NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JANUARY 10, 1990 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Bob Huber	Byram	Santa Fe
Kellahin	Kellahin Kellahin Aubrey	Santa Fe
William F. Carr	Campbell and Black	Santa Fe
Steve Bolman	BTA Oil Prod.	Midland
Ernie Busch	NMOCD	AZTEC
Darren R. Hands	Sandos Bruin, Cell & Worley	Roswell
Jim Schultz	McKAY OIL CO	—
Pete Kelly	— —	—
Jim Johnson	PETROLEUM DEVELOPMENT CORP GRANDE PRODUCING	—
E. R. Manning	El Paso Natural Gas	El Paso, TX
Mike Williams	OCD	Artesia
Leo. Wilson	OCD	Artesia

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STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

EXAMINER HEARING

IN THE MATTER OF: Case 9851

Application of McKay Oil Corporation For horizontal drilling, Chaves County, New Mexio.

TRANSCRIPT OF PROCEEDINGS

BEFORE DAVID R. CATANACH, EXAMINER

STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
January 10, 1990

ORIGINAL

CUMBRE COURT REPORTING
(505) 984-2244

A P P E A R A N C E S

FOR THE OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
State Land Office Building
Santa Fe, New Mexico 87501

FOR McKAY OIL CORPORATION:

SANDERS, BRUIN, COLL & WORLEY, P.A.
Attorneys at Law
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Roswell, New Mexico 88202-0550
BY: DAMON C. RICHARDS, ESQ.

I N D E X

E X H I B I T S

MR. CATANACH: At this time we'll call Case 9851.

MR. STOVALL: Application of McKay Oil Corporation for horizontal drilling, Chaves County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. RICHARDS: Damon Richards with Sanders, Bruin, Coll & Worley --

MR. STOVALL: Wait just a second.

MR. RICHARDS: -- representing McKay Oil Corporation. And as witnesses we'll have Jim Schultz, a land man, and Jim Johnson, petroleum engineer.

MR. CATANACH: Go off the record for a second here.

(Thereupon, a discussion was held off the record.)

MR. CATANACH: Witnesses, please, stand to be sworn in.

JIM SCHULTZ,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

MR. RICHARDS: I'll go ahead and submit a packet of our exhibits.

EXAMINATION

BY MR. RICHARDS:

Q. Will you state your name and address.

A. Jim Schultz, 809 Twin Diamond, Roswell, New Mexico.

Q. What is your present employment?

A. McKay Oil Corporation.

Q. What do you do there?

A. I'm Vice President of Land and Exploration.

Q. What is your past education?

A. My past education, I have a college degree in history and political science. I have a paralegal degree.

Q. How much experience do you have in land training as a land man?

A. Probably 12 years.

Q. Have you acted as a land man for McKay Oil and for other entities during that that 12-year time period?

A. Yes.

Q. Have you been able to check the records of various states, including New Mexico, to determine the ownership of leases?

A. Yes.

Q. Have you acted in that capacity for the last 12 years?

A. Yes.

Q. Did you have the opportunity to examine the lands on the L.L. & E. Federal No. 3 Well and the McKay Harvey No. 1 Well located in Chaves County, New Mexico?

A. Yes.

Q. Are there wells presently on the 160-acre proration units?

A. Yes.

Q. Did you examine the offset acreage?

A. Yes, I did.

Q. Did you prepare Exhibits 1 and 2 indicating the location of those wells and the offset acreage?

A. Yes, I did.

Q. Did you note the offset acreage in paint markings?

A. Yes.

Q. Who owns the offset leases?

A. Presently the owner/operator is Yates Petroleum.

Q. Now, I notice on the map, actually, Mesa and MTS as being the offset operators. How do you know that Yates now has those?

A. There's a conveyance document dated January 1 of 89 which conveys all of Mesa's interests to Yates Petroleum, which affect the acreage on the L.L. & E.

No. 3.

