STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING:	CASE NO. 11,615
APPLICATION OF THORNTON OPERATING CORPORATION FOR POOL CONTRACTION, POOL CREATION, SPECIAL POOL RULES, NONSTANDARD SPACING OR PRORATION UNIT, DIRECTIONAL DRILLING AND AN UNORTHODOX WELL LOCATION, CHAVES COUNTY, NEW MEXICO	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSION HEARING

BEFORE: WILLIAM J. LEMAY, CHAIRMAN
WILLIAM WEISS, COMMISSIONER
JAMI BAILEY, COMMISSIONER

April 10th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Commission, WILLIAM J. LEMAY, Chairman, on Thursday, April 10th, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

April 10th, 1997
Commission Hearing
CASE NO. 11,615

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A P P E A R A N C E S

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 9:07 a.m.:

CHAIRMAN LEMAY: As our first order of business we will call Case Number 11,615, the *de novo* application of Thornton Operating Company for pool contraction, pool creation, special pool rules, Chaves County, New Mexico.

Call for appearances in this case.

MR. CARR: May it please the Commission, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. We represent Thornton Operating Corporation in this matter, and I have one witness.

CHAIRMAN LEMAY: Thank you, Mr. Carr.

Additional appearances in the case?

Okay, we shall begin.

MR. CARR: Mr. Chairman, I believe Mr. Thornton needs to be sworn.

CHAIRMAN LEMAY: He does.

(Thereupon, the witness was sworn.)

ROBERT L. THORNTON,

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

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record, please?

A. Just a moment. I know that. Robert --

Q. You may refer to your notes.
A. I feel I know that. I'm a little nervous, but I do know
Robert L. Thornton, T-h-o-r-n-t-o-n.
Q. Where do you reside?
A. I reside in Midland, Texas.
Q. By whom are you employed?
A. Thornton Operating Corporation.
Q. And what is your position with Thornton Operating Corporation?
A. I'm president of Thornton Operating Corporation.
Q. Have you previously testified before the Oil Conservation Commission?
A. On several occasions.
Q. At the time of that testimony, were your credentials as a petroleum geologist accepted and made a matter of record?
A. As a petroleum engineer and geologist.
Q. You also have a degree in petroleum engineering, do you not?
A. That's correct.
Q. When was that degree received?
A. That degree was received in 19- -- Let's see, you caught me off guard there. 1978.
Q. And from what school?

A. From the University of Texas.

Q. And have you been employed as a petroleum engineer since that time?

A. Yes, and geologist.

Q. Are you familiar with the Application filed in this case on behalf of Thornton Operating Corporation?

A. Yes, I am.

Q. And have you conducted a geological and engineering study of the area which is involved in this case?

A. Yes, I have.

Q. Are you prepared to share the results of that study with the members of the Commission?

A. Yes, I am.

MR. CARR: Are the witness's qualifications acceptable?

CHAIRMAN LEMAY: His qualifications are acceptable.

Q. (By Mr. Carr) Mr. Thornton, in this case we're seeking a number of things. I think initially it's important to just summarize the reason we're here.

Basically, we're here trying to produce a small Devonian pool in southeastern New Mexico; isn't that correct?

A. That's correct.

Q. Was this acreage previously included within a federal unit?

A. Yes, it was, the West King Camp unit.

Q. And that unit terminated?

A. That unit terminated April 30th, 1996.

Q. And what we're seeking here today is authority to, in essence, take another shot at this reservoir and, by coming to the OCD, treat the lands as they were treated when they were part of the unit; is that fair?

A. That's correct.

Q. All right, let's review for the Commission what it is you're seeking with this Application. Let's go through the various component parts of the Application. What is it you're seeking to do?

A. Okay, if you'll refer to Exhibit 1, this is a map of the -- land map of the South Lone Wolf-Devonian Pool, and what we're seeking is contraction of the south Lone Wolf-Devonian Pool to exclude the northwest quarter of Section 26 and the northeast quarter of Section 27, which is basically the easternmost 320 acres of the pool.

Q. Are you also seeking the creation of a new pool?

A. Yes, we are. If you'll refer now to Exhibit 2, which is an enlarged scale of basically Section 23 and 26, with our geologic -- geology on it, we're seeking creation of a new pool for the production of oil from the Devonian

formation, underlying the southwest-southwest of Section 23 and the northwest-northwest of Section 26, Township 13 South, 29 East, which is the area within the heavy dashed line, that 80-acres within the heavy dashed line on this map.

Q. You're seeking special rules for this pool?

A. Yes, we're seeking special pool rules and regulations, including 80-acre spacing and proration units, which would comprise the entire pool, and well-location requirements, 150 feet with the center of a governmental quarter-quarter section.

In addition, we're seeking a nonstandard oil proration unit comprised of the southwest-southwest of Section 23 and the northwest-northwest of Section 26, and seeking authority to re-enter the McClellan Federal Number 1 well, which is the well in the northwest-northwest of Section 26 -- it's labeled the West King Camp; we'll get into that in a second -- and from previously approved surface location of 182 feet from the north line 507 feet from the west line of Section 26, and directionally drill that well to a bottomhole location within 100 feet of a point 148 feet from the south line and 177 feet from the west line of Section 23.

I think --

Q. Basically, isn't what we're doing is, trying to

break 80 acres out of the South Lone Wolf-Devonian Pool, acreage that was previously unitized --

A. Uh-huh.

Q. -- and simply trying to again test the small Devonian feature by directionally drilling the well to a better structural position?

A. That's correct, better structural and away from formation damage.

Q. By using the existing wellbore, there will be economic savings that will make this a feasible well?

A. That's what we believe.

I'd like to go into one thing right now about the confusion about the well names.

Q. Yes.

A. Okay. There's a well, the easternmost well in the -- other than the well shown on here, in the field is a well in Section 28, on this Exhibit 1. It's in the southeast of the northeast quarter.

That well -- Each of these wells have undergone numerous name changes, and they were both drilled on the logs, et cetera, and all the data, as the McClellan Federal Number 1.

The well to the west was drilled as the Stevens McClellan Federal Number 1.

And the well in the -- that we're talking about

in Section 26 that we're going to try to re-enter, or would like to re-enter, was drilled as the Manzano Energy McClellan Federal Number 1.

They've both had numerous name changes. The Stevens McClellan Federal Number 1 is now known as the Thornton Operating Stevens Number 1. And the well to the -- So I'm going to refer to the well to the west as the Stevens well.

And the well in Section 26, the name was changed when it was unitized to the West King Camp Unit Well Number 1 from the McClellan, originally petitioned as the McClellan, and changed during the drilling of the well to the West King Camp Unit Number 1. That subsequently has been -- since the unit was terminated, has been renamed the McClellan Federal Number 1.

So I'm going to use Stevens for the well to the west, and I'm going to use interchangeably McClellan Federal and West King Camp Unit Well Number 1, the well to the east.

Q. And that's the well --

A. That's the well we're planning on --

Q. -- the subject of this hearing?

A. That's the subject of the hearing.

Q. All right. Let's try again and put this in some sort of context, and let's review the background for the

Application.

This acreage was originally developed as a unit; is that correct?

A. That's correct, it was a 160-acre federal unit which comprised the south half of the southwest quarter of 23 and the north half of the northwest quarter of Section 26.

It was that 160-acre block that's shown as leases NM-62195 and NM-50415 on this map.

Q. And the purpose of this unit was to develop this small Devonian structure which straddles the section line between Sections 23 and 26, correct?

A. That's correct. It was developed from 3-D seismic showing a structural high, straddling that lease line -- I mean that section line.

Q. And the unit was originally operated by Manzano?

A. Manzano was the -- Manzano Energy was the original operator of the unit.

Q. Now, the well that you're proposing to re-enter was drilled at an unorthodox location initially, was it not?

A. That's correct. It was drilled at an unorthodox location. It crowded the north line.

Q. And that was approved by Division Order 10,295; is that correct?

A. That's correct.

Q. Now, initially, how did this well look when it was initially tested?

A. Okay, if we'll -- This well, when we drilled it, it came in about where we were looking.

You can see from -- Let's look at Exhibit 2. You can see the structural closure line on this is 5380. We were drilling at around 5340, so we figured we'd have -- actually, we were hoping to get about 5320, the location, and the map was redone after we drilled. So we were looking for about 80 feet of structural closure. The size of the structure is somewhat less than 160 acres.

And when we drilled it, the well produced oil in the drill stem test and about 10-percent water in the drill stem test. If we refer to Exhibit Number 8 --

Q. Why don't we just -- We'll come to that, but --

A. Okay.

Q. -- initially did it appear, when it was initially drilled, to be a commercial well?

A. Yes, it did appear to be a commercial well, produced oil with high permeability.

Q. Okay. And then Manzano worked on the well, did they not, attempted --

A. Yes.

Q. -- to complete it --

A. When they --

Q. -- and what was the result of that?

A. While the drill stem test showed perm of over 3 darcies, when they completed it they couldn't -- they must have done formation -- had formation damage, which is typical of wells out here. And that well came in producing around 25 barrels a day of oil, 100-percent oil.

The -- Produced 25 barrels of oil. That wasn't sufficient to make it an economic well for them, although it could have produced economically; it wasn't going to give them payback. And so they attempted to stimulate it with acid.

Unfortunately, when they stimulated it with acid they found the permeability and the water, and they -- on swab tests they produced 97-percent water. They could never get the fluid level below 600 feet; it was just filling up the hole as fast as they could pull the water out.

Q. Then what did Manzano --

A. They immediately squeezed the well to try to shut off the water. Those have never really been successful in this area, and -- But they did successfully squeeze off the water from the borehole. They got zero production.

Then they reperforated it, hydrojetted it, tried various things, ended up with about 8 barrels of oil

flowing, with no water.

