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

ORIGINAL

APPLICATION OF COBALT OPERATING, LLC FOR AUTHORIZATION TO INJECT PRODUCED WATER, LEA COUNTY, NEW MEXICO.

CASE NO. 14834

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID K. BROOKS, Chief Examiner
WILLIAM V. JONES, Technical Examiner

May 10, 2012

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID K. BROOKS, Chief Examiner, and WILLIAM V. JONES, Technical Examiner, on Thursday, May 10, 2012, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: Mary C. Hankins, CCR, RPR
New Mexico CCR #20
Paul Baca Professional Court Reporters
500 4th Street, Northwest, Suite 105
Albuquerque, New Mexico 87102

APPEARANCES

FOR APPLICANT COBALT OPERATING, LLC:

ADAM G. RANKIN, ESQ.
HOLLAND & HART
110 North Guadalupe, Suite 1
Santa Fe, New Mexico 87501
(505) 988-4421
agrankin@hollandhart.com

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EXHIBITS MARKED OR FORMALLY IDENTIFIED

(8:24 a.m.)

EXAMINER BROOKS: Okay. Then at this point, we call Case Number 14834, the Application of Cobalt Operating, LLC for authorization to inject produced water, Lea County, New Mexico.

MR. RANKIN: Adam Rankin, with Holland & Hart, Santa Fe, on behalf of Cobalt Operating.

Good morning. I have one witness today.

EXAMINER BROOKS: Okay. You may proceed. You need to have your witness sworn.

JAMES DARRELL THOMPSON II,

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Morning, Mr. Thompson.

A. Morning.

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

A. My name is James Darrell Thompson II.

Q. And where do you reside?

A. Midland, Texas.

Q. And by whom are you employed?

A. Cobalt Operating.

Q. And what is your current position and your

responsibilities with Cobalt?

A. I'm the vice president of Business Development for Cobalt Operating.

Q. And what does that role entail?

A. We -- my position, we -- I go out and evaluate wells and properties that are in a certain fairway with specific geology for candidates -- to determine whether or not they're candidates for the process that we employ called high-volume lift using large subs [sic].

Q. And what is your -- have you previously testified before the Division?

A. No, I haven't.

Q. Would you please review for the Examiners your educational background and work experience?

A. Yes. I'm degreed from the University of Texas of the Permian Basin in environmental science, and I'm qualified by degree and experience to sit for the -- by the Texas Board of Professional Engineers to sit for the professional engineering license.

My work experience, I was an environmental consultant; I worked for an environmental consulting firm called Ecological Environmental Services, in Midland, Texas, and that was in -- immediately after graduating school. I was the hazardous waste manager, and I supervised the disposal of reclaimable waste, as

well as any exempt waste.

I was also a consultant in permeated saltwater disposal wells. In doing that, I was on site as a field supervisor quite frequently during completions, re-entries and workovers of these injection wells. We also -- I was also responsible for setting up and maintaining mechanical integrity programs for these wells.

We -- during that time, I did a permanent -- approximately six -- six injection wells through the Railroad Commission of Texas. Those are in Gaines County, Lipscomb County, Hopkins [sic] County and Dawson County. After that -- I held that position at Ecological for approximately three-and-a-half years.

For three years after that, I was employed by Endura Products Corp. and NovaStar, LP, out of Midland, Texas. Endura Products Corp. was a chemical-treating company that serviced wells. NovaStar, LP was an organic-chemical manufacturer. I served for three years as director of Environmental Affairs.

I was involved with the development of treating chemicals that were used in injection wells, as well as I was the regulatory officer for the plant itself, which was a process safety management and R&P

regulated facility that I developed those programs for. And we also registered quite a few biocidal products, with the Environmental Protection agencies, and other treating chemicals that were used downhole, you know, in injection wells and producing wells and pipelines. And we also -- during my tenure there, we also worked with our clients and developed mechanical integrity-testing programs for these wells.

And after that, I was employed by Watson Professional Group. It was an engineering firm in Midland, Texas. My title there was environmental engineer manager. I oversaw NEPA studies for renewable-energy clients and civil projects associated with these, including infrastructure design, site assessments on the oil and gas side, and quite a bit of due diligence in assessing the mechanical integrity of saltwater disposal injection wells for clients that were purchasing as part of due diligence.

And during my tenure there, we also -- we also -- I also worked as a -- permeating approximately another five or six injection wells that were primarily in Dawson County, Texas and Glasscock County, Texas. I held that position for approximately four years.

And then for two years after that, I was the director of Regulatory Affairs for Blue Ridge

Resources, in Midland, Texas. During that time, I oversaw all of the regulatory operations, as well as re-completion operations, and all of the -- all of the operations in the field that were associated with injection wells that we already owned, as well as due diligence on the mechanical integrity of any wells that we were wiring.

And that led to my position that I have with Cobalt Operating. It's a relatively new company. I've been there for approximately eight months, and I described my job functions there previously.

Q. Thank you very much, Mr. Thompson.

Now, are you familiar with the application that's been filed in this case?

A. I am.

Q. And have you prepared exhibits for purposes of presentation?

A. Yes, I have.

MR. RANKIN: Mr. Examiner, I would like to qualify Mr. Thompson as an expert in engineering.