And there is a lease of record in the records of Chaves County which show that Yates is the lessor of the offset acreage on the McKay Harvey Federal No. 1.

Q. Did you prepare the application that was submitted by McKay Oil Corporation?

A. Yes, I did.

Q. Was there a typographical error in that application?

A. Yes, there was.

Q. What was that error?

A. The error was on the deviation points for the McKay Harvey Federal No. 1. There was a switch in whether the deviation point was supposed to be 660 from the south and 960 from the east. The original application, the way it was written, would show that the deviation points would actually only be one point.

And I have prepared an amendment to that to show that there is actually two deviation points we're trying to achieve. And the amendment is dated January 9 of 90.

MR. RICHARDS: Mr. Examiner, we submit an amended application to reflect those changes.

Q. (BY MR. RICHARDS) Did you send out notices to the offset operator?

A. Yes, I did. I mailed it on December 18. They received it on December 19. And I sent it return receipt requested and have the original return receipts present with me at this time.

Q. Going back, we've submitted as Exhibits 3 and 4 evidence that Yates Petroleum Corporation is the only offset operator; is that correct?

A. That's correct.

Q. And Exhibit No. 5 that you've prepared is a copy of your letter to Yates notifying them of this hearing?

A. Yes.

Q. Exhibit No. 6 informs Yates of the docket number; is that correct?

A. That's correct.

Q. Did you send those out certified mail, return receipt requested?

A. Yes.

Q. Did you receive back the receipts?

A. Yes.

Q. Are copies of those receipts attached to Exhibits 5 and 6?

A. Yes.

MR. STOVALL: Hold up just a second, Mr. Richards.

(Thereupon, a discussion was held off the record.)

MR. CATANACH: Go ahead, Mr. Richards.

Q. (BY MR. RICHARDS) You submitted an application for an unorthodox location. Were you actually going to be drilling wells in an unorthodox location?

A. Presently the L.L. & E. No. 3 Well is in an unorthodox location already but had prior approval till its drilling. What we are requesting is that we be allowed to directional drill in two different directions from the present wellbore.

But it would stay within 660 feet of an outside boundary line. But it would on the L.L. & E. 3 be considered another unorthodox location.

On the McKay Harvey Federal No. 1, we will again be drilling in two different directions from the present wellbore. However, the deviation points, ultimate deviation points, would still be within a legal location since it was not at a variance more than 990 feet from the outside boundary line and no closer than 660 from the outside boundary line.

Q. So the real application for the unorthodox location is to do some directional drilling; is that correct?

A. That's correct, but the application is also to grant us the right for the deviational drilling as provided for under the rules and regulations of the OCD.

Q. Have you talked with Randy Patterson who's the land man at Yates?

A. Randy Patterson, yes, he's the land manager for Yates Petroleum.

Q. Does he have any objection to this drilling?

A. No. Mr. Patterson said that Yates Petroleum has no objections to this. And I requested that he send us a letter of his waiver of attending the hearing. And he says Yates never waives their rights to be anywhere. But he had no problems with the -- with our proposed horizontal drilling.

Q. Have you received any other objections from anybody?

A. No.

MR. RICHARDS: Do you have any questions of this witness?

MR. CATANACH: Yes, I do.

EXAMINATION

BY MR. CATANACH:

Q. Mr. Schultz, on your Exhibit No., 1 you just show the pink acreage is the Yates acreage?

A. Correct.

Q. Is McKay the operator of all the other surrounding acreage?

A. Yes, we are.

Q. Including Section 1 to the north?

A. Yes. We obtained that in a farm-out from INEXCO Oil Company, which, I guess, was assigned to Louisiana Land Exploration. We have a farm-out, an assignment, a record assignment of that lease.

