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

12 April 1989

EXAMINER HEARING

IN THE MATTER OF:

In the matter of cases called on this date and continued or dismissed without testimony presented.

CASES
9643
9645
9636
9637
9648
9649
9572
9573

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Robert G. Stovall
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico

I N D E X

MR. STOGNER: This hearing will come to order for Docket No. 11-89. Today's date is April 12th, 1989. I am Michael E. Stogner, the hearing officer today.

I'll go through the continued cases first. We have three OCD cases, the May allowable, a plugging case and a nomenclature. We'll move those up to three and I understand that there is a party here opposing Sun and we'll move that to the end of the docket.

I'll call first Case Number 9643, which is the application of Steve Sell for directional drilling and an unorthodox gas well location, Eddy County, New Mexico.

The applicant has requested that this case be continued, at which time it will be readvertised for the April 26th, 1980 hearing.

(Hearing concluded.)

MR. STOGNER: Call next Case Number 9645, which is the application of BP Exploration, Incorporated, for compulsory pooling, Lea County, New Mexico.

The applicant has requested that this case be continued to the Examiner Hearing scheduled for May 10th, 1989.

Hearing concluded.)

MR. STOGNER: Call next Case Number 9636, which is the application of Grand Resources, Incorporated for statutory unitization, San Juan County, New Mexico.

At the applicant's request this case will be continued to the Examiner's hearing scheduled for April 26, 1989.

(Hearing concluded.)

MR. STOGNER: Call next Case Number 9637, which is the application of Grand Resources, Incorporated, for waterflood project, San Juan County, New Mexico.

At the applicant's request this case will be continued to the Examiner's hearing scheduled for April 26, 1989.

(Hearing concluded.)

MR. STOGNER: I'll call next Case Number 9648, which is the application of Meridian Oil, Incorporated to amend Division Order No. R-8868, Rio Arriba County, New Mexico.

At the applicant's request this case will be continued to the Examiner's hearing scheduled for April 26th, 1989.

(Hearing concluded.)

MR. STOGNER: Call next Case Number 9649, which is the application of Meridian Oil, Incorporated for an unorthodox coal gas well location in San Juan County, New Mexico.

At the applicant's request this case will be continued to the Examiner's Hearing scheduled for April 26, 1989.

(Hearing concluded.)

MR. STOGNER: I'll call next Case Number 9572, which is the application of Dugan Production Corporation for a nonstandard gas proration unit, San Juan County, New Mexico.

At the applicant's request this case will be continued to the Examiner's hearing scheduled for May 24th, 1989.

(Hearing concluded.)

MR. STOGNER: I'll call next Case Number 9573, which is the application of Dugan Production Corporation for a nonstandard gas proration unit in San Juan County, New Mexico.

At the applicant's request this case will be continued to the Examiner's hearing scheduled for May 24th, 1989.

(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 complete record of the proceedings in the Examiner hearing of Case No. 9643, 9645, 9650, 9651, 9648, 9649, 9672, 9673 heard by me on 12 April 1989.

Richard L. Stamets, Examiner
Oil Conservation Division

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

26 April 1989

EXAMINER HEARING

IN THE MATTER OF:

Application of Steve Sell for directional drillingand an unorthodox gas well location, Eddy County, New Mexico.	CASE 9643

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:
Robert G. Stovall
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For Steve Sell:
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I N D E X

E X H I B I T S

MR. CATANACH: At this time we'll call Case 9643.

MR. STOVALL: Application of Steve Sell for directional drilling and an unorthodox gas well location, Eddy County, New Mexico.

MR. CATANACH: 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 the applicant and I have two witnesses to be sworn.

MR. CATANACH: Any other appearances?

(Witnesses sworn.)

KURT BOLEY,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Boley, would you state your name and occupation for the record?

A Kurt W. Boley.

Q How do you spell your last name, sir?

A B-O-L-E-Y.

Q And your first name?

A K-U-R-T, and I'm a geologist.

Q Mr. Boley, have you testified on a prior occasion before the Oil Conservation Division as a petroleum geologist?

A Yes, I have.

Q And have you made a geologic study and have come to geologic conclusions with regards to Mr. Sell's application for directional drilling and an unorthodox gas well location in Eddy County, New Mexico?

A Yes, I have.

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

MR. CATANACH: He is so qualified.

Q Mr. Boley, let me have you take what is marked as Exhibit Number One and have you identify that for us.