EXAMINER BROOKS: Well, I would say he is eminently qualified.

MR. RANKIN: Thank you very much.

Q. (BY MR. RANKIN) Mr. Thompson, would you please state for the Examiners what it is that we're seeking --

requesting of this application?

A. Yes. We are requesting an authorization to inject approximately 1,500 to 2,000 barrels a day of produced formation water into the Consolidated State Well Number 3, API Number 30-025-29711.

Q. Mr. Thompson, what pressures are you looking to inject here?

A. We're going to -- we -- we intend to inject a pressure that is below 2,188 psi.

Q. And that pressure level has been determined based on the standard of 0.2 psi per foot to the top of the perforations?

A. Yes, that's correct.

Q. And what field perforations are you looking at, the depth?

A. The top of that perforation is 10,944 feet.

Q. Down to what depth?

A. Down to -- bear with me -- 11,075.

Q. And the status of the lands on which this proposed injection well is located?

A. They are -- they are the State of New Mexico; they're the surface -- they're the surface, as well as the minerals --

Q. So both the surface and the state are -- surface and the minerals are owned by the state; is that

correct?

A. That's correct.

Q. Please turn to what's been marked in the exhibit packet as Exhibit Number 1, and this is the FORM C-108, Application For Authorization To Inject; is that correct?

A. That is correct.

Q. And that was filed by Cobalt Operating?

A. Yes.

Q. Turning to tab number 1 on that exhibit, can you please review for the Examiners what this exhibit shows?

A. Yes.

Q. It's the exhibit that's actually on the tab, not the one behind it.

A. I see. Yes. This is -- this is an overview map detailing the location and land of the Consolidated State Number 3 well -- wellhead, being marked with a purple diamond with a lat and long right there and its location in reference to the -- to the New Mexico State lease.

Q. Now, to whom was notice of this application provided?

A. All leaseholders within a half-mile area of review.

Q. And if you turn to tab 2, does that map indicate those leases and their intersection of the area of review?

A. That's correct.

Q. And if you turn to tab 2A, does that indicate the list of leaseholders who were notified, just towards the property in the application packet. Is that right?

A. I'm sorry?

Q. Is that right?

A. That's correct. Those are the offset lessees.

Q. Now, you also notified the State Land Office as a surface owner; is that correct?

A. That is correct.

Q. Now, Exhibit Number 2 in that exhibit packet is an affidavit prepared by myself indicating that notice was provided in accordance with Division rules; is that correct?

A. That is correct.

Q. And if you flip the page under that affidavit, you'll see the sample letter that went out to all the offsetting leaseholders within the area of review and surface owners; is that correct?

A. That's correct.

Q. And in the following pages, it lists all those requiring notice?

A. Yes.

Q. And the green cards following that?

A. Yes.

Q. Exhibit Number 3 in that packet is a copy of the Affidavit of Publication that was published in the Lovington Leader; is that correct?

A. That is correct.

Q. And have you prepared -- you, Cobalt, prepared or supervised the preparation of the C-108 application; is that correct?

A. That is correct.

Q. Turning back to Exhibit Number 1, is the application contained in this exhibit required by the Division?

A. It does [sic].

Q. Now, is this an expansion of an existing project or a new project?

A. It is a new project.

Q. Can you please provide for the Examiners a brief history of the well you're proposing to inject, Consolidated State Number 3?

A. Yes. The well was spudded in 1986 by Baskin [phonetic] Oil & Gas. It was completed later that year. It was completed in the Strawn. It produced, until 1998, cumulatively, 1,500 barrels of oil

and approximately 100,000 cf of gas. It was proposed for P&A actually twice, in 1999 and again in 2003.

Cobalt -- we acquired this well in September of 2011. We later realized that year that there was no gas being produced out of this well. It was an allocation error at the sales meter, at the sales head. So due to our fixing of that, we actually lost the lease, due to cessation of production three months later, back to the State of New Mexico.

Q. Is that because -- does the property of this well co-exist [sic] --

A. That is correct.

Q. -- with a separate lease?

A. Yes.

Q. Now, Cobalt no longer holds the lease; is that correct?

A. That is correct.

Q. But when you got it, you acquired a right-of-way to inject, through the State Land Office; is that correct?

A. That's correct.

Q. That's been provided on Exhibit Number 4 in that exhibit packet; is that correct?

A. Yes.

Q. It's not included in this exhibit packet, but

you've also been able to acquire a right-of-way -- a separate right-of-way --

A. For road use.

Q. -- for road use; is that correct?

A. That is correct.

Q. Now, is there any production from the target formation in the area, the target formation being the Strawn?

A. Yes, there is. And there are approximately --

Q. That would be at tab 3. I think there is a map that demonstrates all the Strawn wells, both producing and nonproducing; is that correct?

A. That's right. There are approximately 16 wells -- there are 16 wells within a one-mile radius of the target location, as you can see. The Consolidated State Number 3 is denoted there in the center with a red and black arrow. The producing wells are denoted with solid crosses, black boxes around them. The plugged and abandoned wells are denoted by the crosses with the circle and a red square around them. The circle with a W is a water well -- abandoned water well.