Q. And also on Exhibit 2, to the west and the south, you also own that offset acreage?

A. Yes. Uh-huh.

Q. So Yates is the only affected offset operator?

A. Yes.

Q. These are proposed 160-acre proration units; is that correct?

A. Yes.

Q. It's my understanding that the actual horizontal portion of the well in the Abo formation will not encroach on the 660-foot setback --

A. Yes.

Q. -- for each proration unit?

A. Yes.

MR. CATANACH: That's all the questions I

have of the witness at this time.

MR. RICHARDS: I'd like to call Jim Johnson.

MR. STOVALL: Mr. Richards, do you want to move the admission of Mr. Schultz' exhibits?

MR. RICHARDS: Yes. We move the admission of Exhibits 1 through 6

(Thereupon, Exhibit Nos. 1 through 6 were offered into evidence.)

MR. CATANACH: Exhibits 1 through 6 will be admitted as evidence.

(Thereupon, Exhibit Nos. 1 through 6 were admitted into evidence.)

MR. RICHARDS: Thank you, Mr. Stovall.

MR. STOVALL: I often forget myself.

JIM JOHNSON,

the witness herein, after having been first duly sworn upon, his oath, was examined and testified as follows:

EXAMINATION

BY MR. RICHARDS:

Q. Please state your name and address.

A. Jim Johnson, 60 West Lake Drive, Albuquerque, New Mexico.

Q. What is your present employment and position?

A. I'm President of Petroleum Development Corporation in Albuquerque, New Mexico.

Q. Give me a brief background of your education and work experience, please.

A. I received a mechanical engineering/petroleum option degree from Oklahoma State University in 1956. I worked as an engineer production foreman, drilling foreman for Gulf Oil Corporation in West Texas and the Gulf Coast for approximately eight-and-a-half years.

I worked with an independent oil company, Pubco Petroleum, in various positions from area engineer to drilling superintendent in Nebraska, North Dakota, Wyoming. And in 1970 became vice president of the Pubco in Albuquerque, New Mexico.

In 73 I started this company, Petroleum Development Corporation. And I have operated as vice president to president of this company to the present time. I've also been president of two other companies during this period, Rodney Drilling Corporation, in Roswell, New Mexico, from 1984 to 1989, and Pedco Swabbing Corporation from 1987 to 1989.

Q. During your work experience, you've had the opportunity to supervise the completion of a number of wells. About how many wells have you supervised the completion of?

A. In excess of 1,000 wells.

Q. How many wells in New Mexico have you

supervised the completion of?

A. The drilling and completion of 300-plus wells.

Q. How about in the Abo formation?

A. Abo formation, 100-plus wells.

Q. And you do have a degree in engineering?

A. That is correct.

MR. RICHARDS: We submit Mr. Johnson as an expert witness in the engineering matters.

MR. CATANACH: Mr. Johnson is so qualified. Also, if I may ask Mr. Johnson what his association with McKay is.

THE WITNESS: I'm working with McKay on a consulting basis.

Q. (BY MR. RICHARDS) Are you familiar with the L.L. & E. Federal No. 3 Well and the McKay Harvey No. 1 well?

A. Yes, I am.

Q. Have you examined the well completion reports on those wells?

A. Yes, I have.

Q. You've marked the well completion report on the L.L. & E. well as Exhibit No. 7. Could you briefly describe the formation that the well is producing from, including the producing interval, the date it was

drilled, and the initial test?

A. Well, L.L. & E. 3?

Q. Yes.

A. The well was drilled and reached TD on March 29, 1988. The well was completed on 4/20/1988. The producing formation in this well was from 2839 to 2861 feet in the Abo sand.

Q. Mr. Johnson, have you also had the opportunity to look at some logs on that well?

A. Yes, I have.

Q. And do those logs indicate that it is a -- would be a commercial producer in the Abo formation?

A. The logs indicated it would be an excellent producer in the Abo formation.

Q. Was it actually completed in the Abo formation?

A. That is correct.

Q. And what was the initial production, did you say?

A. The initial AOF test on that well tested, a calculated absolute open flow, which is a state required four point test, 986 MCF per day.