A It's a land plat showing the mineral interest ownerships of the surrounding sections to our two leases.

Q The area outlined in the yellow outline is what, sir?

A Section 34 and Section 35, Township 21 South, Range 24 East, and they're Steve Sell's two leases.

Q Where is the proposed surface location of the well that you're seeking approval to drill?

A The surface location?

Q Yes, sir.

A It is in the southwest quarter of Section 35.

Q The direction to which you seek to move this well in an unorthodox direction is which way?

A To the west.

Q What are the primary potentially productive formations that you're seeking approval to penetrate and produce from?

A The Cisco and the Morrow.

Q When we deal with those formations in this particular area, are you subject to any special pool rules?

A Yes, the Indian Basin Pool rules.

Q Indian Basin Pool rules would require a standard well to be located where, sir?

A 1650 from the outer boundaries of any section and 330 from the interior 40, 40 acre (unclear).

Q In terms of the southern boundary of Section 35, will your well be at a standard location as to

that boundary?

A As to the south boundary?

Q Yes, sir.

A Correct, yes, it will.

Q And so the boundary that you're encroaching is the boundary in Section 34.

A Correct.

Q Are the interest owners between Section 35 and 34 the same individuals and companies or are they different?

A Exactly the same.

Q Are the percentages of ownership between the two sections among those individuals and companies the same?

A Yes, they are the same.

Q They are identical, are they not?

A Yes, they are.

Q Participants, then, in the revenues derived from the well in the event it produces commercial hydrocarbons will be shared in the same fashion as if a well had been drilled in 34?

A Yes.

Q Yes, that is correct.

Q And do you have the consent and approval of all the owners for the drilling of this well at the un-

orthodox location?

A Yes.

Q Let's turn now, sir, to Exhibit Number Two, and you have put a copy of that display on the wall. Let me have you go to that. Starting with Exhibit Number Two, would you identify it before you describe it?

A This is a cross section, basically a regional cross section, covering from Section 36, Township 21 South, Range 23 East, through Section 13 of Township 22 South, Range 24 East.

This cross section is on the top of the Cisco. The formation highlighted in red is the top of the Cisco. Do you want me to further explain it?

Q Well, explain the major conclusion you reached from conducting a generally east/west cross section through this area as identified on this display. What's the major point?

A The major point is I'm showing three biohermal highs from west to east.

The first biohermal high is -- well, it encompasses Section 31, 32 of Township 21 South, Range 24 East, and basically 6 and part of Section 5 of Township 22 South, Range 24 East, and it shows approximately 250 feet per mile of dip off of -- off the main Indian Basin Pool itself in this bioherm, coming down, and we show another

nose here, which I've drawn in a prospect, and another bioherm south, which is McKittrick Hills Upper Penn Pool.

Q When you talk about the bioherm here, you're referring to the one that you've identified generally in the area of the Section 34 and 35, where the well is to be located.

A Yes, that's correct.

Q All right. Now as we move to the south and east there is a third bioherm identified on the display?

A Yes. The McKittrick Hills Upper Penn Pool, there's one well in that particular field -- pool, I'm sorry.

Q Having identified the bioherm within Sections 34 and 35, have you determined where is the optimum location in Section 35 to penetrate that bioherm and hopefully obtain the greatest potential recovery of hydrocarbons?

A Yes, I have, and I'll briefly -- could we possibly move to this exhibit?

Q Sure, let's do that. Let's go to Exhibits Number Three.

A This is a blown-up version of this area showing it in greater detail.

Q I've drawn the bioherm here. Let me

give you some background on the wells around it just to show you why I think there is a bioherm here.

This well was drilled in 1969 and swabbed 1800 barrels of salt water per day from -- it is low to this major high just to the west in the Indian Basin Pool. These wells were drilled in '79 and the Champion Well here drilled in 1930.

This well had substantial hydrocarbon shows, being down dip from the water well here, up to 15/17 barrels of oil an hour, per hour, 2-1/2 to 2.9-million cubic feet of gas per day, but the well watered out rather quickly within approximately three weeks and that's why I put this particular well on the gas/water contact, which is everything in yellow I'm assuming is high enough to produce gas and everything below is too low in the water.

This well --

MR. STOVALL: Mr. Kellahin, excuse me, if I may, would you ask your witness, when we go to read a transcript "this well" doesn't have your finger on it.