MR. RANKIN: Mr. Examiner?

EXAMINER BROOKS: Could you -- excuse me. I'm very confused, because the tab numbers -- there are two sets of tab numbers, and some of them are not in

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order. Where are we looking at?

MR. RANKIN: So the tab -- when I reference a tab, it's this gray -- or greenish-kind-of-gray color.

EXAMINER BROOKS: Okay.

MR. RANKIN: And the white ones are exhibit numbers.

EXAMINER BROOKS: Okay. What document are we looking at?

MR. RANKIN: So right now we're at tab number 3, which is the greenish color.

EXAMINER BROOKS: Number 3 of the --

MR. RANKIN: Within the C-108.

EXAMINER BROOKS: Okay.

MR. RANKIN: And that has a map of the area, the one-mile radius.

EXAMINER BROOKS: Okay. Thanks.

Q. (BY MR. RANKIN) So the producing wells are those with the dark crosses, and the P&A wells have the open circles in the middle; is that correct, Mr. Thompson?

A. That is correct.

Q. And this indicates that there are approximately 16 wells within the one-mile area of review -- I mean, one-mile radius?

A. That is correct.

Q. And maybe you just reviewed the -- I can't remember what you had said. How many wells are actually producing?

A. We have -- I think there are seven wells in that area that have been plugged and abandoned; one that has been converted to a saltwater disposal well and seven remaining Strawn wells.

Q. And that one well that was converted to a saltwater disposal, it's injecting into the Strawn Formation?

A. It is injecting into the Strawn Formation.

Q. Now, of all these wells, is there any offsetting well that produces from the Strawn that's within a half-mile area of review?

A. Yes, there is. It's the Chesapeake Bubba 4 State, API 30-025-37420.

Q. Okay. And that is -- now, just turn to Exhibit Number 5 -- rather -- I'm sorry -- tab number 5. This is a wider area map, correct? A two-mile radius map; is that correct?

A. That is correct. Yes.

Q. And this indicates all the wells within the two-mile radius; is that correct?

A. Yes.

Q. Now, you referenced the Bubba State Number 4

well?

A. Yes.

Q. You brought an exhibit showing the production for that well; is that correct?

A. Yes.

Q. That's Exhibit Number 5, which is the white tab; is that correct?

A. That is correct.

Q. Can you please review for the Examiners what this production chart shows?

A. The production chart under Exhibit Number 5 shows the monthly production volume of all produced fluids and gas on the y-axis that is spotted against the time on the x-axis from July 2005 to January of 2012. In particular, it shows that -- although gas -- gas production has remained around 20 to 30 MCF, that oil production in this particular well has been sporadic, at best. The last production, in January of 2012, was reported at approximately a little bit more than half of a barrel per day for a monthly Cum of about 20 barrels of oil.

Q. Do you have any other production there that we can use to show that the Strawn has been significantly depleted or is no longer economic?

A. Yes. We also have production data from the

plugged and abandoned Cimarex well, the 002.

Q. And that's Exhibit Number 6; is that correct?

A. That is correct, Exhibit Number 6.

Q. Can you review for the Examiners what this chart shows?

A. This chart, once again, plots monthly production on the y-axis versus time on the x, showing that approximately from January of 1986 to, it looks like, midyear 1994 some gas production that is right around 200 barrels -- I'm sorry -- 200 MCF -- I'm sorry -- 2,000 MCF a month, and oil production drops off to zero in midyear 1994.

Q. This well is also within a half mile of the area of review; is that correct?

A. That is correct.

Q. Now, based on the production of these two wells within the area -- the half mile area of review, is it possible -- I mean, what other evidence do you have to suggest that this Strawn zone is actually depleted?

A. We actually operate, on an adjoining lease immediately to the west, two other wells that are the Warren State and the Hale State 1Y.

The Warren State, we had some operational issues with it producing -- producing from a submersible pump at depth, because the Strawn Formation and the

Strawn perfs were so depleted -- that well's completed into the Devonian -- that the two zones were actually communicating. The Strawn was so depleted that Devonian oil was going up and actually communicating, and the Strawn was actually drinking all of our produced fluids, all of our oil. So that's denoted on -- let's see -- Exhibit Number 8 there, and we have a pump intake pressure chart, which shows the static.

Q. 7, I think, actually.

A. Is it 7?

Q. Yeah.

A. This is a -- this is a chart which measures the pump intake pressures in psi. On the y-axis, it's probably going to say. On the X, it shows the static pressure at approximately 500 -- 500 psi in early January of this year, and that was before the Strawn Formation had been squeezed off. And you can see, we had intake issues: The lower pump intake pressure, indicating that we had a very low fluid level in the wellbore itself.

And then over on the right, in March, after we had squeezed off the Strawn zone, which was drinking all the Devonian oil, the pressure rose significantly, and the fluid level was up around 2- to 3,000 feet, as opposed to 10,000, indicating that that formation was so

open and so depleted that it was drinking all that the formation produced.