Q. What is the cumulative production from that well?

A. The well through November of 1988 has

produced 33,311 MCF.

Q. Has a volumetric study been performed on the L.L. & E. No. 3 Well?

A. Yes.

Q. What are the results of it?

A. The volumetric calculation of future producible reserves was 764,589 MCF.

Q. And you're looking on another exhibit there, which would be Exhibit No. 11, I believe; is that correct?

A. That is correct.

Q. And that information is printed on the top of that exhibit?

A. That is correct.

Q. Let's look at the McKay Harvey well now and look at the well completion report, which is marked as Exhibit No. 10. And, please, explain to me the producing formation of that well along with the date it was completed and the initial flow rate.

A. The producing formation is from 3,748 feet to 3,759 feet. This is a main formation. Another zone was also perforated, a lower zone, that proved not to be productive from 3959 to 3961.

The well reached TD on February 14, 1984. It was completed on 3/21/1984 with a calculated absolute

open flow 8,554 MCF per day.

Q. What is cumulative production from that well to date?

A. Cumulative production on this well is 149,632 MCF.

Q. Was a volumetric study performed on that well?

A. Yes, it was. And the future recoverable reserves was calculated to be 501,467 MCF.

Q. Have you also done a test on the gross recoverable reserves from these two wells?

A. Yes, I have.

Q. What are they?

A. The future projected recoverable reserves on the L.L. & E. Federal No. 3 is 105,600 MCF. Future recoverable reserves projected on the McKay Harvey Federal No. 1, is 297,632 MCF.

Q. And you set forth those figures on Exhibit No. 12; is that correct?

A. Yes.

Q. You are coming before the Commission at this time asking a right to do some deviational drilling. Why do you request that?

A. We are requesting deviational drilling, or actually horizontal drilling, into the pay zone

because -- well, not recovering from the wellbore even after an extensive adequate fracture treatment, the reserves that should be recovered from these wellbores.

The L.L. & E. 3 is apparently going to produce approximately 14 percent of what we should be recovering. The McKay Harvey is only recovering about 60 percent of what we should be recovering.

We feel that we can by drilling horizontally in the formation -- that it's a possibility that we will encounter additional vertical fractures known to be in this reservoir throughout this field. And we will increase the millidarcy feet to a great extent since the Abo sand is a tight sand and very low permeability.

If the bulk of these things do occur, a tremendous amount of additional reserve could be recovered from these wells.

Q. Have you ever worked on wells in which you've done directional drilling in the past?

A. Yes, I have.

Q. Have you supervised the drilling of those wells?

A. Yes.

Q. Where were most of those wells?

A. One was in Canada. About three times I've worked on them in the Gulf Coast.

Q. Do you feel like you're qualified to supervise the directional drilling?

A. Yes, I do.

Q. Have you been employed by McKay Oil Corporation to supervise the drilling in this instance?

A. Yes, I have.

Q. Are you familiar with the tools and instruments used in the directional drilling?

A. Yes, I am.

Q. Let's look at your exhibit that's No. 11 and explain to me what you have drawn on that exhibit and what all those figures represent. In other words, explain to me the procedure you're going to use to do this directional drilling.

A. This is a schematic of the bottom of the hole, which shows TD, where the four-and-a-half inch casing is set at 3154. It was cemented with 325 sacks. The top of cement outside of the casing was 2260.

Shows where the well has been perforated; a bridge plug is set closing off the lower perforations that were nonproductive, where the perforations, current perforations, are producing from the well.

They are producing -- the last production on this well that we have for the month of November produced 1,080 MCF. Shows that the well was acidized with 2,000 gallons and crack treated with 40,000 gallons crosslinked gel, using 77,500 pounds of 2040 mesh sand.

Shows the top of the Abo formation at 2785. And, as far as we can tell, or I can from the logs, we did not go out of the Abo formation drilling the TD. We have a setting -- have set a cast-iron bridge plug right above existing perforations at 2835.