Then they decided after that period of time, a significant period of time where they produced 8 barrels of oil a day with no water, they decided they again needed to try to do something, and they put it on a pump. And when they finished they were -- their production for the last month was -- averaged around 8 barrels of oil a day and about 80 barrels of water, just under a 10-percent cut.

Q. Did they eventually review the producing rates with the BLM and concluded that they needed to plug and abandon the well?

A. Yes, they concluded that one of the problems out here was access to water disposal, and they had to truck the water at that point in time, and so the water disposal was costing them about a dollar and a half a barrel. It was just uneconomic to have, you know, a 10-percent oil cut.

So they elected to -- they stated their intentions to the BLM and the working interests that they intended to plug and abandon the well.

Q. And what happened to the unit?

A. At that point in time the BLM concluded that it was not a paying well, which, by BLM standards, has to pay out the drilling costs and the completion, not just be, you know, on a monthly basis.

They determined it was not a paying well, therefore they terminated the unit on April 30th, 1996, because there was no subsequent drilling to try to establish oil in paying quantities.

Q. Have the leases been extended?

A. At the point in time of the termination of the unit, the leases were given two-year extensions to April 30th, 1998.

Q. When did you become involved with this property?

A. I was an original small working interest owner with Manzano in the property, and when they had all these completion problems I felt that it could economically be drilled away from the completion problems and recover the oil that I believe is in place. So I purchased the Manzano interests.

Q. Have you contacted the BLM concerning extension of the West King Camp Unit?

A. Yes, I did. I contacted them before the actual termination date -- there was a 30-day appeal period -- and basically their reaction was, from Armando Lopez, their reaction was that the federal unit is designed to test a geologic concept and that once that geologic concept has been tested, then they can't form a -- it would be awkward for them to try to form another unit to test the same concept over again.

In other words, the geology that justified the formation unit had already been tested, basically.

Q. Did the BLM then recommend that your bring this matter to the Oil Conservation Division to attempt to either communitize or pool the acreage which you were proposing to dedicate to the well?

A. That's correct, they did.

Q. And that's the reason we're here today, because they wouldn't reinstate the unit or continue it, but instead insisted you first come here?

A. That's correct.

Q. This matter came on for an Examiner hearing last fall, did it not?

A. That's correct.

Q. And what was the result of that hearing?

A. During that hearing we got approval of the directional drilling of the well, to re-enter the well, directionally drill the well to a bottomhole location within 100 feet of a point 148 feet from the south line and 177 feet from the west line of Section 23.

However, in spite of our request for a 40-acre spacing -- I mean an 80-acre spacing, a 40-acre oil spacing comprised of the southwest-southwest quarter of Section 23 was dedicated to the well. The remainder of our Application was denied.

Q. In the order that denied the Application, did the order provide that the information presented was incomplete to support the formation of the new Devonian pool?

A. That's correct.

Q. And are you here today prepared to review all the production data on the one well in the proposed pool?

A. Production and drill stem data, yes.

Q. And are you going to review the geological information available on the pool?

A. That's correct.

Q. And in fact, the geology was approved by the Division as supporting the need for the directional drilling to the new proposed location?

A. That's correct.

Q. The denial of the 80-acre spacing portion of this case, what impact does that have on Thornton's plans to go forward with the development of the acreage?

A. Well, the two leases in question on Exhibit Number 2 are these two 80-acre tracts labeled NM-62195 and NM-50415. Currently, NM-50415 is in a held-by-production status which, of course, will terminate with the lease expiration, April 30th, 1988, because there is no economic production on it now.

The lease, NM-62195, is in a status where production has to be established by April 30th, 1998. If

we drill the well across the line and establish production on the northern lease, then the southern lease would no longer be held by production and would expire. And so it would -- what would happen is that we would -- somebody would get that lease and, if they found it economic, would drill a second well, and we'd end up splitting the reserves.

To make it economic, we not only need to keep our costs down through directional drilling, but also prevent the drilling of two wells on those two tracts.

Q. When we look at Exhibit Number 2, by putting this 80-acre tract together, will the owners of the production, in fact, be sharing in the production from one well?

A. That's correct, on an equal basis.

Q. And the second well would be an unnecessary well?

A. That's correct.

Q. Now, you have talked and communicated with all the other interest owners in the area, have you not?

A. That's correct.

Q. At the time of the original hearing, notice was given or waivers obtained from all operators in the proposed pool?

A. That's correct.

Q. And at the same time, notice was provided to all operators in the original pool, the --

A. -- South Lone Wolf.

Q. -- South Lone Wolf-Devonian Pool?

A. That's correct.

Q. And since that time, has there been any change in the ownership in the area?

A. Yes, there has. Effective January 1st but closed on April 2nd of 1998, which was eight days ago [*sic*], McClellan transferred their ownership in the leases directly west of this property. They owned both these sections to the west, and they and their partners, their et als., transferred their ownership in that to a company called Nadel and Gussman Permian, L.L.C., out of Tulsa, Oklahoma.

Q. And have you contacted Nadel and Gussman Permian and given them an opportunity to participate in the development of this acreage?

A. Yes, when I contacted them and informed them of the hearing that was coming up, I sent them all -- faxed them 58 pages of all the transcript of the hearing and all the exhibits of the hearing and explained to them what we were trying to do and, you know, showed the geology, et cetera, and testimony.

And their response was that they did not have any interest in participating with us in the directional well and that they would grant us a waiver, which they did, a

conditional waiver.

Q. Is that Exhibit Number 3?

A. That's Exhibit Number 3.

Q. So what we're in essence here doing today is simply trying to put together an 80-acre unit to attempt for the second time to establish commercial production in a small Devonian feature?

A. That's correct.

Q. Let's go to Exhibit Number 4. Would you identify that, please?

A. What this is, is a geological interpretation of the 3-D survey, 3-D seismic survey, showing the structural high that we're attempting to re-enter.

The well -- the dot to the -- the black dot on the thing signifies the current wellbore, and the dot to the northwest of that is what we believe the high of the formation, approximately 15 feet high, which we're going to drill to.

Now, this is a map of the Mississippian lime, rather than the Devonian. And the reason that it is a map of the Mississippian lime instead of the producing formation is because the Mississippian lime is a strong reflector.

The contrast between the Penn shales and the dense Mississippian lime makes a strong acoustic impedance

and allows for a strong reflector and is easily mapped, whereas the Devonian is a very poor reflector. It's the contrast between the Woodford shale and a -- although it's a hard rock, the dolomite, it has holes in it that slow the velocity down. Therefore, there's very low acoustic impedance. It's almost impossible in this particular area to map the Devonian.

Fortunately, the top of the Mississippian and the top of the Devonian isopach interval when mapped in this area is nearly constant. And so the top of the Mississippian is used to find the top of the Devonian.

Q. Let's go to Thornton Exhibit Number 5. Can you identify and review this?

A. Okay, this is a line, an east-west line, running through the area that we're -- and you can see the green line represents the wellbore, the current wellbore. The Mississippi reflector is the black line with the blue lines superimposed on top of it. The blue line is our computer pick of the peak of that reflector. And you can see that if you move about two traces over to the left or the west, it gets higher than the green line.

Q. And so basically what does this show? Closure to the west?

A. And then -- Yes, as you continue to the west, the Mississippian reflector continues to come back down again

and shows closure to the west, between us and the other well in the pool.

Q. And that's the Stevens well?

A. Yes.

Q. So you have the data on the Stevens well to --

A. Yes.

Q. -- also confirm separation?

A. Yes. Let's go back to Exhibit Number 1. There's three wells in this vicinity.. There's the Stevens well, which is in Section 28, which is the western well right here, kind of right at the corner where that makes that turn. In that well, the Devonian is located at minus 6024.

And then the next Devonian well is down here in the very southeast-southeast of Section 27, where my finger is. It's not in the pool. But that well reached the Devonian at minus 6093 subsea, so it was some 70 feet lower.

And then the Manzano well, which is the one we're talking about re-entering, is this one over here in the northwest-northwest of 26, and it again found the Devonian at 6023.

So essentially the Manzano and the McClellan are flat. This well in between provides the separation or the low that we see that's forming on this seismic line to the west.

In addition, at the same time that this one was drilled and produced 100-percent oil, the perforation -- they're open hole at about the depth -- the well to the east, bottomhole, is actually 10 feet deeper than the one -- than the Stevens well, and yet it produced 100-percent oil while this one was producing 75-percent water. So showing -- That shows separation between the field, between the wells in the reservoir.

Q. Let's go to Exhibit Number 6. What is this?

A. Exhibit Number 6 is another seismic line taken out of this field that is an arbitrary line that runs northwest to southeast through the field, and it crosses over the location of both the Manzano West King Camp, or McClellan Number 1 well that we're planning to re-enter, and our proposed bottomhole location, which is two traces to the left.

The Mississippian is labeled down here. It's the reflector between 1.1 and 1.2. It's got a little white line or -- supposed to be green, but it didn't copy -- in between them. And you can see that if we move from the trace where the Manzano West King Camp is located to the left or west two traces, that we will gain some structure. We figure it's approximately 15 feet.

Q. And that's a significant increase in the Devonian in this area?

A. Yes, it is.

Q. All right, let's go to Exhibit Number 7. What is this?

A. Exhibit 7 is just a different way of looking at the same data, but it gives you a map view. What these are, are time-slice -- meaning they take a slice at a certain time through this data, and if it's a peak they reflect it in blue, and if it's a trough they reflect it in red and -- on the data, on a map view.

And so the West King Camp Unit Number 1 is the black dot in each one of these pictures -- these are just going down in time -- the -- and the dot to the -- the open circle to the northwest of that is our proposed location.

And what happens is, you go down through time in these time slices. If the structure is like an upside-down bowl, then the size of the reflectors will move out in a circle, just as if you threw like a rock into a pond, and you get circular deals moving outwards, that's what happens in this data.

