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

APPLICATION OF CAPSTONE NATURAL RESOURCES, LLC FOR REINSTATEMENT OF AUTHORIZATION TO INJECT FOR WATERFLOOD PROJECT OPERATIONS, EDDY COUNTY, NEW MEXICO.

CASE NO. 15036

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 5, 2013

Santa Fe, New Mexico

BEFORE: DAVID K. BROOKS, CHIEF EXAMINER
PHILLIP GOETZE, TECHNICAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, David K. Brooks, Chief Examiner, and Phillip Goetze, Technical Examiner, on Thursday, September 5, 2013, 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 CAPSTONE NATURAL RESOURCES, LLC:

J. SCOTT HALL, ESQ.
MONTGOMERY & ANDREWS LAW FIRM
325 Paseo de Peralta
Santa Fe, New Mexico 87501
(505) 982-3873
shall@montand.com

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EXHIBITS OFFERED AND ADMITTED

(8:19 a.m.)

EXAMINER BROOKS: Call Case 15036, application of Capstone Natural Resources, LLC for reinstatement of authorization to inject for waterflood project operations, Eddy County, New Mexico.

Call for appearances.

MR. HALL: Mr. Examiner, Scott Hall on behalf of the Applicant, Capstone Natural Resources. We have one witness this morning.

EXAMINER BROOKS: Very good.

Any other appearances in that case?

Very good.

Will the witnesses stand and identify themselves?

MR. HYATT: My name is Sherman Hyatt, H-Y-A-T-T.

EXAMINER BROOKS: Will the court reporter please swear the witness?

SHERMAN HYATT,

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

MR. HALL: And at this time, we'd ask Mr. Hyatt to take the stand.

EXAMINER BROOKS: Please do so, over here to my left.

DIRECT EXAMINATION

BY MR. HALL:

Q. For the record, state your name.

A. My name is Sherman Hyatt.

Q. Mr. Hyatt, where do you live, and by whom are you employed?

A. I live in Tulsa, Oklahoma, and I am an advisor to the Capstone Natural Resources.

Q. And what is your profession?

A. Petroleum engineering.

Q. And it's been some time since you believe you've testified before the Division. Why don't you give the Examiners here a brief summary of your educational background and work experience to get you qualified?

A. Yes. I testified in the mid-1970s, a few years ago.

So my educational background, I have a bachelor of science degree and a master of science degree in petroleum engineering from the University of Tulsa. I have over 40 years of oil and gas industry experience. I've worked for five major oil companies, which I can name if need be. I've also worked for five various independent-sized independents in the industry. And the areas of where I worked are many, but primarily

in Texas, New Mexico, Oklahoma and Louisiana.

Q. And you're familiar with the application that's been filed in this case and the lands that are the subject of the application?

A. Yes, I am.

MR. HALL: At this point, we would re-offer Mr. Hyatt as a qualified petroleum engineer.

EXAMINER BROOKS: Well, he appears to be so qualified.

THE WITNESS: Thank you.

Q. (BY MR. HALL) Mr. Hyatt, let's turn to Exhibit 1 and orient the Hearing Examiners. Explain what it is Capstone is seeking by its application.

A. Here it is. Exhibit 1.

Q. Where are these lands?

A. Exhibit 1 shows the location of Section 11, 17 -- Township 17 South, Range 31 East, in Eddy County, New Mexico. It depicts the area of review, which encompasses the area of a half-mile radius, or radii, of the three wells in which Capstone is seeking to reinstate as injectors. It's outlined in kind of the Mickey Mouse-looking face there.

Q. Go ahead.

A. The injectors are labeled with their names, the Lea C Federal 4, 7 -- or proposed injection, I should

say. Are listed, Lea C Federal 4, 7 and 15, and also denoted by triangles around the wellbore site. Also depicted here are all the wells, regardless of depth, that lie within the area of review and immediately outside the area of review.

Q. Let's turn to Exhibit 2. Would you identify that, please?

A. This is the application, C-108, to reinstate Lea C Federal Waterflood.

Q. And was the C-108 filed administratively with the Division by SOS Consulting at Capstone's direction?

A. Yes, it was, on April 19th, 2013.

Q. Let's discuss the components of the application, if you would. Let's turn first -- we've marked Exhibit 2 page by page. It's paginated. So turn to pages 5, 6 and 7 and identify those for the Hearing Examiner.