We then went in this well and milled the casing, the top of the window being at 2814, and the bottom of the window being at 2830. In other words, we mill all the four-and-a-half casing up. There's no casing in that interval now.

We then set a cement plug and drilled it out to 2819 feet. This will be the kickoff point for a deviated hole. We were running with a set of tools and kickoff at 2819. We will drill a 90 degree arc over a vertical length of 29 feet. The axle length of arc will be 46 feet.

We will then drill horizontally in the center of the pay zone at 2840 feet for a distance of 271 feet making the TD of the hole at that time at 3136. We

will run directional surveys at 2819, 2834, 2849, 2865, 2915, 3025 and 3136. We do this in the event, for some unknown reason, if the hole gets off a little bit, we can kick it right back in where it's supposed to be.

After we have tested this arc -- this arc, by the way, will be going east 13 degrees south, or azimuth of 103 degrees.

After this allowable has been adequately tested, we plan on going in and drilling a cement plug to 2825 feet. At that point we will kick off and drill a 90 degree arc over a vertical depth of 23 feet. The arc will be 36 feet in length.

At that point we will drill horizontally in the center of the pay zone for 277 feet, a depth, vertical depth, of 2848. The TD of the well, the arc or the lateral at that point will be 3,138 feet.

We will run deviations, directional surveys, at 2837, 2849, 2861, 2911 3024, and 3138. And then we'll test the two laterals together.

Q. Do the laterals that you'll be drilling at correlate to the producing formations as indicated in the logs?

A. Yes. They are approximately in the center of the main pay zone on the logs.

Q. And from running these tests, you'll be sure

you're staying in those pay zones; is that correct?

A. That is correct.

Q. Now, you haven't indicated in your exhibit that there will be a 90 degree -- you have continued to talk about a 90 degree kickout. Will that 90 degrees actually be changed a little bit in accordance with Exhibit No. 14 showing the actual deviation survey during the original drilling of L.L. & E. Federal No. 3 well?

A. Yes. This could be corrected somewhat. In fact, we're going to actually run a directional survey prior to doing our kickoff to be sure to get a check on what the deviation is at that time and the azimuth at that time.

That way, for example, if it's off 2 degrees, say, to at a certain direction, we may only be kicking out -- we may only cut an 88 degree arc rather than a 90 degree arc and be going out of the sands.

Q. The objective depth on both of these -- or the objective point where you'll stop on both of these laterals will still be more than 660 feet away from the nearest quarter section line?

A. That is correct. In fact, the lateral itself will always be 660 feet.

Q. Okay. Now, let's look at your Exhibit No.

12, which is on the McKay Harvey Federal No. 1. And will you explain your schematic on that?

A. Okay. This is also a schematic of the bottom of the hole which shows the TD of the well with the four-and-a-half inch casing set, the perforated interval that has been plugged off with a cast-iron bridge plug. Shows the base of the Abo to be at 4283 feet, the existing perforations for 3748 to 3759 feet.

We acidized with 1500 gallons and frac'd this well with 30,000 gallons crosslinked gel, 45,700 pounds of sand. The top of the Abo formation is at 3632 feet. We've set a cast-iron bridge plug at 3746 feet right above the existing perforations.

We cut a window in the casing, the four-and-a-half inch casing again, the top of the window being at 3724 feet, the bottom of the window being at 3740 feet.

We've set a cement plug in this well. We have drilled a cement plug out to 3729 feet. This will be our kickoff for our north lateral. We'll kick off and make a 90 degree arc over a vertical depth of 25 feet. The length of the arc will be 39 feet.

At that point we'll drill horizontally in approximately the center of the pay zone for 275 feet. This will be at a vertical depth of 3754. The TD of

the well will be 4043 feet.