And as you see, on -- for instance, at 1164 the black dot is on the edge of the blue reflector, which is the Mississippian reflector, and the other dot is kind of in the center.

And as you go down in time, it does, in fact, spread out. And the next one at 1166, which is the fourth

picture, the black dot is still on the edge, the other one is -- you know, but it's enlarged, and the open circle is right in the center.

And as you go down through time, to the right one more picture, the blue gets larger. At 1170, which is this one down in the very left-hand corner, which is the next one, it's even larger. At the next one it's even larger. And now you can see the reflector -- the trough that's below it shows on the open circle, whereas the black dot, which is the McClellan well, is still in the Mississippian reflector.

At that point, at 1172, it now begins to connect off the map, which is the point of closure on that map, for the structure. That's the point at which -- the spill point of the reservoir.

Q. Let's now go to the drill stem test information, Exhibit Number 8. Would you review that for the Commission?

A. Okay. This is a drill stem test of the Devonian formation run by Baker Oil Tools, and this well has -- this chart on the front shows significant formation damage. The flowing pressures start near zero, or not exactly zero, start at 94 pounds. And then the well begins to clean up, the pressures start going up.

And immediately upon shut in, the first shut in,

the pressure builds to essentially final shut- -- I mean the essential -- it builds almost immediately to reservoir pressure. Then when they open it back up, it cleans out more, continues to flow fluid into the wellbore. And again on the final shut in, the pressure builds to the same level immediately.

What this -- During the test they recovered 2878 feet of oil, which was 41 barrels, 830 feet of water, which was five barrels, and the reason is because that -- the water was in the drill collars, which is a smaller radius -- a 46-degree gravity crude and 20 parts per million water, which is typical of the formation water in this area.

In the sampler they recovered 2150 ccs of oil and 10 ccs of water. Again, that appears to be formation water. The reason for the increase in oil cut in the sample is unknown, but it's almost certainly formation water, since our drilling fluid was 70,000 parts per million.

This type of chart is very typical of a good reservoir pressure with formation damage around the wellbore.

But once you get away from the wellbore, the fact that the pressure builds nearly instantaneously to reservoir indicates extremely high permeability outside of

that ring of formation damage. And in fact, Baker's calculated results showed a permeability of 3500 -- 3460 millidarcies or nearly 3.5 darcies.

They showed a drainage radius of 2786 feet, which is the radius that the pressure wave could feel during the shut-in period of this test, out 2786 feet. So...

The oil flow rate during the test was 434 barrels a day, or the fluid flow rate during the test was 434 barrels a day.

So it shows a highly permeable reservoir. And unfortunately, of course, that's not what they achieved on completion.

Let's go to your Exhibit Number 9, the Schlumberger chart from the drill stem test. What does this show?

A. Okay, Exhibit Number 9 is a chart that -- okay, same chart -- is a chart that's prepared by Schlumberger. Of course, this test was originally run by Baker. I had Schlumberger analyze the chart, and then they put this into their systems analysis model.

And what this chart shows -- There's two curves on this chart, and the curve labeled "Inflow Performance Curve" is the -- a chart -- on the two axes, the Y axes, is Pwf, which is bottomhole flowing pressure. And the X axis is production in barrels of fluid per day.

And what this shows, this chart labeled "Inflow Performance Curve" is the graph of what that bottomhole -- any given bottomhole pressure that we might have encountered at the bottom of the hole, you know, as a flowing pressure, how many barrels a day that is capable of the formation giving up.

And the "Tubing Intake Curve" is a curve that basically accounts for the friction in the tubing coming up the wellbore. And so they've used 2-3/8-inch tubing set at 9862 feet with a 10-percent water cut.

And basically, as you can see, as the -- That slopes up to the right, meaning that the more barrels -- or the farther to the right on the X axis meaning the more barrels you try to put through the tubing, the higher the pressure drop in the tubing.

Where those two curves cross is the analysis of Schlumberger as to the barrels of fluid that it will produce, and if you read down in the left-hand corner, X axis is 401. This is the point of intersection, 401. They're saying that well will flow at 401 barrels a day. The Y axis is at 2907, is their analysis of what the flowing pressure would be.

Now, in addition you could put a pump on this well, in which case the "Tubing Intake Curve" becomes meaningless, because the pump is going to overcome the

pressure of getting -- of the friction of the tubing. And basically what happens is, you've taken all the head off the tubing, off the column of the formation.

If you put a pump in the well, then the flowing pressure would be zero, because there's no head and no tubing friction that it has to encounter, and so you can read directly over here at zero on the flowing pressure and see that the -- where the line crosses the X axis, it would produce around 1400 barrels a day with a pump that took the head off the well.

Q. Mr. Thornton, what conclusions have you reached from your study of this reservoir?

A. My conclusions are that there are recoverable reserves that are in the Devonian formation from the drill stem test and that the zone is highly permeable and that the reserves can be recovered through one wellbore.

It is a high-risk effort to recover those reserves, basically because of the damage done in the other wellbore where they've communicated to the water. We have to try to get far enough away but yet stay on top of the structure.

The costs of doing this could be reduced by using the existing wellbore on the acreage and directionally drilling to the proposed bottomhole location. We anticipate the costs would be reduced about 75 percent.

And so we feel that we have to have permission from the OCD of all the things that we've requested in order to economically proceed, and in order -- and we feel that it can't be justified if we have the risk of an offset operation to the south. We believe that a well to the south would be unnecessary and wasteful, both unnecessary and wasteful.

Q. Now, Mr. Thornton, we wouldn't even be here today if the BLM had agreed to leave the West King Camp Unit in place so you could attempt a recompletion; is that right?

A. That's correct.

Q. And the way it stands in terms of our negotiations with them is that if we are to proceed, in fact, we must come to the OCD and receive their approval?

A. That's correct.

Q. And all we're trying to do is directionally drill some of the existing wellbore to a better position in the reservoir on the 80 acres that appear to be productive in the reservoir?

A. That's correct.

Q. In your opinion, if this well is not drilled, will reserves be left in the ground that otherwise can be recovered?

A. Yes, absolutely. The cost of -- Once the well is plugged, the McClellan Federal Number 1 is plugged, the

costs for re-entering it go up substantially. We're looking for reserves that are somewhere in the 50,000- to 100,000-barrel -- it wouldn't justify the -- You know, if it were, in fact, correct, it wouldn't justify the drilling or even probably the re-entry of the well.

In addition, the leases will expire, and they have different owners, and in addition water disposal is a problem. We currently own these two leases and the water disposal well, which makes it economic for us to get rid of the water. Any circumstance other than that, it would be uneconomic when the water arrived to dispose of.

Q. And the owners under the 80-acre tract you propose to dedicate the well will, in fact, share in the production?

A. That's correct.

Q. In your opinion, will approval of this Application be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. In my opinion, I believe so.

Q. Is Thornton Exhibit 11 a proposed order in this case?

A. Yes, it is. It's --

MR. CARR: May it please the Commission, we took the liberty of preparing an order because the case is

complicated, because it contains so many components, although what we're trying to do is actually, I think, fairly simple. But in any event, we did take the liberty of preparing a proposed order.

Q. (By Mr. Carr) Mr. Thornton, were Exhibits 1 through 9 and 11 either prepared by you or compiled at your direction?

A. Yes, they were.

MR. CARR: At this time I would move the admission of Thornton Exhibits 1 through 9 and 11.

CHAIRMAN LEMAY: Without objection, Exhibits 1 through 9 plus 11 will be admitted into the record.

MR. CARR: And that concludes my direct examination of Mr. Thornton.

CHAIRMAN LEMAY: Thank you, Mr. Carr.

Questions of the witness?

Commissioner Weiss?

EXAMINATION

BY COMMISSIONER WEISS:

Q. I have two Mr. Thornton.

Is this a re-evaluation of some old seismic, or is this a new study?

A. No, this was a 3-D survey that was shot -- I believe it was -- it was either late 1994 or early 1995 -- by Manzano. Actually, they contracted Western to shoot it.

It was a new survey at that time.

There have been several geophysicists that have, you know, investigated the same data, and they all reached similar conclusions. You can almost lay the maps right on top of each other.

Q. So you all drew the same map, huh?

A. Yeah.

Q. And my other question, I don't understand Exhibit 3. Can you tell me what that's about? As I read this thing, looking at it now, NGP has the right to offset you?

A. Okay. Yeah, NGP is -- First of all, let's look at Exhibit Number 1. Actually, let's look at Exhibit Number 2. Exhibit Number 2 is this one, and our 80 acres is right here.

And McClellan at one time owned -- they -- McClellan, et al., owned both Section 26, the section to the south, as well as both of these sections over here.

And at that point in time I requested from Mark McClellan, that they -- who's the president of McClellan -- asked him how he wanted to proceed on this thing, because he had the offset acres to the west and the south.

And he said it would -- that the owners in Section 26 are actually -- because it was unitized, and the owners in the two leases that we're trying to pool here shared in the well 50-50, and it would be oper- -- they

retained an interest in that well, you know, through their ownership of Section 26, and that they wanted us to proceed to try to get 80-acre spacing, rather than try to get 160.

Subsequent to that, on April 2nd, just eight days ago, NGP or Nadel and Gussman Permian purchased that land from McClellan.

Q. In 26?

A. In -- no, only in -- McClellan retained Section 26, purchased both of the lands to the west. And so therefore they would be impacted by this thing.

So we notified them, sent them the hearing transcript and exhibits from the original hearing on this matter and asked for a waiver of notice.

And -- So they granted us a waiver of notice, but basically in their waiver they said, Well, you know, since -- We're not opposing you; all we ask is that at some point in time we try to -- if we decide after you've drilled the well -- say we make a mistake and there's a lot more oil there than we think, if they decide to come, then they can -- we will not oppose them. That's all he's asking.