A I'm sorry.

MR. STOVALL: If you wouldn't mind identifying the well more specifically it would sure help on the transcript.

A Okay. The well I was previously talking

about that had such good shows is the HEYCO Well located in Section 35 of Township 21 South, Range 24 East.

The next well I mentioned is in Section 2 of Township 22 South, Range 24 East. It is Morris Antweil No. 1 Little Walt. It -- it is -- the porosity is approximately 23 feet down dip from the HEYCO Well, still tested 600 and 300 MCF of gas per day and in the first test flowed salt water in 53 minutes and the second test flowed salt water in 58 minutes.

It's just quite a bit down dip from the HEYCO well with the shows and the test so indicates.

Also, these wells have pressures, bottom hole pressures, based on the drill stem tests of 2450 pounds plus or minus. The Indian Basin Pool is approximately 1600 pounds right now.

And, so my conclusion basically is that we've got significant water show from just the uppermost part of the reef in this well; significant hydrocarbon shows down dip from this well, and the only possible way for that to occur is for there to be a trap between those two points and the trap is also indicated by the fact that you're dipping from Section -- Section 31 and 32 in Section 21 South -- Township 21 South, Range 24 East, approximately 250 feet per mile towards our Section 34 and Section 35. And then from the old Anadarko Federal Well in the south-

west corner of Section 34 the dip changes just past that point, the HEYCO Well in Section 35 to approximately 50 feet per mile. So we have a large nose created here and a very good well control and there's only one place that's bioherm can possibly be, it's here, and it's where it's so indicated on the exhibits, and the standard location would only put us approximately 400 feet, or so, up dip from the HEYCO Well, which was obviously wet and too far down dip in Section 35.

Q Have you identified on the display the closest standard location?

A Yes, I have. It's marked -- it is marked "orthodox location" here. Our surface location here, indicated by "surf", surface, and we plan to deviate the hole 430 feet, approximately, to the northwest for a bottom hole location of 1650 from the south, 850 from the west, and I feel like this is high enough to achieve production and I would also, one more technical point, and another reason I would like to drill dues west of the HEYCO Well is because bioherms are convex in nature. The closer you are to the reef core the higher the porosities encountered in the reef itself. In other words, toward the flanks the porosity moves further into the bioherm.

That is what this map is really showing. This is from the north of Section 34, the Champlin Well,

the HEYCO Well, and the Antweil Well in Section 2, Township 22 South, Range 24 East, and it gives you a view towards the west and you would be looking at the formation of the bioherm from east to west and you would see the convex nature if it were exposed on the surface and that's what this map is showing. It's showing the Champlin Well on the north flank as being approximately 20 feet to the porosity from the top of the bioherm.

The HEYCO Well, which is closer to the core, the porosity is only 8 feet into the bioherm, and then the Antweil Well in Section 2 is on the south flank and is approximately 23 feet to the porosity, and so I'm just showing the convex nature of the bioherm and I would like to drill due west of the HEYCO (not clearly understood), so that's why I'm picking this particular spot and we cannot drill in my proposed location because it is in the Bottom of Walt Canyon, which is subject to vicious flash floods (unclear).

Q If you'll return to your seat, we'll talk to the examiner about the reasons for the directional drilling.

A Okay.

Q Mr. Boley, if you'll turn to what is marked as Exhibit Number Four. Would you identify Exhibit Number Four for us?

A It's a topographic map showing our two sections in yellow and showing the proposed surface location on the indicated nose where the red dot is, and the proposed bottom hole location, which is just almost into the bottom of Walt Canyon and it's actually on the side of a cliff that drops straight into Walt Canyon, and --

Q Have you been out on the surface of Section 35?

A Yes. several times.

Q Let me direct your attention to Exhibit Number Five, Mr. Boley. Were these photographs taken by you or taken in your presence?

A They were taken by me.

Q When we look at photograph number 1 on Exhibit Five, would you help orient the Examiner as to where you were standing when you took the photograph and what your direction of view was when you made this photograph?

A This is basically looking at our location. This is due -- well, it's not due west but it's just slightly north and mainly west from the HEYCO, the old HEYCO location in Section 35, and it's showing --

Q Well, what direction are you viewing?

A We're looking basically to the south.

Q What's the significance of the red dots?

A They are showing, coming from the left is coming down the hill from HEYCO, the lowermost left dot. They're -- all these dots are beneath stakes. If you look hard enough you can see the stakes. I put the dots on so that the stakes were more -- more evident.