A. Not to include 8?

Q. And 8.

A. Okay. 5 through 8. All right. 5 through 8 are well schematics of the three proposed reinstatement injectors and a composite of the injection well on the Lea C 8 lease -- Lea C lease -- I'm sorry -- which is page 8.

The schematics depict the casing design for

each well, with the surface casing being eight-and-five-eighths for all three wells. The production casing is five-and-a-half inch on all three wells, and I guess I'll go through each one because they're somewhat unique.

Number 4 was originally drilled through the San Andres in open hole and -- casings set at the pump at the San Andres and then produced open hole in 1961.

In 1972, Grayburg perfs were opened in the well, and in 1974, this well was converted into an injector.

On page 6, Lea C 7 was drilled in 1972, same casing design. However, it was a San Andres -- Grayburg-San Andres producer until 1974, in which it was converted to an injector.

Number 15 was drilled in 1972. It has a similar design. It was Grayburg-San Andres producer, and it was converted in 1977 to an injector.

And I might add that on the cement behind -- the surface on all these wells -- the surface casing has cement to surface. And the production, the lowest top of cement is some 1,460 feet from the surface.

Q. All right. If we look at the left side of each of those pages, 5 through 8, does it provide a little

bit more detail of the regulatory history per each of the wells for this project?

A. It provides some. I think we probably should give a little more history of the whole lease.

Q. You earlier mentioned that this project was initially approved for injection operations in 1974. If you look on each of those exhibits, is that by virtue of Order Number RS-4697?

A. Yes, sir, it is.

Q. And is that the authorization that Capstone is now seeking to reinstate?

A. Yes, it is.

Q. What else do you have to add to that? When did Capstone acquire these?

A. Capstone acquired these in April of 2012. This lease has been neglected. Production was about two barrels of oil per day. And currently, it's between 55 and 65 barrels a day.

After Capstone became the operator, they re-entered each well, conducted a casing -- mechanical -- excuse me -- mechanical integrity tests on the casing of each well and found them to be intact. They were approved by the -- the tests were approved by the BLM.

Q. So over the lives of each of these wells, they

have been alternately producers, injectors, producers again. Some had temporary abandonment status; is that right?

A. Yes. I probably should go through a little bit of the history.

Q. Why don't you do that.

A. The lease was -- the first well was drilled in '59 by Skelly Oil Company. It was Grayburg producer. And we will go into the geology later to designate what is Grayburg and what is San Andres. It was Grayburg producer, and it came in around 65 barrels a day. They drilled a number two in 1960, a Grayburg producer only, for 250 barrels a day. They drilled a number three, also a Grayburg producer in '61. Three additional wells were drilled as Grayburg-San Andres wells in '61 and '62.

In May of '72, the production was down to about 18 barrels a day, and Skelly Oil Company began the procedures to begin waterflood operations and getting approved from the OCD in May of 19- -- let me see here. They got approval of the waterflood injection in January of 1974.

In 1972 -- I need to back up here. In 1972, they drilled an additional ten wells to fill out all the 40-acre spacing in this 640 acres. They also

went and deepened the first three wells, to include the San Andres, so they could also be part of the water -- San Andres could be flooded by the waterflood. And also number four, the Grayburg was opened. So by 1974 -- the operations for water injection began in May 1974, and production had fallen to around 70, 80 barrels; and by March 1975, production was up 180 barrels a day.

Production began to decline, and Getty, successor to Skelly, obtained approval to confer two more wells in 1976 and again in 1977, two more wells. So an additional -- a total of -- an additional four wells or a total of seven injectors.

Q. If we look at page 7, the regulatory history for Well Number 15, it indicates it was converted to injection in 1977. Is that by virtue of Order WFX-449? Is that one of the wells that was ordered at that time?

A. 449, yes, it is, WFX-449.

Oil production continued to decline at a lesser rate under the waterflood injection. However, by 1970 -- or by 1994, Texaco, the successor to Getty, ceased injection and temporarily abandoned all of the injectors. Production dropped to 24 -- to four barrels a day in 1998. I should say, in 1995, Wiser Oil Company took over for Texaco and began a restimulation program and increased production up to 24 barrels a day, but by

2011, production had dropped to two barrels of oil per day. And a company called Westbrook Energy bought the lease from Wiser, and subsequently, Capstone bought the lease from Westbrook.