Q. That's what I thought I read it.

A. Uh-huh.

Q. They could offset you and you won't oppose them?

A. That's correct, we won't oppose them.

COMMISSIONER WEISS: That's my only questions, thank you.

CHAIRMAN LEMAY: Commissioner Bailey?

EXAMINATION

BY COMMISSIONER BAILEY:

Q. I'm still just a little hazy on the ownership. Who owns the southeast quarter of Section 22?

A. Southeast quarter is now -- It says McClellan up here; we didn't have time to change the map. It's now Nadel and Gussman Permian, L.L.C.

Q. All right. Who owns the northeast quarter of 27?

A. It's Nadel and Gussman Permian, L.L.C.

COMMISSIONER BAILEY: Okay. That's all I have.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. Mr. Thornton, just a couple quick ones here.

Again, concerning that letter on Exhibit 3, I notice that you won't oppose them, but your bottomhole location, I guess, as you project it --

A. Uh-huh.

Q. -- would be 177 feet from the west line. I think we've seen similar situations where we might want to --

A. Yes.

Q. -- if that's dry, maybe fish around and try and find a higher location, assuming you stay on your lands and

get 50 feet from the lease line and want to make a well. Does that letter imply that they could get 30 feet from the lease line?

There's no equal footage there, as far as what you won't oppose. They could get five feet from your lease line, I guess, according to this letter, and --

A. If you approved it --

Q. -- they've got the letter to drill.

A. -- I couldn't oppose them. If you approved it, they could. The Commission has -- That's at the Commission's discretion. I'm not able to oppose it, because --

Q. According to the letter, you can't oppose any footage that leaves that well on their lands?

A. That's correct. I think the BLM has a minimum of 20 feet from the lease line.

But that's correct, I can't oppose it, unfortunately. That's the situation.

Q. And did you offer them a participation in this venture?

A. I told them that we would like to either, you know, try to work out something to purchase, you know, this thing.

Of course, this has been a short time frame. I sent them all the data on the thing and asked them if they

wanted to try to work with us to put the whole thing together, and basically their response was that they did not want to participate in our directional well.

Q. So in essence, they had the chance to protect themselves, maybe, with this venture if they thought it had merit?

A. That's correct. If -- You know, we feel that if the reservoir is what we think, between 50,000 and 100,000 barrels, you know, that they're going to have to do some economic analysis, you know, if they want to drill a well over there.

But we -- You know, we have agreed, in order to proceed, have agreed to allow -- not oppose the distance. It would be up to the Commission to set the minimum distance.

Q. I mean, as a geologist and engineer, would you say that one well in this reservoir would certainly be sufficient to drain it completely?

A. We feel, yes, that one well would drain the reservoir, but we didn't have any cooperation to have one well do it.

Q. And I just can't resist the comment, in the spirit of preventing waste, to caution you against pumping a well, that you might get there in cutting the oil-water contact with your directional well.

A. That -- What?

Q. That's free advice.

A. Oh.

Q. Don't pump the well, and don't cut the oil-water contact unless you --

A. Right --

Q. -- absolutely have to.

A. -- absolutely.

Q. Experience with the Devonian up in this country indicates once you cut the oil-water contact --

A. Right.

Q. -- very difficult to shut off the water.

And if you pump it, you really are encouraging that water to come in, as evidenced by the McClellan completion.

A. Right, that's correct, that's correct.

CHAIRMAN LEMAY: Okay. Any other questions of the witness?

If not, he may be excused.

MR. CARR: That concludes our presentation.

CHAIRMAN LEMAY: Thank you, Mr. Carr, we shall take the case under advisement.

(Off the record)

Q. (By Chairman LeMay) Could I ask you a question with this? Is there a rig standing by?

A. No, since those -- Since they're an extended term, have to have commercial production established to April 30th, 1998.

MR. CARR: So we're --

THE WITNESS: So we have a -- But we have to, you know, permit. It takes a month to permit them and drill it and establish production --

(Thereupon, these proceedings were concluded at 9:50 a.m.)

* * *

CERTIFICATE OF REPORTER

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

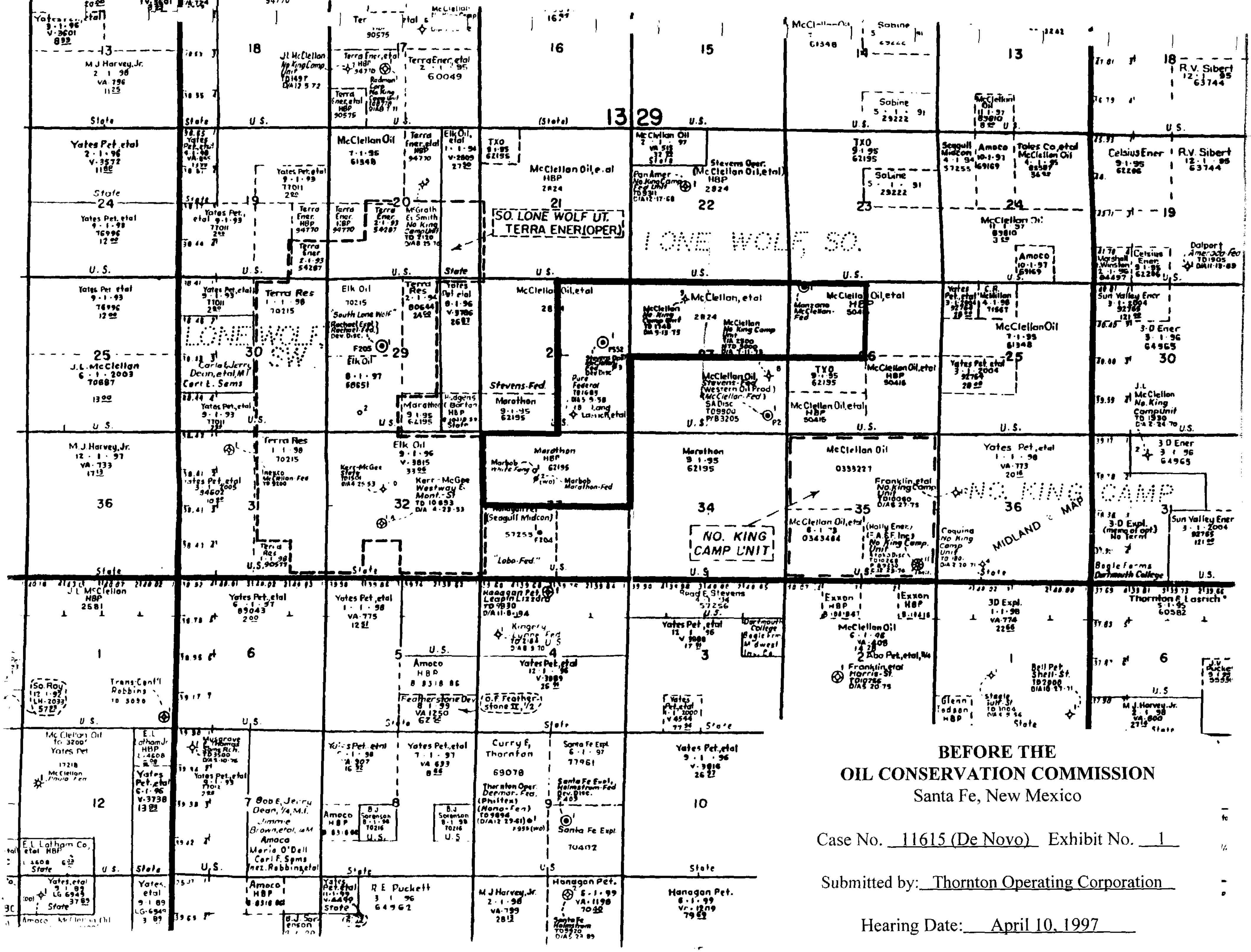
I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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 April 18th, 1997.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