Q. And that was occurring back in January of this year; is that correct?

A. That's correct, January of this year.

Q. And this well is located approximately --

A. Approximately 4,000 feet to the west.

Q. Of the Consolidated Number 3?

A. That's correct.

Q. Thank you, Mr. Thompson.

Now, isn't it possible that the injection from the consolidated well will still affect production from Chesapeake's Bubba 4 well to the effect that it will result in waste?

A. I don't believe so. The Dakota, operating also, operates a commercial disposal there, which is less than a half mile away from the Bubba State. And if you look -- I believe it's Exhibit 8.

Q. That's correct.

A. It details the total amount of fluid that was injected from that injection well beginning in October of 2007, and it was approximately -- approximately 150 -- I'm sorry -- 15 to -- 15- to 20,000 barrels of water per month being injected into the formation at that distance. It's less than 2,500 feet away from

Bubba State. In Cum, there's approximately -- they injected about 270,000 barrels of produced water since -- since October of 2007.

If you reference that against Exhibit Number 5, which would be the production chart of the Chesapeake Bubba State Number 5 -- I'm sorry -- the Bubba State Number 4 --

EXAMINER BROOKS: What tab is that?

MR. RANKIN: That's the white one, Number 5.

EXAMINER BROOKS: Okay.

A. As you can see there, in approximately 2007, that rate of decline stays fairly constant; as well as water production stays fairly constant. So even though they were injecting in that region, the production -- or rate of the decline was not affected significantly or at all.

Q. (BY MR. RANKIN) Based on your review of the two production wells within the area of review, it would be the one that was P&A'd and the Chesapeake Bubba 4, as well as your experience to the Warren well, demonstrated in Exhibit Number 7, where you show that the Strawn was so depleted, and through Exhibit Number 8, which is the injection to the Dakota well, the fact that they didn't affect the production and offsetting Chesapeake Bubba

State 4, what is your conclusion about the potential for injection through the Consolidated State Number 3?

A. With this data, we conclude that that formation area is so depleted that injection in the amounts that we're talking about will have no impact on any offset production in the area.

Q. Now, just briefly, for the Examiners, explain -- you mentioned at the beginning of your testimony that you are involved in high-lift [sic] opportunities, as well as satisfy -- that sort of situation. Can you explain briefly how your lease -- your offsetting lease here is dependent upon being able to inject Consolidated Number 3 to make the high-lift [sic] opportunity economical?

A. Certainly. The cuts in the Warren and the Hale 1 State lease are there; they're very slim, approximately 2 to 4 percent. The cut of oil is what we've got. Those were traditionally for use on a rod pump, I believe, a 912 rod pump, producing about 400 -- 400 to 500 barrels a day of total fluid, which makes a well like that marginally economic.

We -- we specialize -- we have a niche [sic] in this fairway, in certain formations that were strong weld, so you use submersible pumps. And the argument is always made that, you know, you're just

increasing the rate -- the rate at which you extract.

But we found, and there are SPE papers written, and we've actually built a business model going in and taking some of these water-dry reservoirs -- taking some of these wells, installing submersible pumps. And if you have the ability to inject the water at a reasonable cost, or if you own the disposal system yourself, then you can greatly increase the incremental recovery of that reserve.

The viability of this business model and of the leases directly to the east -- I'm sorry -- directly to the west that we operate truly do depend on us being able to dispose of that water. Otherwise, operating -- operating on a rod pump with a four-percent cut, these wells are not economic, but as they stand right now and as they are completed in the Devonian -- we tread water on a test, and those two wells combined are producing -- or have the potential to produce anywhere from 80 to 100 barrels a day. That's been shut in until we get this settled.

So with that being said, we feel like it would -- it would waste the secondary recovery efforts of that Devonian Formation oil across the road if we are unable to find a reasonable way to dispose of the water in the area and result in significant left-behind

petroleum in those reservoirs.

Q. Thank you, Mr. Thompson.

Moving on to other parts of the application, C-108, can you please turn to tab number 3 and review for the Examiners what this depicts? Oh, sorry. I'm sorry. It would be tab number 4. Forgive me.

A. I'm sorry. Can I make just a couple more notes on the --

Q. Yeah.

A. This high-volume lift approach that we've taken has already -- if we're allowed to permit and dispose and inject into this formation, it will -- it will increase the production in those two Devonian wells by a factor of 10. It will be a 10X production increase. We're already doing about seven or eight to ground; 105 is what we anticipate they will -- they will initially produce on about a two-percent decline.

Q. Mr. Thompson, moving on to the other parts of the C-108 application, can you briefly describe tab number 4, which is the greenish tab, what it depicts. This is the injection well data sheet.

A. Yes. This is the proposed wellbore schematic as it was submitted on the C-108.

Q. So it indicates the locations of the perfs; is

that correct?

A. That's correct.

Q. And the cost of the packer setting?

A. That's correct.

Q. And is there any plan for stimulating this well?

A. There is. We found that traditionally -- we know that this well would take a fluid on a -- on a vacuum. It's -- it's pulled a vacuum -- on a vacuum before, and it remains on one right now.

We will go in and clean out the perfs and clean out any formation damage that may have occurred with a strong acid job, to open up those perforations and to get rid of any scale or scab on the formation.

