH: Mr. Kellahin, with respect to the administrative procedure for commingling, would you propose that every time a well is proposed to be commingled they would not have to notify the same interest owners that they did for the hearing today?

MR. KELLAHIN: Yes, sir. That was the purpose for the hearing today, is to confirm that we may utilize the administrative procedures of the Division which have a specific category with regards to common ownership. We're seeking language that will satisfy that portion of the administrative procedure.

And by notifying everyone that we could think of to notify for this unit, we serve to accomplish that purpose for this and any of the other cases we propose to apply for. So the answer is yes, this is a one-time deal for notice and hearing on this issue.

Q. (BY EXAMINER CATANACH) Let me ask Mr. Smith something -- I'm not sure if he'll be able

to answer it, but he might defer it to the landman. When a well is recompleted to the Gallup, do the interest owners who own an interest in that particular well know what's going on in terms of the recompletion?

A. Is information sent to them?

Q. Right. I suppose that the working interest owners would have to sign off on an AFE for the recompletion?

A. Yes, sir.

Q. Do the royalty interest owners have any knowledge of what's going on with that well at that particular time?

A. I will have to --

MR. KELLAHIN: We may have to call Mr. Zent back to answer that question.

EXAMINER CATANACH: Why don't we do that.

MR. ZENT: To answer the question, sir, no, sir. The working interest owners are the only parties that receive operational reports and completion reports.

However, the Huerfano Unit agreement does provide a mechanism whereupon request the operator is obligated to provide detailed

information including well logs to every equity owner who so requests. But due to costs and just the volume, it's not something we normally do. But that opportunity does exist under the unit agreement.

EXAMINER CATANACH: Okay. That's all I have, Mr. Kellahin.

Anything further in this case?

MR. KELLAHIN: No, sir.

EXAMINER CATANACH: There being nothing further, Case 10510 will be taken under advisement.

[And the proceedings were concluded.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10510, heard by me on July 23 1992.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL JULY 28, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3