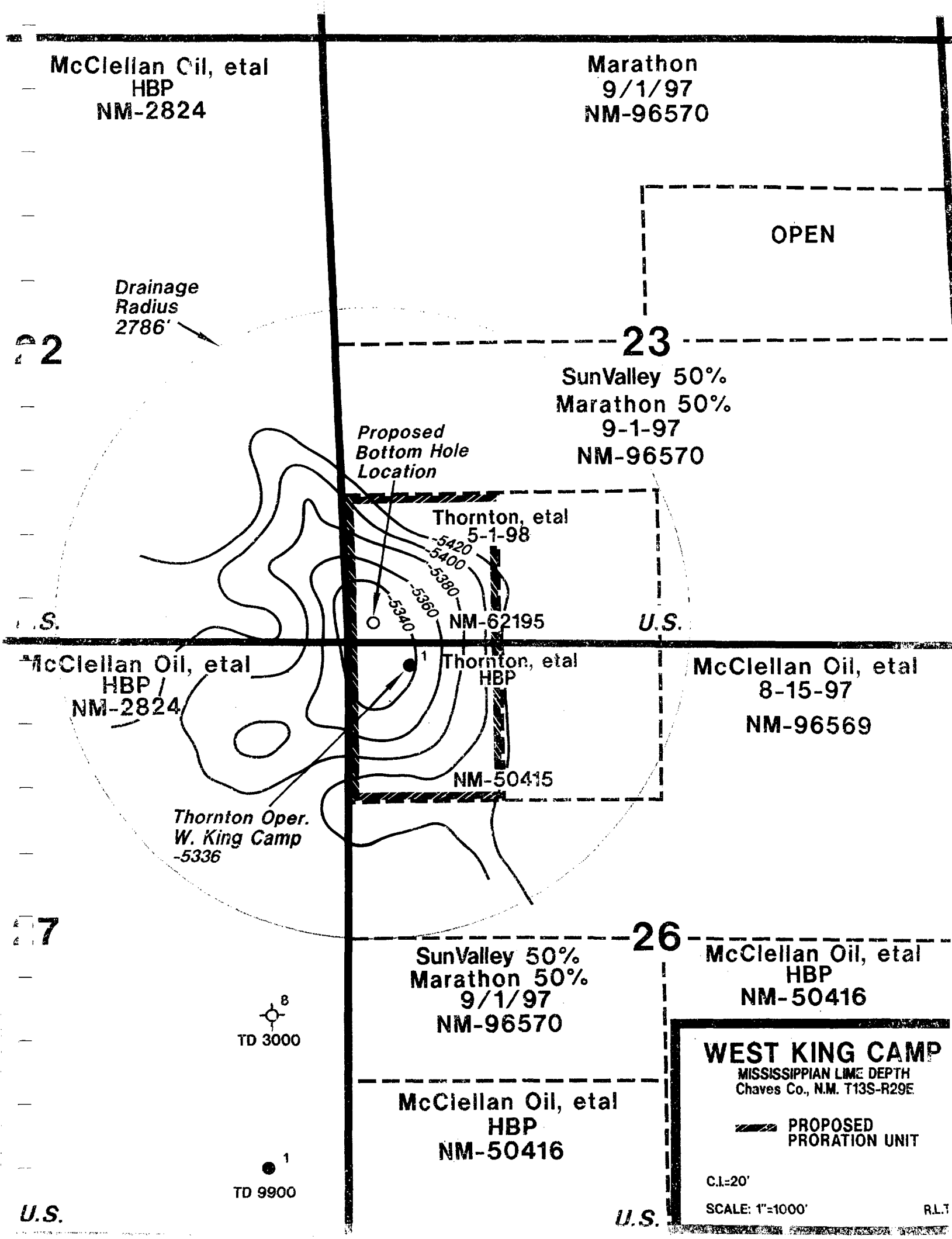


BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 1

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997


McClellan Oil, etal
HBP
NM-2824
Marathon
9/1/97
NM-96570
OPEN
Drainage
Radius
2786'
2
23
SunValley 50%
Marathon 50%
9-1-97
NM-96570
Proposed
Bottom Hole
Location
Thornton, etal
5-1-98
-5420
-5400
-5380
-5360
-5340
NM-62195
U.S.
U.S.
McClellan Oil, etal
HBP
NM-2824
1
Thornton, etal
HBP
McClellan Oil, etal
8-15-97
NM-96569
NM-50415
Thornton Oper.
W. King Camp
-5336
7
26
SunValley 50%
Marathon 50%
9/1/97
NM-96570
McClellan Oil, etal
HBP
NM-50416
8
TD 3000
McClellan Oil, etal
HBP
NM-50416
1
TD 9900
U.S.
U.S.
WEST KING CAMP
MISSISSIPPIAN LIME DEPTH
Chaves Co., N.M. T13S-R29E
PROPOSED
PRORATION UNIT
C.I.=20'
SCALE: 1"=1000'
R.L.T

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 2

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997

Nadel and Gussman Permian L.L.C.
3200 First National Tower
Tulsa, OK 74103
(918) 583-3333

April 7, 1997

Thornton Operating Corporation
Robert Thornton
P.O. Box 833
Midland, TX 79702

Via Fax

Re: Application before the Oil Conservation Division for Pool Contraction Pool Creation, Special Pool Rules, Non-Standard Spacing or Proration Unit, Directional Drilling and an Unorthodox Well Location, Chaves County, New Mexico, Case No. 11615

Dear Mr. Thornton:

This is to advise that Nadel and Gussman Permian L.L.C. ("NGP") hereby conditionally agrees to waive notice of the April 11, 1997 hearing in connection with the captioned Application before the Oil Conservation Division. Our waiver is conditioned upon Thornton Operating Corporation's agreement to waive any objection to and agree not to protest a possible application by NGP seeking its own unorthordox well location and/or such other relief necessary to protect NGP from offset drainage as well as the correlative rights of other leasehold interest owners. By signing below, Thornton Operating Corporation further agrees not to cause or divulge any information as would cause any person or entity entitled to notice of NGP's possible application for such relief to protest said application.

Very truly yours,

Thomas A. Adelson

Thomas A. Adelson
For the Company

Agreed to this 8 day of April, 1997.