Q. All right. Let's talk about what Capstone is proposing for its injection project. First, will the fluids be injected under pressure? Are you proposing to do that?

A. Pardon? I'm sorry?

Q. Is Capstone proposing to inject fluids under pressure?

A. Yes, we are. Yes, we are.

Q. And are you proposing that all the wells be equipped with a back-pressure valve?

A. Yes, we are.

Q. And what are the average and maximum daily injection pressures you anticipate?

A. Well, we anticipate around 650 pounds -- or psi as our maximum. We are going to -- Capstone is going to run -- separate tests is the term, if that pressure is sufficient. We may have to increase it at a later date.

Q. And will the project be a closed facility?

A. Yes, it will. It will have separate injection facilities from the current production facilities.

Q. And what do you anticipate the average and

maximum injection rates to be?

A. Well, the maximum rate will be 300 barrels of water per day, which is currently the maximum produced water rate that the Lea C produces.

Q. Is that per well or per project?

A. That's per well. The average will be 100 barrels per well.

Q. Why don't you tell the Hearing Examiner about the chemical analysis for the injection fluids?

A. It's produced water. It has a salinity of -- or total solids of 80 -- approximately 81,000 parts per million. It's salt water.

Q. And have the Grayburg and San Andres Formations in the vicinity of the project area been recently defined by development?

A. It has totally been defined, yes.

Q. It's fully developed on --

A. It's fully developed on 40 acres. However, Capstone obtained approval to drill three 20-acre space wells in 2013, and have done so.

Q. If the Division approves Capstone's project, do you anticipate you'll be able to produce incremental volumes of oil that will otherwise go unrecovered?

A. Yes. Capstone estimates current production will recover approximately 58,000 barrels, and with

injection, we estimate we will recover an additional 58,000 barrels due to reducing the decline rate by increasing bottom-hole pressure, by reducing operating costs and by improving the water-injectivity profiles in each injector.

Q. With respect to the actual project area that Capstone's designating, is that comprised of all of Section 11?

A. Yes, it is.

Q. And does Capstone own or control all of the working interest in Section 11?

A. They control 100 percent of the working interest in Section 11.

Q. Is it a single lease that covers the entire section?

A. Yes.

Q. It's a federal lease?

A. Yes.

Q. Let's turn to Exhibit 3 now, your geology exhibits. If you would provide the Examiners with a overview of the geology for the Grayburg and San Andres Formations in the area.

A. To begin with, Exhibit 3 is a structure map showing -- showing the structure of the top of the San Andres. The structure dips to the southeast. This

exhibit is for information only because the structure does not play in the recovery of hydrocarbons here.

Q. What's the next page there?

A. The next one is -- this is a gross isopach map of the Grayburg-San Andres. It thins towards the northeast. I might add that the porosities range from 3 to 14 percent, with an average of 5 for the Grayburg and 4 for the San Andres.

Q. Do we know what the permeabilities are, for this hearing?

A. Oh, yes. We do not. There were no cores taken in the immediate area. However, it's -- probably taking other San Andres data for permeability, the permeability ranges probably from .01 to 10 millidarcies.

Q. What does page 3 of Exhibit 3 show us?

A. This one (indicating)?

Q. (Indicating.)

A. This is a net isopach map of the Grayburg-San Andres. It depicts the net feet of pay for porosities greater than nine percent. This is the cutoff that Capstone uses in their evaluation. You can see that we have a high of net pay through the center of the lease and somewhat of another high over to the southeast.

Q. Let's look at your cross sections now, and let me ask you: Do you have blowups for the Hearing

Examiners?

A. I have blowups for the Commissioners [sic] to look at. Do you want to show all three right now?

Q. Let me ask you: Do each of the three cross sections run through each of the injectors?

A. Yes. Each of these exhibits has the injector and all the offset wells in the cross section.

Q. If you look at the bottom, right-hand corner, there is a title block. It says: "Lea C Federal Number 4." Do you want to start there?

A. Yes. Yes, I see it now.

The Lea C Federal Number 4 shows the offset wells that are 8, 18, 5 and 17. The purpose of all these exhibits of the cross sections is to show the take points from the injectors or proposed injectors. And as you go across each one of these cross sections, you'll see that there are take points in the offset wells.