Q. Thank you, Mr. Thompson.

Turning to tab number 6, this is a map of the half-mile area -- half-mile radius, is that correct, the area of review? And it may be the page behind.

A. The page behind?

Q. Yeah. It may have been mislabeled.

A. This is the -- yes, that is correct.

Q. So how many wells were within the half-mile area of review?

A. Within the half-mile area, there are nine wells.

Q. And how many of them are -- what's the status of those wells?

A. There are two producing. That's the Bubba State, and then the Warren Number 2 that we operate. Is that correct?

Q. I believe that may be correct.

A. Yeah. There are five plugged and abandoned wells, one saltwater -- commercial saltwater disposal, and one plugged water well that was plugged in 1954.

Q. So the tabulation of all wells that actually penetrated the post-injection interval, which is the Strawn, those are listed and behind tab number 7; is that correct? That's the actual tab in the data sheet for each of the wells?

A. That is correct.

Q. Now, does Cobalt C-108 contain all the information that's required by the Division for each of these wells?

A. It does.

Q. Have you reviewed the data developed on all the wells within the area of review and satisfied yourself that it meets the work required of these wells to enable Cobalt to inject into Consolidated State Number 3 well safely?

A. Yes, we have.

Q. And what injection volumes is Cobalt proposing here?

A. We're proposing an average injection volume of 1,500 barrels per day, with a maximum 2,000.

Q. And what's the source of the water you'll be injecting?

A. The source of the water is the two Devonian wells that we discussed before, the Warren Number 2 and the Hale State 1. We're adjoining these.

Q. And just to point out -- I'm sorry. I meant to mention this before, Mr. Thompson, but following the tabulation data sheet on tab 7 is a diagram of each of the wells that penetrate Strawn; is that correct?

A. That's correct. There are schematics back there.

Q. And that's what your analysis was based on?

A. That's correct. We reviewed the well schematics for those.

Q. Now, do you anticipate any comparability issues with the Devonian water produced and Strawn water receiving?

A. No, we don't.

Q. Now, a water analysis is included, is that correct, behind tab number 8?

A. That is correct.

Q. And that is a water analysis for the Strawn and Devonian wells; is that correct?

A. That is correct.

Q. And tab number 9 is a table of constituents [sic] of the water; is that correct?

A. Yes, that is correct.

Q. Now, the Dakota well you referenced earlier, it's injected more than 10,000 barrels --

A. That is correct.

Q. It's not operating as a commercial well?

A. Yes.

Q. So it's your understanding that it's taking water from different formations; is that correct?

A. Yes, understanding the operations of a commercial disposal, I would say.

Q. So there is no -- that you're aware of for that injection?

A. No.

Q. Now, have there been other injection wells permitted to inject in the Strawn Formation that you're aware of statewide?

A. Yes, there are.

Q. Approximately how many?

A. There are eight injection wells permitted in the Strawn statewide.

Q. Now, will this system that you're proposing be a closed or an open system?

A. It will be a closed system.

Q. And what injection pressures, again, is Cobalt seeking?

A. A maximum of 2,188 psi.

Q. And if Cobalt requires a higher pressure, you will justify the higher pressure through the OCD's step rate test?

A. Yes, we will.

Q. Now, how will Cobalt monitor the wellbore integrity of the injection wells?

A. We'll fill these angular spaces, load them with some inner fluid, and also gauge each annulus to monitor the mechanical integrity, and as well as comply with the OCD mandated H5 test, or pressure test.

Q. Are there any freshwater sources within the area?

A. There are.

Q. And that would be the Ogallala; is that correct?

A. That is correct.

Q. And what's the approximate distance?

A. Approximately 10,309 feet from the bottom of the Ogallala to the top of the Strawn.

Q. And there are several fairly impermeable zones in between; is that correct?

A. There are several shelves between there.

Q. In your opinion, will those injections in the Consolidated Number 3 well pose a threat to any underground sources of the --

A. No.

Q. Now, are there any freshwater wells in the area of review that you're able to cut the --

A. The State Engineer record shows that there were two wells in that area of review, but they could not be located. However, a field -- a field recon did show that there was one well that was -- that was about 137 feet to the west of this particular wellbore. It was drilled down to 120 feet in 1953, and it was plugged in 1954.

There was also one that was approximately a mile to the northeast that was drilled down to 90 feet, and that was in 1953.

Q. So now turning to tab number 10, the greenish tab, that's a map demonstrating the location of the windmill that was sampled; is that correct?

A. That's right. And there was also -- there was a -- there was a windmill that was identified that didn't show up on any of the USGS quads, and we did --

we did capture a sample from that well.

The water analysis is immediately behind that.

Q. Now, has the appropriate geological data been included in the application?

A. It has.

Q. And that's been included at tab number 9; is that correct? It's a narrative description of the geology of the area?

A. That's correct.

Q. And now has Cobalt -- have you reviewed all the geologic and engineering data in this reservoir and satisfied yourself that there are no open faults or hydrologic connections of cross-flow in the Strawn?