Thornton Operating Corporation

Robert L. Thornton

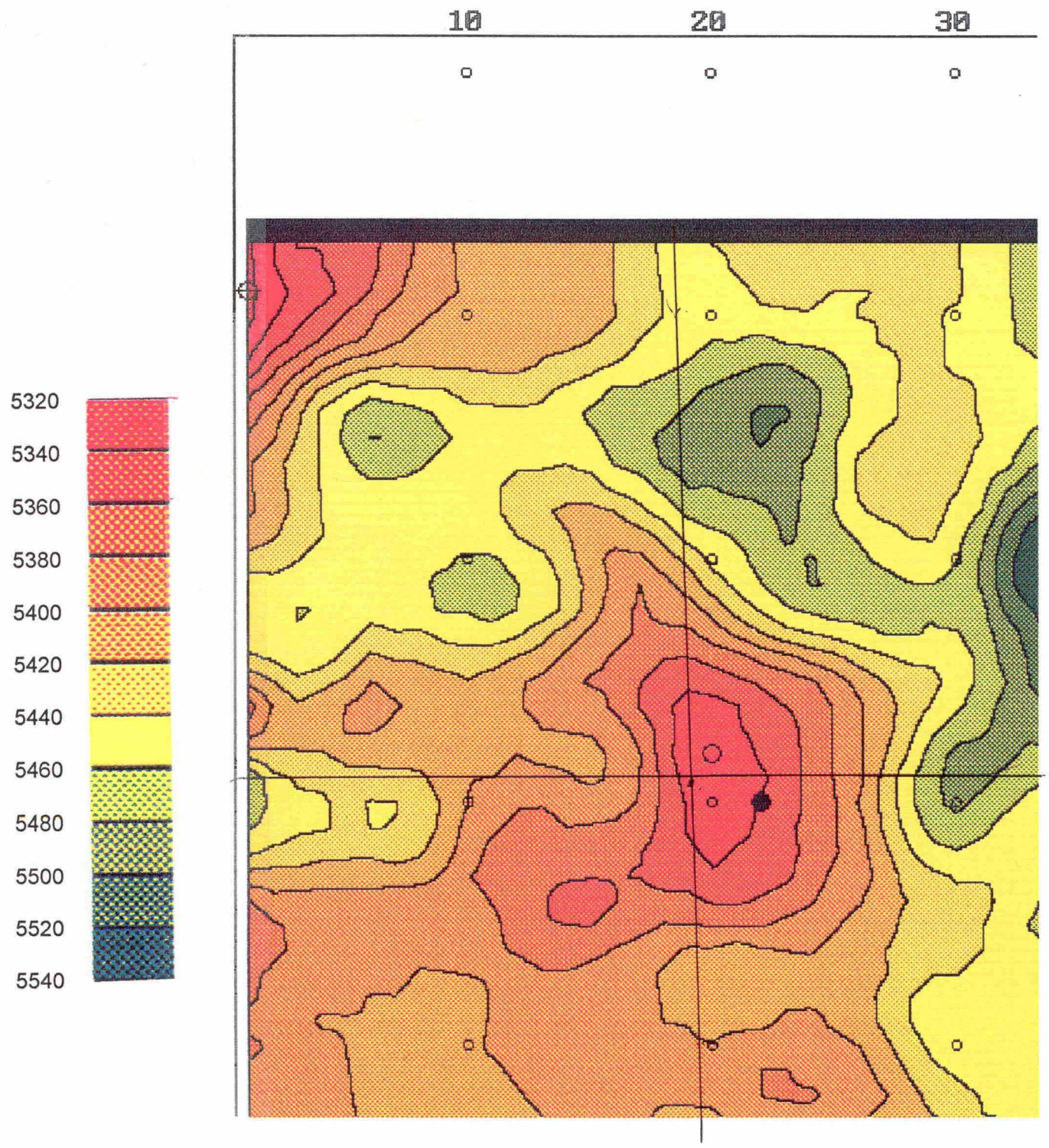
Its President

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 3

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997



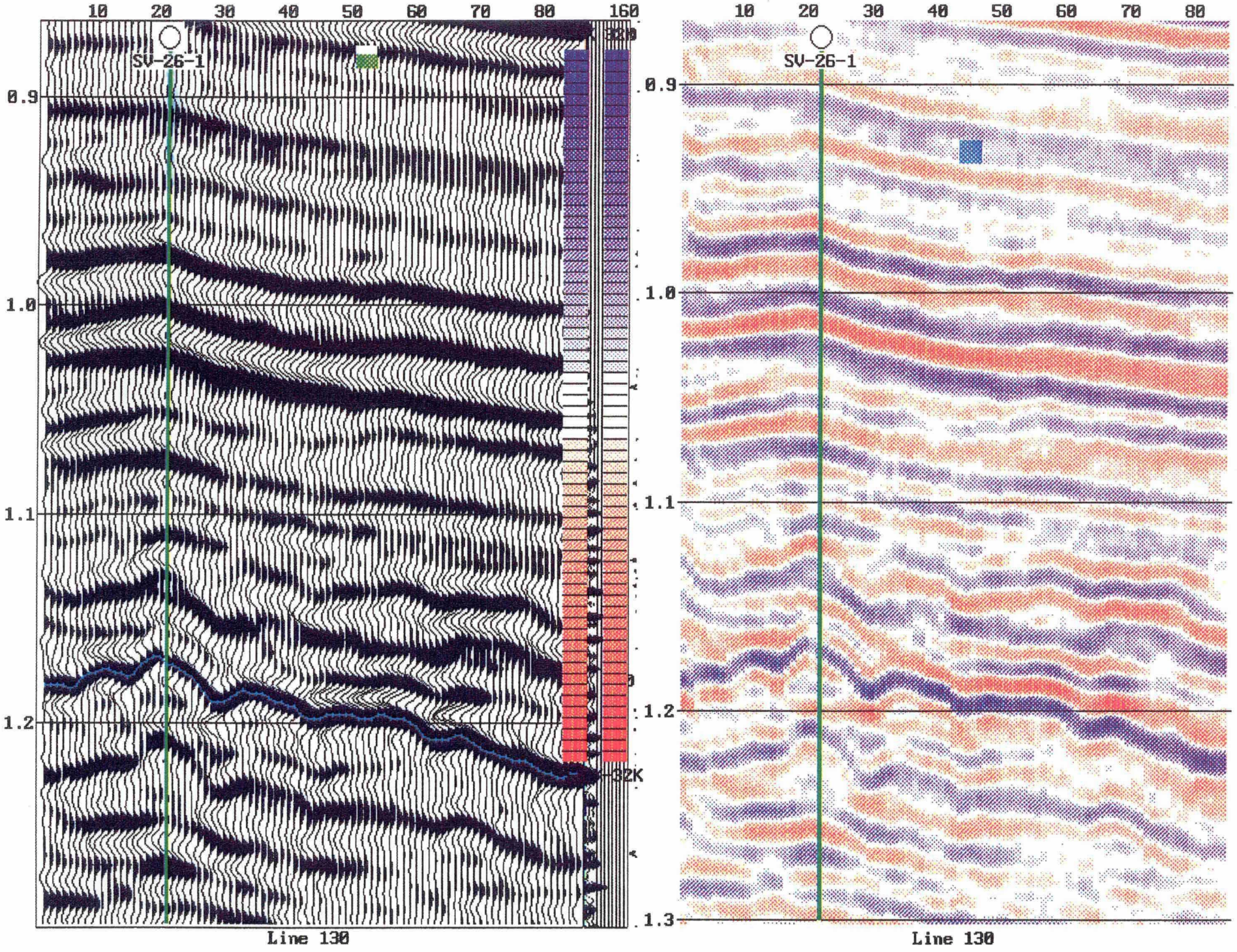
WEST KING CAMP
MISSISSIPPIAN LIME DEPTH
Chaves Co., N.M. T13S-R29E
C.I.=20'
SCALE: 1"=1000' **R.L.T.**

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 4

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997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40
50
60
70
80
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SV-26-1
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1.0
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10
20
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40
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SV-26-1
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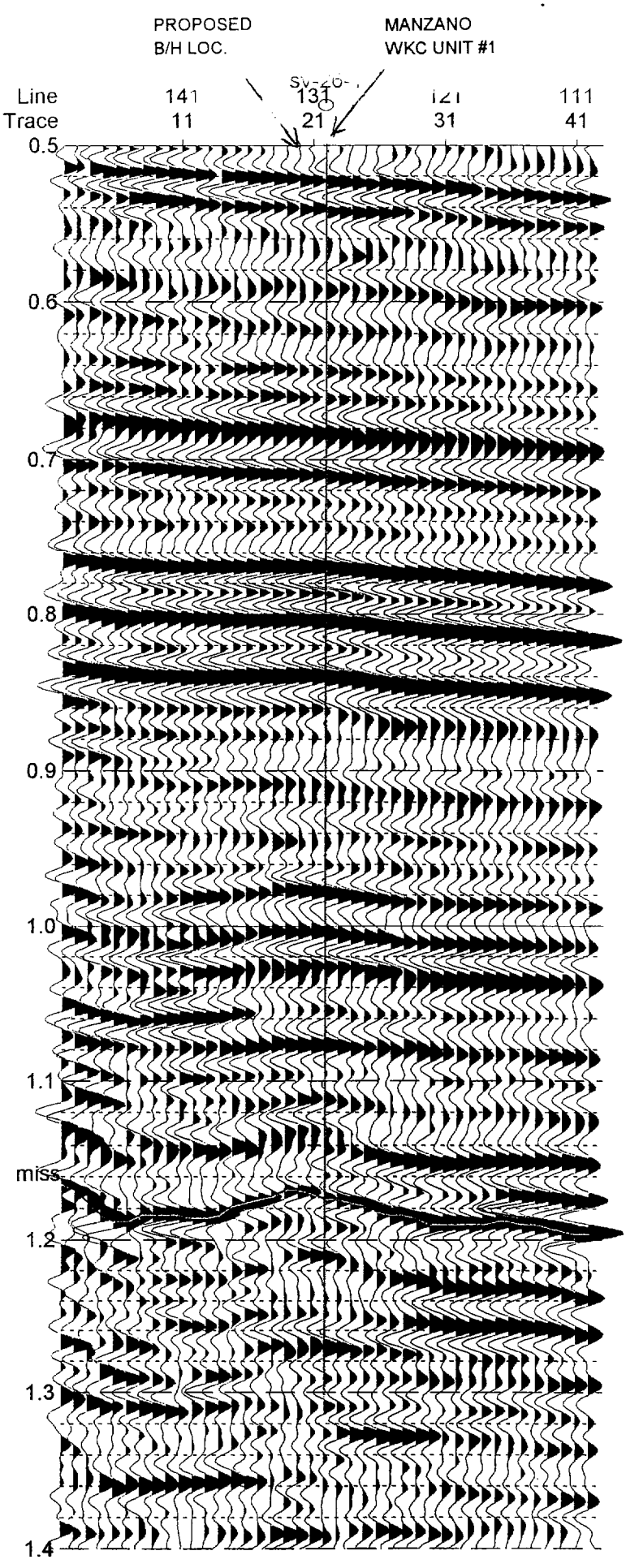
1.3
Line 130

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 5

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997

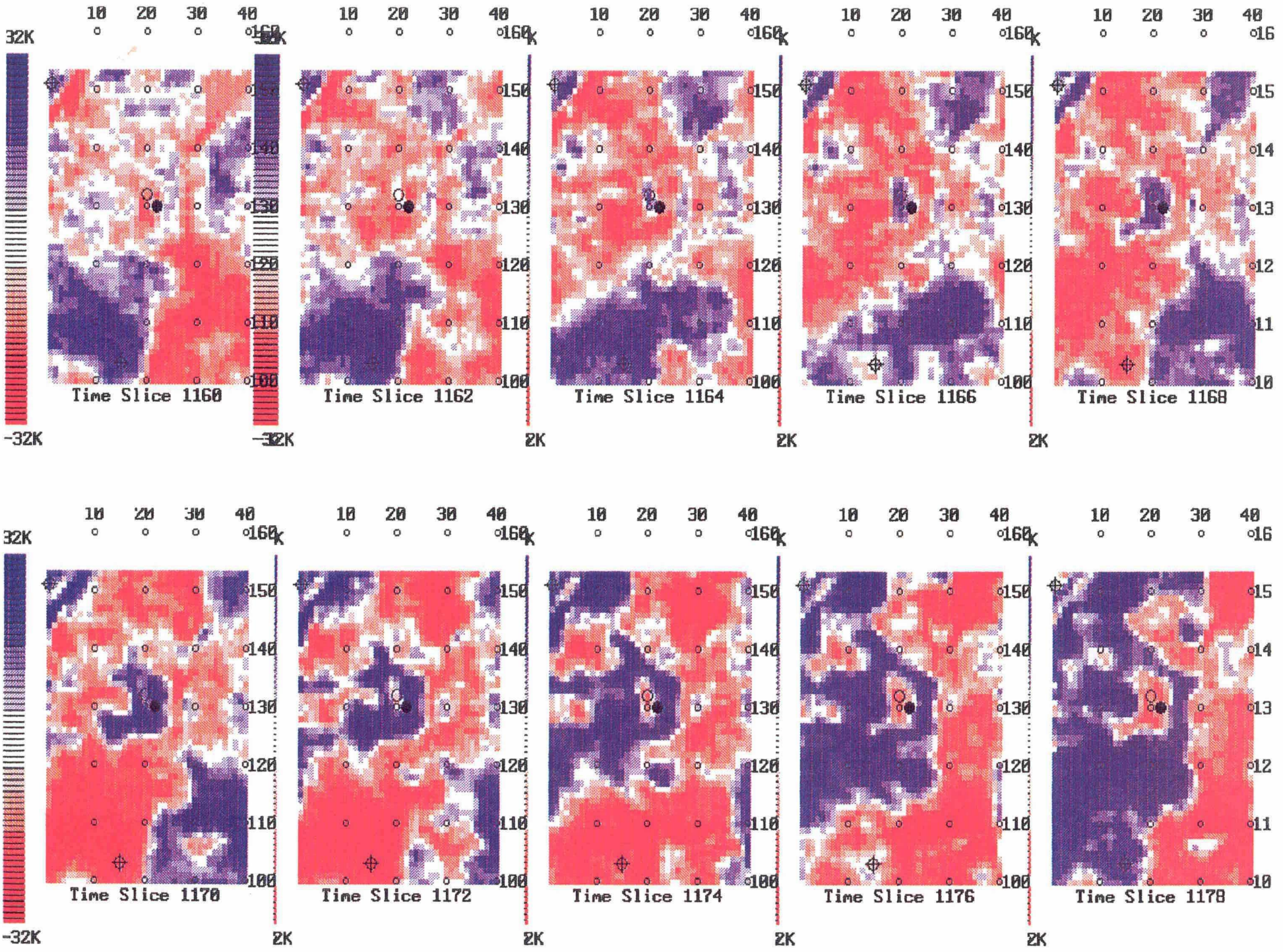


BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 6

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997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Time Slice 1176
Time Slice 1178
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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 7