Also, I said I would differentiate the Grayburg and the San Andres here. The Grayburg -- this cross section is set on the Grayburg, the top of the Grayburg, and all these names out to the side are names of individual sands that have been identified in the Grayburg. The Grayburg is mainly sand sequences with dolomite between.

And then we have the top of the San Andres,

which is depicted in green. And this is mainly dolomite, with one little sand called the Lovington, which is depicted in yellow. This is a lot tighter than the Grayburg.

Q. In your cross sections for each of the three wells, are you seeing a number of salt zones in the anhydrite zones?

A. Not in the cross section, but for vertical barriers, the best -- as far as this cross section goes, the best vertical barrier is the very top of the Grayburg. It's very dense. But there are some anhydrite zones above the Grayburg that serve as vertical barriers.

Q. So from your geologic analysis, in conjunction with Capstone's geologists, are you confident that the injection fluids will remain contained within the injection interval?

A. Yes, I am.

Q. Anything further with respect to the other two cross sections?

A. They're similar. It just shows the injector with the corresponding surrounding wells.

Q. Is this particular interval of the Grayburg and San Andres productive in this vicinity?

A. It's productive in the whole section, in all of

Section 11, yes.

Q. If we refer back to the C-108 and page 10 of that --

A. Page 10?

Q. Yes, sir.

Does it reflect your area of review for your geologic evaluation?

A. Yes. This is a plat showing the area of review of the sand and the leasehold of Section 11 and the surrounding sections.

Q. In the area, is there any non-San Andres production above the injection interval?

A. Yes. There are two Seven Rivers -- Seven Rivers wells approximately 2,500 feet.

Q. And are those the Lea C Numbers 2 and 12?

A. Yes.

Q. And how about below the injection interval? Is there production?

A. There are quite a few wells in the Yeso, which is around 6,800 feet.

Q. And if we refer to the C-108 in pages --

A. 11 through 14?

Q. Yes, sir. What does that show us?

A. This table shows all the wells that are within the area of review. It includes Grayburg-San Andres

wells, Seven Rivers, Yeso. And, also, there are six wells that were supposed to be drilled, and there is no evidence that they have been drilled on this list.

Q. Except for those wells, do all of the other wells penetrate the injection interval?

A. Yes, they do.

Q. Let's look at pages 15, 16 and 17. What are those?

A. These are schematics of three wells that are within the area of review, which have been plugged and abandoned. The first well being the Lea C, which was plugged this year, January 24th, 2013; the Texmack 11 Federal #2 was plugged in November 1998; and the Poteet Strawberry Federal No. 1 was PA'd in April 2006.

Q. And are each of these wells also included in your list, starting at page 11, as having penetrated the injection interval?

A. Yes. Yes.

Q. Again, referring back to the information on pages 11 through 14, was available data sufficient for you to determine the casing depths and to accurately calculate cement tops with confidence?

A. It was available either through well files or the OCD Website files.

Q. Was the data sufficient to allow you to

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calculate --

A. Yes.

Q. -- the tops and bottoms?

Is the answer to my question yes?

A. Yes.

Q. Okay. From your review, did you see any evidence of casing leaks in any of the wells?

A. There was one casing leak -- see if I can -- I should remember that. In the Lea C Number 14, in December 1994, a casing leak was detected from 494 to 557 feet and was repaired by cement screed method.

Q. Are you satisfied now that the condition of all of the wells penetrating the injection interval are such that they won't serve as conduit for fluids escaping the zone?

A. Yes, I am. We've -- Capstone, like I've said previously, has run mechanical integrity tests on all these wells this year.

Q. Tell us about the freshwater aquifers in the area?

A. There's only one that I identified. It's the Santa Rosa, where the bottom of the Santa Rosa is at 630 feet.

Q. If we turn to page 19 of the C-102 [sic] --

A. 19, yes.

Q. -- it indicates there are no freshwater producers within the area of review. Do you agree with that?

A. Yes, sir. We obtained this data from the New Mexico Office of the State Engineer, and it indicated no known freshwater wells in the area of review.

Q. Does the geology indicate that there are any freshwater aquifers below the injection interval?

A. No.

Q. From your review of the available geologic and engineering data or evidence of other hydrologic connections between the waterflood zone, any source of underground drinking water, are you satisfied that any connections exist?

A. None at all.

Q. Let's look at page 21 of the C-102 [sic] -- actually, 21 through 31. Is that evidence of notification to surface owners, operators, lessees of records of Capstone's application?