A. No. We found no evidence of open faults or any, you know, connections of cross-flow.

Q. Now, in your opinion, based on the review of the production in offsetting wells and the depletion of the Strawn Formation oil injection to the Strawn, will Consolidated State Number 3 result in any waste of production to offsetting wells?

A. No.

Q. Will it affect -- affect those wells in any way?

A. No. Wait. The Strawn Formation in this area

is so depleted that it would take literally hundreds of years of disposing at the rates that we're talking about to even pressure up that formation.

Q. Now, is it your opinion that you will not be able to produce economically for the offsetting lease if you're unable to economically inject the produced water from those wells?

A. That is correct. If we aren't able to inject into this well -- as it stands, the projects immediately to the west, as we discussed, the Warren -- the Warren and Hale, will be uneconomic.

Q. Mr. Thompson, were Exhibits Number 1 through 8 either prepared by you or prepared under your supervision?

A. I'm sorry?

Q. Were they prepared by you, Exhibits 1 through 8, or under your supervision?

A. Yes, they were.

MR. RANKIN: Mr. Examiner, I move for the admission of Exhibits 1 through 8.

EXAMINER BROOKS: Which exhibit numbers?

MR. RANKIN: 1 through 8.

EXAMINER BROOKS: 1 through 8.

And now, let me understand this. This whole -- everything from white tab 1 to white tab 2 is

Exhibit 1; is that correct?

MR. RANKIN: That's correct, yeah.

EXAMINER BROOKS: And all these other numbers are just subnumbers within tab 1?

MR. RANKIN: Yeah. I'm referencing all those tabs.

EXAMINER BROOKS: So when you say Exhibits 1 through 8, that's all the exhibits; that's everything?

MR. RANKIN: That's correct, the whole ball of wax.

EXAMINER BROOKS: Okay. Exhibits 1 through 8 are admitted.

(Cobalt Exhibit Numbers 1 through 8 were offered and admitted into evidence.)

MR. RANKIN: Pass the witness. No further questions.

EXAMINER BROOKS: Okay. Mr. Jones is the specialist in this area, so I'm going to turn you over to him rather quickly.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. Let's see. You've got the Warren, the Consolidated. What was the other well?

A. The Hale State.

Q. Hale State. Okay.

You told us this, I'm sure, but I want to be sure.

A. Sure.

Q. What is -- what is your project here? What are you trying to do with these wells?

A. The project was to -- was to convert the Hale State 1Y and the Warren Number 2 to high-volume lift wells, which is a proprietary process. It's widely used, but we like to think of it as proprietary. There is competition; other people are doing this.

But we go in to certain water-dry formations -- in this particular case, the Devonian Formation -- and then we use submersible pumps to actually increase the area of influence and sweep more rock, increase the rate of production. But by doing that, you also do sweep more rock, so incrementally, you add more reserves. So in a -- in a simple state, we put a big ol' pump in this thing, and we -- we crank it up and produce as much fluid as the formation will allow us to.

MR. RANKIN: Mr. Examiner, to inject real briefly, I think the purpose at this high-lift is to convert the Consolidated State Number 3 well.

EXAMINER BROOKS: Is to convert what?

MR. RANKIN: The Consolidated State Number

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3 well to disposal, to injection, so seeking authorization to inject as through the Consolidated --

EXAMINER BROOKS: Well, I understand. I'm just trying -- I'm just asking beyond questions.

A. And so by doing that, by -- by increasing the rate of produced fluid that we are extracting from formation, we have to have a place to go.

Q. (BY EXAMINER BROOKS) You're to be producing a lot of water.

A. We're going to be moving a lot of water, yes.

Q. Yeah. And your objective with this new process, you're going to be producing from the Hale State and the --

A. And the Warren.

Q. -- and the Warren. You're not going to be producing from the Consolidated, because this is going to be an injection well?

A. That's correct.

Q. But you're going to be producing from the Devonian?

A. That's correct.

Q. And you said that the Strawn is the other -- that's the other --

A. The other formation.

Q. -- the other formation in which these wells are

complete, right?

A. That's correct.

Q. And you said that was complete?

A. That is correct.

Q. And besides gas, the worth is not anything --

A. Besides one or two dollars, yes, sir.

Q. So, you know, if you had been -- when you purchased this property, if you had been trying to decide what was worth what, you would have -- the Devonian is what you probably --

A. That's correct. We saw the potential in the Devonian and the high-volume lift.

Q. Okay. And do you have -- what kind of projections; what do you expect these wells will make?

A. What we are testing in hauled water, to our capacity -- we've got about 1,000 barrels of capacity on location, and these two wells -- initially, one of them came on at about 480. Of course, it dropped off. It was flush. But we're anticipating 100 to 200 barrels a day on these two properties.

EXAMINER BROOKS: I'll turn it over to Mr. Jones here.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. So only the Devonian wells. How far down will

you draw them? Will you draw them all the way to the perfs?

A. No. We actually set our pumps -- the Devonian is so -- is so porous, and we have -- really have to monitor the fluid levels. Our pumps are set at about 5,000 feet. So we'll be well above the perfs with that. And at 5,000 feet, running at about 60 to 70 hertz, we're still able to maintain, as the graph shows, about -- we want to keep at least 8- to 900 pounds of pump intake pressure. So I don't think there is a -- there is a way we could draw them down all the way to the perfs.