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997

Phone (303) 790-2705

BAKER OIL TOOLS

56 Inverness Drive East
Englewood, CO 80112

10/6/95 ak

MANZANO OIL CORP.
TICKET #012087

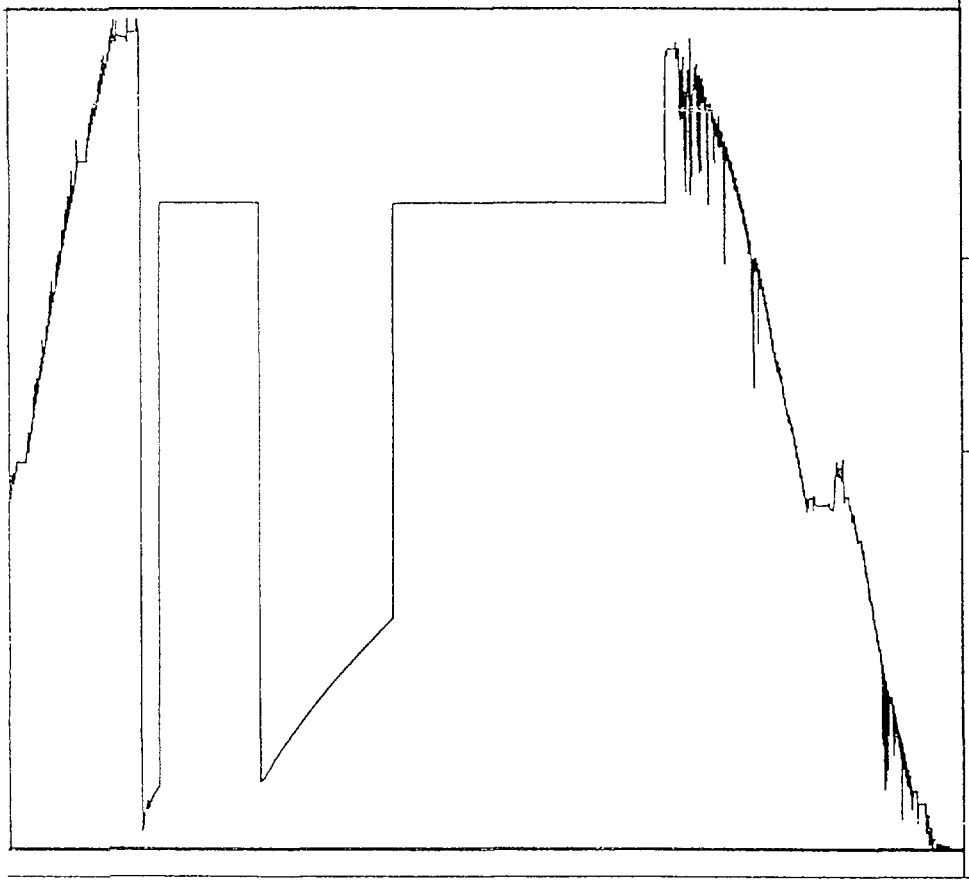
McCLELLAN FEDERAL #1
DEVONIAN ~ 9828' - 9862'

DST #1
09-28-1995

Contractor	Ziadril
Rig No.	10
Spot	182' FNL & 507' FWL
Sec	26
Twp.	13 S
Rng.	29 E
Field	Wildcat
County	Chaves
State	New Mexico
Elevation	3820' KB
Formation	Devonian

Surface Choke	1/8"
Bottom Choke	3/4"
Hole Size	7 7/8"
Core Hole Size	None
DP Size & Wt.	4 1/2" 16.60
Wt. Pipe	None
I.D. of DC	2 1/4"
Length of DC	732'
Total Depth	9862'
Type Test	Conventional
Interval	9828'- 9862'

Mud Type	--
Weight	9.5
Viscosity	40
Water Loss	--
Filter Cake	--
Resistivity	-- @ °F
	85,000 Ppm. NaCl
B.H.T.	165.4 °F
Co. Rep.	Ronnie Carre
Tester	Mike Fraley
Baker Dist.	Hobbs NM



		REPORTED	CORRECTED	
Opened Tool @		06:46		hrs.
Flow No.	1	15	16	min.
Shut-in No.	1	90	89	min.
Flow No	2	120	119	min.
Shut-in No.	2	240	240	min.
Flow No.	3	None	Taken	min.
Shut-in No.	3	"	"	min.

Recorder Type		STI 8000	
No.	01119	Cap. 10000	psi
Depth		9833	feet
Inside		Clock	
Outside	x	Range	hrs.

Initial Hydrostatic	A	5046
Final Hydrostatic	K	4940
Initial Flow	B	94
Final Initial Flow	C	368
Initial Shut-in	D	3980
Second Initial Flow	E	387
Second Final Flow	F	1405
Second Shut-in	G	3978
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	

Pipe Recovery

Reverse circulated to reservoir pit:
2878' Oil = 40.9 bbl.
830' Water = 5.0 bbl.

Gravity:
Top: 46.0 Deg API @ 60 Deg F
Chlorides:
Middle: 20,000 ppm Cl. titrated.
Bottom: 20,000 ppm Cl. titrated.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 8

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997

Company: Manzano Oil Corp.
Well: McClellan Federal #1
DST No: 1

09-28-1995

SAMPLER REPORT

Pressure in Sampler:	300	psig
Total Volume of Sampler:	2600	cc.
Total Volume of Sample:	2160	cc.
Oil:	2150	cc.
Water:	10	cc.
Mud:	None	cc.
Gas:	0.40	cu. ft.
Other:	None	
Sample:	20,000 ppm Cl. titrated.	

Resistivity

Make up Water	@	°F of Chloride Content				ppm.
Mud Pit Sample	@	°F of Chloride Content	85,000			ppm.
Gas / Oil Ratio	30/1 cu.ft./bbl.	Gravity	46.0	°API @	60	°F

Where was sample drained On Location.

Remarks:

D.R.S.

Company: Manzano Oil Corp.
Well: McClellan Federal #1, DST #1
Field: Wildcat 09-28-1995

Gauge Depth ..... 9833.0 feet

[INPUT PARAMETERS]
(Build-Up Analysis)

Well Type - OIL			
Reservoir Pressure	psia	P	3979
Reservoir Temperature	Deg F	T	165
Final Shut-in Pressure	psia	Psi	3978
Final Flowing Pressure	psia	Pwf	1405
Oil Flow Rate	STB/D	Qo	434
Sand Thickness	feet	hnet	12
Wellbore Radius	feet	rw	0.3280
Formation Porosity	%	POR	6
Extrapolated Pressure	psia	P*	3979
Extrapolated Press @ 1hr	psia	P1hr	3977
Semi-Log Slope	psi/cycle	M	-4.926
Production Time	hrs	tp	2.30
Shut-in Time	hrs	tsi	4.00

Uo (cp)	2.5823E+00	Bo (RB/STB)	1.1224E+00
Co (1/psi)	4.1207E-06	Ct (1/psi)	9.6810E-06

[CALCULATED RESULTS]

(Semi-Log) Analysis			Pressure Method
Transmissibility	md-ft/cp	kh/u	16078.476
Flow Capacity	md-ft	kh	41519.066
Permeability	md	k	3459.922
Skin Damage	total	S	+592.85
Pressure Drop due to Skin	psia	dP	+2536.03
Flow Efficiency	%	FE	+1.48
Drainage Radius	feet	rd	2786

D.R.S.

Company: Manzano Oil Corp.
Well: McClellan Federal #1
DST No: 1 09-28-1995

This analysis has been made on the basis of the liquid recovery and equations applicable to liquid recovery tests, the Horner extrapolation method and comparative log/log analysis.

The semi-log plots indicate a maximum initial reservoir pressure of 3980 psi and a maximum final reservoir pressure of 3979 psi which is equivalent to a subsurface pressure gradient of 0.405 psi/ft at gauge depth.

The Average Production Rate which was used in this analysis has been calculated from analysis of the flow pressure curves using a liquid gradient for the recovered oil of 0.345 psi/ft.

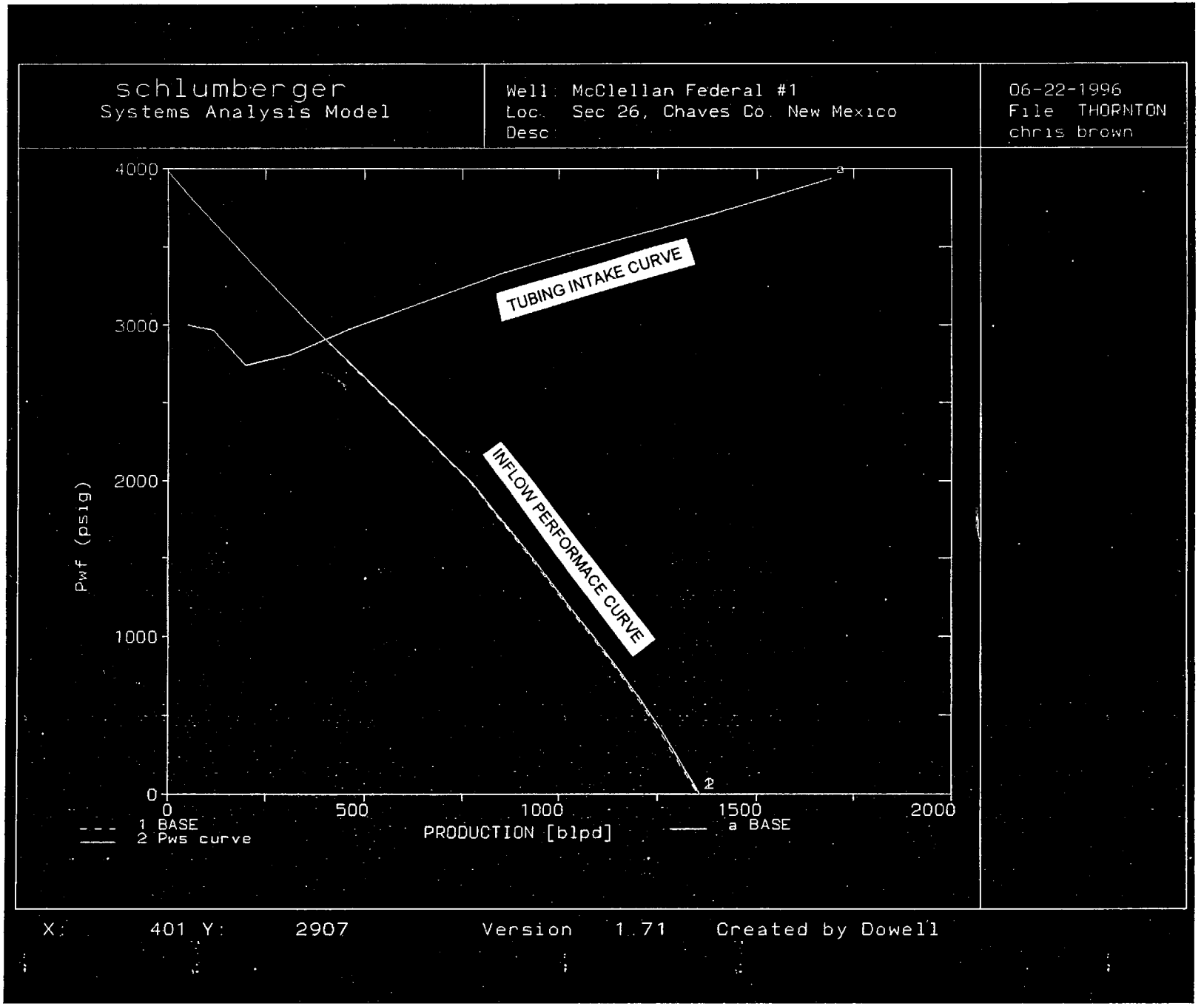
For purposes of this analysis a Pay Thickness of 12 feet and an Average Porosity of 6% has been used.