The dots just show basically our road coming from the old HEYCO location down and heading south into our location. We kind of basically have a natural road or contour interval there to travel down to the location.

Q When we get to the photograph number 2 where are you standing and what is your direction of view in that photograph?

A I'm standing on the edge of the cliff due west of our proposed location, where below my feet it dropped at least 100 feet straight cliff into the canyon and the red dot on the right is approximately above, vertically, where our bottom hole location, or -- or the bit will end up underneath this dot vertically, basically. It's 1658 -- 1650 from the south and 850 from the west of Section 35, showing the rough terrain.

Q When we get to photograph 3 where are you standing and what is your direction of view?

A I'm standing on a nose above our location and I just took two pictures as close as possible to

being exactly next to each other, just to get a panoramic view down to our location. The dot to the west is below our well stake and it shows a real nice flat area up here to drill on and the -- the dot to the far right is simply showing approximately up the hill from where the dot in photograph 2 was.

Q But your --

A Showing the relation, that, in other words, from the left dot in the number 3 photograph to the right dot, is looking basically -- those two dots were actually on a northwest axis which is the direction we're kicking our well from.

Q What's the direction of view that you're looking at when you look at photograph number 3?

A That's approximately due west.

Q Have you found a suitable surface location, then, in the vicinity of the bottom hole location?

A No, no, it's just -- it's far too rough.

Q Is the proposed surface location that you desire to utilize a point that is the closest usable location to the proposed bottom hole location?

A Yes, it is.

Q Let's give the examiner the estimated footages again now on the surface location, if you will.

A Okay.

Q Your surface location is unorthodox --

A Yes, it is.

Q -- from the south and the west lines of the spacing unit?

A It is -- our surface location is approximately 1327 feet from the south line and 1143 feet from the west line.

Q The proposed bottom hole location then will be what?

A 1650 feet from the south line and 850 feet from the west line.

Q Is that information shown on Exhibit Number Six?

A Yes, it is.

Q And what is Exhibit Number Six?

A It's a survey plat for when we staked our well, showing the different interests in the well.

Q When we look at the affidavit of mailing, Exhibit Number Nine, there were two parties notified, a Mark Nearburg and then the Yates Petroleum Corporation. Wherein do they have interests in this area?

A South of both of our leases. Nearburg has mineral rights to Section 2 of Township 22 South, Range 24 East. And Yates, Yates Petroleum has Section 3 of Town-

ship 22 South, Range 24 East leased --

Q Have --

A -- for minerals.

Q Have either Nearburg or Yates objected to either the directional drilling or the unorthodox locations?

A No, they have not.

MR. KELLAHIN: That concludes my examination of Mr. Boley.

We would move the introduction of Exhibits One through Six at this time.

MR. CATANACH: Exhibits One through Six will be admitted as evidence.

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Boley, has your surface location actually been staked yet?

A Yes, sir, it has, and is shown in the photograph, if you look hard enough. It's hard to see the little red flag but it's there.

Q Has it been -- has it been approved by the BLM?

A It's not on BLM land. It's on fee land.

Q You testified that your bottom hole lo-

cation will put you approximately 400 feet up structure from the HEYCO Well?

A It's 400 feet northwest of the surface location, 432 feet, or something. It's northwest. If I said up dip I misspoke.

Q Okay. Where do you estimate that gas/water contact to be at?

A At approximately -3955, somewhere in that neighborhood, since the HEYCO Well watered out fairly quickly.

Q Where was the HEYCO Well?

A It's in Section 35 closest to our proposed location, that dry hole.

Q Is that at -3940?

A Yes. The -- the top of the bioherm is at -3945.

I'm simply estimating, and it's hard to estimate on a bioherm how high they're going to grow. I'm estimating we'll get up dip 40 to 50 feet. The -- the producing well in the McKittrick Hills Pool in Section 12 of Township 22 South, Range 24 East, only shows 20 feet of structure up dip from wells that tested pure water; however, that well, particular well, has made 7-billion cubic feet of gas and is delivering 7-to-8-million cubic feet per day currently.

Q What's the closest producing well to your -- to your location?

A Well, this particular well has never been plugged. It's been shut in for 17 years. It's been sitting there since 1976, I believe.

MR. KELLAHIN: Identify the well for us.