A. Yes, it is.

Q. Did Capstone receive any objections to its administrative application?

A. We received one objection from the BLM, and those differences have been resolved.

Q. Is it your understanding that the BLM has communicated their waiver of objections to the Oil Conservation Division?

A. Yes, I am [sic].

Q. If you'll look at what we will mark as Exhibit 5, is that a letter from the BLM, dated September 4th, 2013, to the OCD?

A. Yes, it is.

Q. And does it indicate they are waiving their objections to the project?

A. Yes, it does.

Q. In the future, do you perceive the need to come back to the Division and request a higher injection pressure?

A. There's a possibility that we will have to come back to the Commission, yes.

Q. How will you make that determination?

A. Once we begin injecting these wells, we'll run some step-rate tests and determine if the production -- or the pressure is sufficient to inject, which is currently 662 pounds, I believe.

Q. In your opinion, Mr. Hyatt, will injection operations pose any threat of impairment to correlative rights or the waste of hydrocarbon resources?

A. None at all.

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Q. And can the project be operated so that the public health and safety and the environment will be protected?

A. Yes.

Q. In your opinion, will granting Capstone's application promote the interest of conservation, result in the prevention of waste and the protection of correlative rights?

A. Yes.

Q. And let me ask you about Exhibits 1 through 3. Were they prepared by you or at Capstone's direction, by Capstone's consultants?

A. They were prepared by me or by Capstone's direction prior to my involvement in the project.

MR. HALL: And at this point, Mr. Examiner, we'd also offer Exhibit Number 4, which is our Notice of Affidavit for the hearing application sent to the BLM. We'd also move the admission of Exhibit 5, which is BLM's letter.

That concludes our direct to the witness.

EXAMINER BROOKS: Have you tendered -- which exhibits have you tendered?

MR. HALL: 1 through 5.

EXAMINER BROOKS: Okay. 1 through 5 are admitted.

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(Capstone Exhibit Numbers 1 through 5 were offered and admitted into evidence.)

EXAMINER BROOKS: I don't have any questions of the witness.

I would imagine our geologist would have some questions, so I'll defer to him.

EXAMINER GOETZE: Very good. Thank you.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. First question: I notice that the BLM letter states that there's going to be some additional makeup water that's going to be necessary to meet the results of the waterflood project. Where is that coming from?

A. Capstone has one or two wells which we can knock out a bridge plug and produce additional produced water, and, also, we can obtain Grayburg-San Andres water from offset operators.

Q. So your intentions are to keep it on lease?

A. Initially, yes.

Q. So currently there is no injection; there is no production, or are we just --

A. Currently, it's no injection, but it's producing between 55 and 60 barrels a day.

Q. As far as location of injectors --

A. Yes, sir.

Q. -- 15, how are you going to control -- with its proximity to the lease boundary, what does this play in the three-spot that you've got going here?

A. Yes. Our only take point is an offset operator --

Q. Uh-huh.

A. -- which that offset operator has not objected to this. If they had objected, we probably would have changed it. If the injection helps move oil to our three, it'll move it across leaselines. But BLM is the leaseholder -- owner in Section 12.

Q. And do we have any information on the current reservoir conditions as far as pressures and --

A. We have a static fluid test that was taken in June of 2013 on Number 6. That test indicated the current bottom-hole pressure is 400 psi.

Q. Thank you.

EXAMINER GOETZE: I don't have any more questions of this person -- of this expert at this point, but we will need to go through the C-108 individually and look at the wells as part of our process.

THE WITNESS: I understand, yeah.

EXAMINER GOETZE: I have no more questions. Thank you.

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MR. HALL: Mr. Examiners, I do have copies of the earlier injection orders if you'd like to have those.

EXAMINER BROOKS: Does it relate to this same area?

MR. HALL: Same project, same area.

And with that, we ask that the case be taken under advisement.

EXAMINER BROOKS: Okay. Very good. In the absence of anything further, Case Number 15036 will be taken under advisement.

THE WITNESS: Thank you for your time.

EXAMINER BROOKS: And we will take a ten-minute recess. It looks like we have three more matters.

(Case Number 15036 concludes, 8:58 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 15036 heard by me on 9-5-2013.

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.

Mary C. Hankins

MARY C. HANKINS, CCR, RPR
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