We will then test this zone. But first of all, we'll go ahead and give the directional surveys that were run on this one. The directional surveys were at 3729, 3742, 3755, 3768, 3818, 3930, and 4033. Then we will adequately test this lateral.

At that time we will drill the cement plug to 3735 feet. We'll kick off at that point, make a 90 degree arc over a vertical depth of 19 feet. The arc length will be 30 feet. At that point we'll drill horizontally in approximately the center of pay zone at 3754 feet for a distance of 281 feet.

The depth of the hole at that point will be 4046 feet. And we'll aggregate the test with these two laterals together.

Q. Once again, the deviations of the 90 degrees will actually take into the account the deviation survey that's attached as Exhibit No. 13; is that correct?

A. That is correct.

Q. Mr. Johnson, how do you believe that this drilling will save costs and allow more production from those wells and protect the correlative rights of the owners of oil and gas in this area?

A. Well, from our information and summaries in

this area in this Abo field, especially over by the L.L. & E. 3, at the present time for the reserves that we are recovering from these wells and the future projected reserves, we would not recover all the reserves on 40-acre spacing, much less 160-acre spacing.

We are hopeful that this horizontal drilling will encounter the vertical fractures, improve the millidarcy feet effective to the wellbore to the point that we could drain up as much as 160 acres.

Of course, this would save a tremendous amount of money if they could go out there and drill wells, wells, wells. In fact, at the present time, the reserves we get from these wells, we can't even afford to economically drill another well to even recover 100,000 or 150,000 barrels reserves based on the price of natural gas at this time.

MR. RICHARDS: Do you have any questions?

MR. CATANACH: Yes.

EXAMINATION

BY MR. CATANACH:

Q. Mr. Johnson, has this type of well completion ever been attempted in the Abo?

A. No, it has not.

Q. Has not. How did you determine the direction

of your laterals, the direction of the proposed laterals?

A. How did we determine the direction of it?

Q. The direction they'll go.

A. They'll -- it will be done with a special tool that -- we're using a company named Sidewinder out of Tulsa, Oklahoma. And it will be done with a special tool that they're just now doing, and they've experimented with it and tested it. And they're going to be the experts on getting that thing going the right direction.

Q. I'm sorry. I didn't make myself clear.

A. Okay.

Q. How did you guys determine which direction to drill these lateral holes?

A. Okay. Based on the information we have from offset sands and in the existing wells, we've had maps made of isopachs of the sands and decided to take off in the best direction we could take off to encounter the best sands.

Q. I kind of didn't get your figures. You stated somewhat to the effect that the L.L. & E. well would only recover 14 percent of the reserves?

A. The volumetric reserves, recoverable volumetric, were calculated at 764,589 MCF. This is a

zone of 22 feet, it has 16 percent porosity, water saturation of about 35 percent.

And at the present time based on decline curve calculations, we estimate the total recoverable reserves will be 105,600 MCF.

MR. STOVALL: You mean the total recovery through that?

THE WITNESS: Yes. Total recoverable reserves from this wellbore. It has currently produced 33,311 MCF. The current production rate is 1080 MCF per month.

Q. (BY MR. CATANACH) So that's where you get the 14 percent. That's fairly low for a gas field, isn't it?

A. It's very low.

Q. On the Harvey what did you figure there?

A. The cumulative production currently is 149,632. I've calculated, based on decline curves, the future total recoverable reserves that we will recover is 297,632. The current producing rate is 1850 MCF. The volumetric recoverable researches was 501,467.

Q. Mr. Johnson, is there any way to estimate what you might recover with these two with the laterals? Is there any way to do that?

A. It's very difficult. We feel like there's no

question in our minds and many other operators' minds in this area that we do have vertical fractures in the Abo sands throughout the Abo pay.

And, of course, the big hope here is are we cracking the well? Is it going out 30 feet or 40 feet? We calculate it to go out 1300 feet and going up vertical fractures. We're not getting what we should be getting. This is one of the big things.