A Oh, I'm sorry, it's -- this is a Marathon operated well in Marathon's Indian Hills Unit. It's in Section 33 of Township 21 South, Range 24 East.

Also, these wells north to south in Section 21 to 28, 33, all watered out approximately the same time in 1976. Some have been plugged and some have been just shut in for -- for long, long periods of time, but that's the closest what I guess you could call active; however it's not producing.

The closest producing well in the Cisco formation would be this well in 29, Section 29 in Township 21 South, Range 24 East.

The rest have watered out.

Q Do you consider this bioherm from the same -- producing from the same source of supply as the Indian Basin Morrow and Upper Penn Pools?

A Well, it's where the gas was deriving from or it would be the same porosity units within the

field or --

Q Could be considered the same pool?

A In my opinion the -- the drilling of the well, if it turned out to be a commercial well, would be a new field because it -- it is an integral part of the Indian Basin Cisco Reef but it is a separate event. In other words we had thickening when the sea level was still in this area for X amount of time. We had just a thickening of the reef, a round, knoblike thickening, which is called a bioherm. It's very, very porous (unclear) limestone, which would probably be (not clearly understood), so it is a -- it's actually -- there would be a contact here and another, say, gas/water contact up here.

Originally, I believe, the gas/water contact, this pool, Indian Basin Pool proper was at -3759, approximately, that's where I approximately placed it, which puts this well, drilled back in '69, just four years after the field had started producing, it was just -- it was just flat low to the Indian Basin from the very beginning, just too low to produce. So there are several reasons why this would be a venture, or a new gas accumulation in this area, (not clearly audible).

MR. CATANACH: That's all the questions I have.

MR. KELLAHIN: Mr. Examiner,

I'd like to call at this time Mr. Dennis Moore. Mr. Moore is a professional registered engineer in the State of Texas and he has designed and recommended the directional drilling program for Mr. Sell for the drilling of this well.

DENNIS DEREK MOORE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A Dennis Derek Moore and I'm a consulting engineer.

Q Mr. Moore, have you testified before the Oil Conservation Division on prior occasions?

A No, sir, I have not.

Q Would you take a moment and describe for us when and where you obtained your engineering degree?

A I got my Bachelor's degree in petroleum engineering from Texas A & M University in 1979.

Q Do you hold any subsequent degrees in engineering?

A No, sir, I do not.

Q Would you summarize for us what has been your professional employment experience as a petroleum engineer?

A I worked for two years for Chevron Oil Company in south Louisiana.

I worked for three years for Clayton Williams as a drilling engineer and covered the biggest part of the United States, and I've been in private practice for four years now.

Q You're in practice under the name of Ford, Miller and Associates, Inc.?

A Yes, sir, that's correct.

Q What functions do your company and have you performed for Mr. Sell in this case?

A In this case we've -- we have prepared a number of the -- we've done some of the graphic work for exhibits and done the design work and preparation work for drilling the well.

Q Have you designed and made recommendations to other clients for the directional drilling of wells?

A I have done that. I don't recall right now if I've done it since I've been in private practice. I have done it for other people, though, yes, sir.

Q Are you familiar with the directional drilling procedures and program that are to be utilized for this well?

A Yes, sir, I am.

Q And are you a registered professional engineer in the State of Texas?

A Yes, sir, I am.

MR. KELLAHIN: We tender Mr. Moore as an expert petroleum engineer.

MR. CATANACH: He is so qualified.

Q Mr. Moore, let me commence your testimony by again looking at Exhibit Number Six, which is the C-102, the survey plat. Is it also your understanding as it was Mr. Boley's understanding, that the surface location and the proposed bottom hole location that they desire are as shown on this display?

A Yes, sir.

Q Let's take Exhibits Seven and Eight together at the same time and before you describe the drilling procedures recommended for this well, take a moment and describe for us Exhibit Number Seven. What is that?

A Exhibit Number Seven is a vertical section or a vertical cross section, if you will, of the profile that the hole describes as we propose to drill it,

commencing a deflection from vertical at approximately 4900 feet; build angle at 1-1/2 degrees per 100 feet, to such time that -- that we have achieved a position that we would begin to drip angle again so that we would enter the Cisco formation more or less vertical and then continue vertical to TD.

Q When we look at Exhibit Number Eight, what are we looking at in that display?