The calculated Skin Factor indicates significant well-bore damage was present at the time of this formation test.

The evaluation criteria used in the drillstem test analysis system indicate this is a good mechanical test and the results obtained in this analysis should be reliable within reasonable limits relative to the assumptions which have been made.

PROJECTED FLOW RATE

(ASSUMES FLOWING WELL, 2-3/8" TUBING @ 9862', 10% WATER C



BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 11615 (De Novo) Exhibit No. 9

Submitted by: Thornton Operating Corporation

Hearing Date: April 10, 1997

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 11615 (De Novo)
ORDER NO. R-_____

APPLICATION OF THORNTON OPERATING
CORPORATION FOR POOL CONTRACTION,
POOL CREATION, SPECIAL POOL RULES,
NON-STANDARD SPACING OR PRORATION UNIT,
DIRECTIONAL DRILLING AND AN
UNORTHODOX WELL LOCATION,
CHAVES COUNTY, NEW MEXICO.

THORNTON OPERATING CORPORATION'S
PROPOSED ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 a.m. on April 17, 1997, at Santa Fe, New Mexico, before the New Mexico Oil Conservation Commission.

NOW, on this _____ day of May, 1997, the Commission, a quorum being present, having considered the record, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Thornton Operating Corporation ("Thornton"), seeks an order which does the following:

a) Contracts the South Lone Wolf-Devonian Pool to exclude the NW/4 of

Section 26 and the NE/4 of Section 27, Township 13 South, Range 29 East, NMPM;

b) Creates a new pool for the production of oil from the Devonian formation underlying the SW/4 SW/4 of Section 23 and the NW/4 NW/4 of Section 26, Township 13 South, Range 29 East, NMPM;

c) Promulgates Special Pool Rules and Regulations for the new pool including provisions for 80-acre spacing and proration units and well locations within 150 feet of the center of a governmental quarter-quarter section;

d) Approves a non-standard oil proration unit comprised of the SW/4 SW/4 of Section 23 and the NW/4 NW/4 of said Section 26; and

e) Authorizes Thornton to re-enter the McClellan Federal No. 1 Well from the previously approved surface location 182 feet from the North line and 507 feet from the West line of said Section 26 and directionally drill to a bottomhole location within 100 feet of a point 148 feet from the South line and 177 feet from the West line of said Section 23;

(3) The S/2 SW/4 of said Section 23 and the N/2 NW/4 of said Section 26 was originally included in the West King Camp Unit, a 160-acre federal unit (Unit Agreement NMNM-92016X), which was developed from 3D seismic data. The McClellan Federal Well No. 1, the initial well on the unit, was drilled as a 9,862 foot Devonian test during September 1995.

(4) Although the well initially appeared to be commercial, during completion attempts poor flow rates were obtained and in May 1996 it was shut in and the BLM was advised of plans to plug the well. The BLM terminated the unit effective April 30, 1996.

(5) Thornton has entered agreements with the other working interest owners in the unit area to take over the well and return the area to production but the BLM has advised Thornton that it would be difficult to extend this unit because the geology which justified the unit had been testified.

(6) Thornton presented evidence which demonstrates that the acreage which it proposes be included in the new pool is a separate reservoir within the Devonian formation and the South Lone Wolf-Devonian Pool should be contracted to exclude the NW/4 of Section 26 and the NE/4 of Section 27, Township 13 South, Range 29 East, NMPM, and a new pool for production of oil from the Devonian formation should be created to be comprised of the following acreage:

TOWNSHIP 13 SOUTH, RANGE 29 EAST, N.M.P.M.

Section 23: SW/4 SW/4
Section 26: NW/4 NW/4

(7) Data available on the McClellan Federal Well No. I shows that upon recompletion it should effectively and efficiently drain this entire reservoir and therefore Special Pool Rules and Regulations should be adopted for this pool which provide for 80-acre spacing and proration units and require wells to be drilled within 150 feet of the center of a governmental quarter-quarter section.

(8) A non-standard spacing and proration unit comprised of the SW/4 SW/4 of said Section 23 and the NW/4 NW/4 of said Section 26 should be approved and dedicated to the McClellan Federal Well No. I in the new pool.

(9) Approval of this non-standard spacing and proration unit will result in each interest owner in the pool receiving its fair share of the production from the subject well and pool, thereby assuring that the correlative rights will be protected.

(10) Reentry of the McClellan Federal Well No. I and directionally drilling to a bottomhole location within 100 feet of a point 148 feet from the South line and 177 feet of the West line of said Section 23 will reduce the costs associated with the proposed reentry and will enable Thornton to gain approximately 15 feet of structure in this formation thereby resulting in the more efficient recovery of oil from this pool and preventing waste.

(11) The application of Thornton Operating Corporation should be **approved**.

IT IS THEREFORE ORDERED THAT:

(1) The South Lone Wolf-Devonian Pool is hereby contracted to exclude the NW/4 of Section 26 and the NE/4 of Section 27, Township 13 South, Range 29 East, NMPM, Chaves County, New Mexico.

(2) A new pool for Devonian production is hereby created and designated the West King Camp-Devonian Pool with vertical limits comprising the Devonian formation and with horizontal limits comprised of the following described acreage:

TOWNSHIP 13 SOUTH, RANGE 29 EAST, N.M.P.M.

Section 23:SW/4 SW/4
Section 26:NW/4 NW/4

(3) Special Rules and Regulations governing operations within the West King Camp-Devonian Pool are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
WEST KING CAMP-DEVONIAN POOL

RULE 1. Each well completed or recompleted in the West King Camp-Devonian Pool or in the Devonian formation within one mile thereof, and not nearer to or within the limits of another designated Devonian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on standard unit containing 80-acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a governmental quarter section; provided, however, that nothing contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections in the unit.

RULE 3. For good cause shown the Director may grant an exception to the requirements of Rule 2 without notice and hearing when the application is for a non-standard unit comprising a single quarter-quarter section or lot. All operators offsetting the proposed

non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application if, after a period of 30 days, no offset operator has entered an objection to the formation of such non-standard unit.

The allowable assigned to any such non-standard unit shall bear the same ratio to a standard allowable in the West King Camp-Devonian Pool as the acreage in such non-standard unit bears to 80-acres.

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Division Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proration unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished.

The Director may approve the application upon receipt of written waivers from all operators offsetting the proration unit or if no written objection to the unorthodox location has been entered within 20 days after the Director has received the application.

RULE 6. Top unit allowable for a standard proration unit (79 through 81 acres) shall be based on a depth bracket allowable of 355 barrels of oil per day, and in the event there is more than one well on an 80-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

(4) The applicant, Thornton Operating Corporation, is hereby authorized to re-enter its McClellan Federal No. I Well located at a previously approved unorthodox location (approved by Division Order R-10295) 182 feet from the North line and 507 feet from the West line (Unit A) of Section 26, Township 13 South, Range 29 East, NMPM, Chaves County, New Mexico, kick off from vertical and directionally drill the subject well in a northwesterly direction to an unorthodox bottomhole oil well location in the West King Camp-Devonian Pool within 100 feet of a point 148 feet from the South line and 177 feet

from the West line (Unit M) of Section 23.

(5) A non-standard spacing and proration unit for the Devonian formation comprised of the SW/4 SW/4 of said Section 23 and the NW/4 NW/4 of Section 26 shall be dedicated to the subject well.

(6) The applicant shall conduct a directional survey of the well prior to initiating directional drilling operations and subsequent to completion of such operations in order that the bottomhole location of the well may be verified to be in compliance with the terms of this order.

(7) The applicant shall notify the supervisor of the Division's Artesia district office of the date and time of the conductance of any directional survey on the subject well in order that the same may be witnessed. In addition, subsequent to the conductance of such directional surveys, copies of these surveys shall be furnished to the Santa Fe and Artesia offices of the Division.

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JAMI BAILEY, Member

WILLIAM WEISS, Member

WILLIAM J. LeMAY, Chairman

(SEAL)