The other thing, what effect will this have? We will increase the exposed area of the sand by 6 to 11 times what we have exposed now to the wellbore by doing this. This should increase millidarcy feet calculations, which should enhance higher production.

We're hopeful that these wells, that we can double and triple their beginning production rates and double and triple the reserves recoverable from the wellbores.

Q. Do you have an idea that -- or do you have an opinion as to whether the laterals will drain an area larger than 160 acres?

A. I do not feel that the laterals will.

Q. You mention the tight sands, low permeability. Is this indicative of the Abo just in this area or the total Abo?

A. The total Abo field is tight sands, low

permeability. The total field is. There's some wells in the Abo that are very good wells. And I've had wells that are coming before natural, which is very, very -- this is 1 or 2 percent of the total wells in the field.

But apparently they are encountered in large vertical fractures, something which caused it to happen, which increased the permeability to the wellbore. But it's -- you know, the Abo was classified a tight sand and received the 108 MGPA classification, which gave us a higher gas price for a long period of time.

It also qualified at one time for the tight sands tax credit because it was -- and we received $.51 in MCF tax credit for a period of time.

Q. How did you pick these two particular wells to conduct this?

A. Well, they were picked by McKay Oil Corporation. And with some of our -- what we want to do actually is we have a well over here, the McKay Harvey is about -- in the deeper part of the field -- it's at 3700 feet. The other well is at 2800 foot.

So you actually have the west Abo, west Pecos slope Abo field, which is where the L.L. & E. No. 3 is located. We had many wells in this. We have 80 wells

we operate in this area.

We get over here to the McKay Harvey area, this is a different area, so we wanted to do it on both sides of the field.

Q. This is something that may be continued in the future if these two were successful?

A. If these are successful, I imagine we're going to drill every well out there that we have.

Q. On the particulars of the actual drilling and completion, you said you were going to run a deviation survey to your kickoff point?

A. A directional survey.

Q. Directional survey.

A. So this will be -- which will be both the inclination and the azimuth. We have to be sure that we stay in that sand or we defeat our purpose.

Q. There is no casing set in the lateral portions?

A. No.

Q. Just open hole completion?

A. Just open hole. There could be a possibility -- and we know, hopefully, the well could sluff in on us. If it is, our plans would be to clean the hole out and more than likely run a fiberglass type line in the hole, in the lateral.

One thing I think I may have failed to say on the McKay Harvey Federal No. 1, the first lateral is going to go due north; the second lateral will be going due west.

On the L.L. & E. 3, I did say where the first level is going. The second lateral will be going due west.

Q. Due west and what other direction?

A. The other one will be east 13 degrees south on azimuth reading of 103 degrees.

Q. When both the laterals are drilled and producing, those will just be produced -- how? Up to casing?

A. No. We'll run tubing in the hole just like -- we'll run tubing 2 3/8 tubing in the hole just like it's currently producing.

Q. On the Harvey Well, the cement top is below your kickoff point or below where you're going to go with your laterals. Is that going to be a problem at all?

A. Well, the top of the cement is 3256.

MR. CATANACH: Oh, I'm sorry. That's right. That's all the questions we have at this time.

MR. RICHARDS: Okay.

MR. CATANACH: The witness may be excused.

MR. RICHARDS: We move for the admission of the remaining Exhibits 7 through 14

(Thereupon, Exhibit Nos. 7 through 14 were offered into evidence.)

MR. CATANACH: Exhibits 7 through 14 will be admitted as evidence in this case.

(Thereupon, Exhibit Nos. 7 through 14 were admitted into evidence.)

There being nothing further in the case, it will be taken under advisement.

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 Examiner of 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 February 10, 1990.

Debbie Vestal
Debbie Vestal
CSR No. 400

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9851, heard by me on January 10 1990.

David R. Catanach, Examiner
Oil Conservation Division

CUMBRE COURT REPORTING
(505) 984-2244