A This is a procedure prepared by Directional Reservoir Guidance, a service company that will be doing the directional work for us and they have outlined a procedure by which we would ascertain the bottom hole location and then -- and then do this directional work as -- as shown graphically with Exhibit Seven.

Q Have you reviewed that procedure and satisfied yourself based upon your professional experience that this is an effective and efficient means by which to directionally drill the well and penetrate the designated formation?

A Yes, sir, I have.

Q All right, let's -- let's -- using them together now, let's take us from the surface location, commencing at a point 1143 feet from the west line and then 1327 feet from the south line, using that as a surface location what happens from there on down?

A We would -- we would drill a 17-1/2 inch hole and run 13-3/8ths surface casing approximately 350 feet; drill a 12-1/4 hole and set 9-5/8ths casing approximately 2500 feet.

While waiting on cement we'd run a multi-shot gyro survey to fix a bottom hole location at that point so we would know where we were relative to surface or relative to our desired target.

When drilling out below this intermediate string pipe we would pick up a nonmagnetic drill collar that would allow us to do magnetic surveys for direction and inclination and drill down to a kickoff point that we have -- have projected at around 4900 feet, at which time we would drop another multishot so that we would know exactly where we were at that point and tie it back in to this 2500-foot casing point so that we would have a continuous survey from surface to bottom at about 93-foot intervals.

Q When we get to the approximate 4911 depth, is that a true vertical depth?

A Yes, sir, that would be -- it would be true vertical depth in the conventional sense, yes.

Q All right, at that point, then, what occurs?

A At that point we would pick up a

drilling motor and a deflecting sub and a bit that would allow us to increase angle at about 1-1/2 degrees per 100. it would also allow us, we'd also have what's known as a steering tool that would allow us to have a surface readout and a continuous monitoring of the orientation of our tool, so that we would be able to turn this motor, orient it, and by proper orientation and application of weight we'd build angle in the proper direction.

Q Have you approximated at what depth you will penetrate the top of the Cisco formation?

A Yes, sir, we'll approximate it at, let's see, I think the true vertical depth was 7764, an approximate measured depth would be about 7808.

Q How can we use Exhibit Number Seven to know where we will be in terms of the side boundaries of the spacing unit at the point we intersect the top of the Cisco formation?

Where will we be from the west line and the south line of the spacing unit?

A Okay, this is a -- this is a vertical section as if a plane were projected downward on a line from the surface to the bottom hole locations so that this would give us a projection back to that plane that will allow us to do that. We will also have a, while drilling the hole, if it deflects from that -- that plane, we will also

1 have that -- that monitored so that we will know where we are in 3-dimensional space.

Q The docket advertisement for this case proposes to place restrictions on the extent to which the well can be unorthodox at the point it penetrates the top of the Cisco as well as the top of the Morrow, that restriction being no closer than 1600 feet from the south line of the spacing unit and no closer than 800 feet to the western boundary of that same section.

A Yes, sir.

Q All right. Does this program allow the operator the opportunity to stay within that restriction?

A Yes, sir, it does.

Q All right. Now you've penetrated the top of the Cisco. At what point would you anticipate we'd penetrate the top of the Morrow?

A Again, assuming a vertical hole, we would anticipate entering the top of the Morrow at 9850 feet true vertical, 9894 measured.

Q So approval of a subsurface location no closer than 800 feet from the west line and 1600 feet from the south line for the Morrow is also anticipated under this directional drilling program.

A Yes, sir, that's correct.

Q And what will be the approximate total

depth of the well?

A Approximate total depth would be 10,300 true vertical, or 10,344 measured.

MR. KELLAHIN: That concludes my examination of Mr. Moore, Mr. Catanach.

We've move the introduction of Exhibits Seven and Eight.

MR. CATANACH: Exhibits Seven and Eight will be admitted as evidence.

I have no questions of the witness. He may be excused.

MR. KELLAHIN: If we have not already done so, we'd like to admit Exhibit Nine, which is the certificate of mailing that Mr. Boley referred to in identifying the offset operators. It's a certificate that I have executed indicating that we have sent by certified mail, return receipt, notifications to Yates and to Nearburg.

MR. CATANACH: Exhibit Nine will be admitted into evidence.

Anything further in this case?

MR. KELLAHIN: No, sir. That concludes our presentation.

MR. CATANACH: If not, this case will be taken under advisement.

C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9643, heard by me on April 26 1989.

David R. Catanach, Examiner
Oil Conservation Division