Q. So you're skimming them with submersible pumps, basically?

A. Basically.

Q. And so you anticipate 1,500 to 2,000 barrels a day, total, from both wells?

A. That's correct.

Q. And would that be expanded in the future through more completions in the area?

A. Actually, I don't -- this project kind of landed just as a package, so I doubt we're going to lease up anything else. There's really not anything else in there that's already completed. It's just kind of a turnkey deal. It had already been completed to the

Devonian and rod pump, so it's still easy to go in -- well, we thought it was going to be until the Strawn -- and you talk about a nightmare. It took us a while to figure out what was going on.

Q. It was a downhole [sic] formation?

A. That's correct.

Q. That commercial disposal well in the Strawn, how far away is it here?

A. From us, it's approximately -- I want to say 1,200 feet.

Q. Only 1,200 feet away?

A. Yes.

Q. How much are they putting into that well?

A. It looks like they have really backed off. Let's see. Where was the production -- I believe that was in the white tab.

MR. RANKIN: 8, maybe.

A. White tab 8.

Q. (BY EXAMINER JONES) Okay. Yeah, you showed us that one. That's per month -- monthly volumes there?

A. That is correct.

Q. So we're talking 2,000 barrels a month?

A. Correct. And that was -- that was -- that's a commercial disposal as well, so I'm not -- not exactly sure why they've fallen off, if they just haven't been

reporting. We are out in that area, so when we see some trucks running up and down the road, we're assuming they're going there. We're assuming they're still in operation. I'm not sure why that's a zero, but from what we understand, it's not plugged up and they're still operating.

Q. Okay. I guess the big concern is whether there's any Strawn or recoverable reserves in this area that would be affected by this well. And there seems to be several oil companies that you've noticed. Nobody objected?

A. No.

Q. Did you get any feedback from them?

A. Not a word.

Q. The nearest one would have been, what, Chesapeake?

A. To the north, yes.

Q. And they didn't say anything?

A. No. And if you look at the production of the Bubba State, I don't know if it was just -- well, it's marginally economic, at 20 barrels, and I believe there was -- I ran the numbers on what we're getting for our oil and gas in that area and that well. The lowest was about $3,400, in the last reporting month.

Q. The well you're looking at, it looks like --

you said something about the reported gas volumes were not correct?

A. Yes.

Q. So they were --

A. I'm not -- I'm not certain -- I'm not certain if, at one time, it was -- there was no -- there was no pump on this. And that's another thing to bear in mind, also. The Bubba State is not -- is not flowing any gas at that rate. It's still -- it's under artificial lift. It is on a pumping unit.

But we were under the impression, whenever we bought the property, that certain -- the production data supported that this well was making, you know, about what the Bubba State is making in gas but in fluids, that it was flowing. The -- all -- there is a single DCP sales meter that -- that services these three wells, and there was an allocation in the well test done at some point, okay, we're making this much, and -- you know, they closed them in and tested all these wells and allocated a certain percentage to the Consolidated State Number 3. So we have no idea when that was done. But whenever we got out there, opened the things up -- or it's open, and it's on a vacuum.

Q. Where is the pump at? Where was the pump? How deep was the pump?

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A. There was no pump. It was -- it was a flowing gas well.

Q. Did you try to pump it, the Strawn?

A. On the Consolidated?

Q. Yeah.

A. No, we have not.

Q. So since a couple of years ago, the well hasn't been -- so the production equipment has been --

A. The production was gone, and it was not -- there was no pumping unit on the -- on the location whenever we purchased it.

Q. So just tubing, open-ended tubing?

A. Correct. It was tubing going to the sales meter.

Q. You didn't attempt to finally produce this well further?

A. No, just because we had looked at the -- at the -- the project really hinged on us being able to divide these two Devonian wells and a good candidate for the disposing. And so all of the value in the Consolidated State 3 to Cobalt is as an operating -- dedicated disposal to these other two properties. So, no, we did -- we did -- we did not try to produce it at that point. We -- we -- certainly, we can't afford to bring in a pump and even to look at offsetting

production. We couldn't afford to bring in a pumping unit to pump it, to test it, you know, to make 20 MCF a day.

Q. Okay. So that's what you were expecting?

A. That's correct.

Q. You didn't have a volume of oil that you were expecting if you pumped it down?

A. No. No. The fluid level was so low.

Q. Oh, so you did see the fluid levels?

A. Yes. We did see fluid levels. Yes. The fluid levels were down 10,000 feet. It's at perfs.

Q. Oh, so the reservoir?

A. It's depleted.

Q. So what was the initial pressure on that well -- the initial reservoir pressure in the Strawn?

A. It's interesting. If you look at the initial production on that well, it did about -- it IP'd rather high. And in the first year, there was about 100,000 barrels, and it fell off that sharply.

THE WITNESS: Do we have that --

MR. RANKIN: I believe it's in the application packet.

It's Exhibit B, Mr. Examiner, I believe, but this just has the -- it's right in front of -- it's probably tabbed as tab 6, and it's a table showing a

production summary from the well.

But I believe -- Mr. Thompson, correct me if I'm wrong -- that this was actually production prior to 1993, correct?

THE WITNESS: That's correct.

MR. RANKIN: Originally completed in --

THE WITNESS: 1986.

EXAMINER JONES: 1986.

A. So in '93, you're showing 1,000 barrels Cum, so you're right at 100 [sic] barrels a month, and then it drops off sharply. You begin to see the gas-oil ratio take a separation, which is indicative of a reservoir that's been depleted -- or been depleted, as you start to see that split zone.

Q. (BY EXAMINER JONES) Yeah.

A. But we went in -- in 2011, prior to us acquiring, you can -- we can begin to see -- of course, the commodity price for natural gas being what it is, but you can also see the economics waning as production begins to drop off, and then in 2012, when we recognized the error that's been made as well.

Q. So the zero and five are more indicative of what it would flow right now?

A. Well, yeah. Yeah.

Q. And as far as your application says, you're

going to perforate some more Strawn down below. How did you identify that, and what potential does that have for production?

A. We had -- we looked at logs in that certain area, and they only -- they shot -- shot the tops of the Strawn there. Certainly is typical of a reservoir.

Q. They're worried about water?

A. Exactly. However, it was a -- it was a vain concern, because knowing what we know -- and if you look at some of the well cuts in the area, and especially, you know, the initial cuts as they IP, and even in wells matured for five or six years, the -- the cuts are hanging in there. There's -- there's -- there's -- it's just not very wet. It's not a wet formation. So --

Q. So you don't know what exactly you're going to get when you perforate down below?

A. No, but --

Q. You're not planning on testing it either?

A. No. That's correct. But if we -- if we're able -- if we're able to inject into the perfs that are there, include them up with the acid job, then certainly we're -- if we can still maintain the well in the vacuum -- we're fairly certain it's going to take that amount of fluid -- then we may not even go down and re-do those perforations. That was just a -- it

wouldn't take the volume, and I'm certain it will.

Q. Are all the logs that you looked at on this well available to us to look at on the Web site?

A. Yes. I actually pulled those off, yes.

Q. It sounds like a limited reservoir here. Did you talk to a geologist and get a map of the Strawn in this area?

A. We have -- we have a map in-house that we consulted and looked at in the Strawn, and just going off the offsetting production and everything, we're not really sure. As far as everything -- as far as updip from everything or having any geological anomalies that are -- are enticing, there's nothing there. It's pretty flat throughout that entire area. And it appears -- it appeared to us that it would just be something that would not be looking at offset production. And the age of the field, the maturity of the field didn't -- it didn't entice us to want to go drink it up.

Q. Can you compare the Devonian oils to the Strawn oils as far as the -- the API, at least.

A. It's -- the Devonian oil that we came on is a -- it's a beautiful oil, beautiful green. It's -- I would be speculating on the weight. I could certainly get you that information.

Q. That's all right.

A. But it's -- it is a -- it is green, light crude. It's worth quite a bit. And from my understanding of what the Strawn is in that area, it's probably about a 42 API.

Q. Strawn's good, too?

A. Yeah.

Q. Can you tell us a little more about the geology of the Strawn? Has it got an Algo [sic] mounds out here, or is it -- is it a lenticular stratigraphic reservoir?

A. Let me see if we have a characterization here.

Q. Would it be fair to ask you guys to send us --

A. We have -- we have a characterization of that reservoir. Yeah, we can certainly send that to you. I don't believe we have any of that included in this.

Q. Even a statement from a geologist would be --

A. Beneficial?

Q. Yes, it would.

A. Okay.

MR. RANKIN: Mr. Examiner, what exactly -- what kind of statement would you like?

EXAMINER JONES: A statement as to the productivity of the Strawn in this area and the type of reservoir, the potential for any other development, suitability --

THE WITNESS: Particularly in the Strawn; just in the Strawn?

EXAMINER JONES: Just in the Strawn.

THE WITNESS: Okay.

EXAMINER JONES: And a little statement about the zone that you might perforate down below, whether that was, you know --

THE WITNESS: Whether it was looked at, formations in that area?

EXAMINER JONES: Yeah.

And other than that, I don't have any more questions.

EXAMINER BROOKS: I have no more questions.

MR. RANKIN: Can I just ask a few follow-up questions?

EXAMINER BROOKS: Yes, you may.

REDIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Thompson, just briefly, part of -- the reasons for Cobalt's interest in this well was because prior operators had proposed it for a P&A prior to your purchase; is that correct?

A. That is correct.

Q. And that was in 1999 and, again, 2003?

A. Yes.

Q. And that suggests to you that they had probably already evaluated the potential zone to be perforated?

A. I'm assuming they would have, yes.

Q. Thank you, Mr. Thompson. No further questions.

EXAMINER BROOKS: Okay. Very good. If there is nothing further, then Case Number 14834 will be taken under advisement.

Let's take a ten-minute recess.

(The hearing concluded, 9:20 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 14834 heard by me on 5-10-2012.

David K. Brooks, Examiner
Oil Conservation Division

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, MARY C. HANKINS, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects the exhibits, if any, offered by the respective parties.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

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