#### STATE OF NEW MEXICO

# ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 12,667

APPLICATION OF DOYLE HARTMAN OIL )
OPERATOR FOR CORRECTION OF DIVISION )
ORDER NO. R-3621, LEA COUNTY, NEW MEXICO )

ORIGINAL

#### REPORTER'S TRANSCRIPT OF PROCEEDINGS

### EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

June 14th, 2001

Santa Fe, New Mexico

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This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, June 14th, 2001, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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# APPLICANT'S WITNESS:

# STEVE HARTMAN (Engineer)

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REPORTER'S CERTIFICATE

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#### EXHIBITS

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#### APPEARANCES

# FOR THE DIVISION:

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#### FOR THE APPLICANT:

GALLEGOS LAW FIRM
460 St. Michael's Drive, #300
Santa Fe, New Mexico 87505
By: J.E. GALLEGOS

#### ALSO PRESENT:

RICHARD EZEANYIM Chief Engineer New Mexico Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, NM 87501

\* \* \*

1	WHEREUPON, the following proceedings were had at		
2	11:25 a.m.:		
3	EXAMINER CATANACH: Okay, at this time I'll call		
4	Case 12,667, which is the Application of Doyle Hartman Oil		
5	Operator for correction of Division Order Number R-3621,		
6	Lea County, New Mexico.		
7	Call for appearances in this case.		
8	MR. GALLEGOS: Mr. Examiner, Gene Gallegos, Santa		
9	Fe, New Mexico, appearing for the Applicant, Doyle Hartman.		
10	EXAMINER CATANACH: Okay, call for additional		
11	appearances.		
12	Okay, do you have witnesses, Mr. Gallegos?		
13	MR. GALLEGOS: We have one witness, Mr. Examiner,		
14	Steve Hartman.		
<b>1</b> 5	EXAMINER CATANACH: Okay, will the witness please		
16	stand to be sworn?		
17	(Thereupon, the witness was sworn.)		
18	STEVE HARTMAN,		
19	the witness herein, after having been first duly sworn upon		
20	his oath, was examined and testified as follows:		
21	DIRECT EXAMINATION		
22	BY MR. GALLEGOS:		
23	Q. Would you state your name, please?		
24	A. Steve Hartman.		
25	Q. Where do you live, Mr. Hartman?		

Α. Midland, Texas. 1 By whom are you employed? 2 0. Doyle Hartman Oil Operator. 3 Α. Is that any relation to --Q. 4 5 Α. Yeah, he's my father. What is your education, Mr. Hartman? 6 Ο. 7 I attended the Colorado School of Mines, studied Α. 8 petroleum engineering, finished in 1994, and after I finished my studies there I went to work for my father in 9 May of 1994 and have been employed as a petroleum engineer 10 11 since. Okay. And generally what are your duties as a 12 Ο. petroleum engineer for Doyle Hartman Oil Operator? 13 14 Α. Overseeing daily operations, workover and drilling and completion-type work. 15 Okay. Are you personally acquainted with the 16 Q. character and features of the McKinney State Well Number 1 17 and have you personally supervised work that has been done 18 on that well recently? 19 20 Α. Yes, I am. And yes, I have. 21 MR. GALLEGOS: Okay. We ask that Steve Hartman 22 be permitted to express opinions as an expert petroleum 23 engineer. 24 EXAMINER CATANACH: Mr. Hartman is so qualified. 25 Q. (By Mr. Gallegos) Are you acquainted with the

Application in this matter, Mr. Hartman?

A. Yes, I am.

Q. Okay, and what is the Applican

- Q. Okay, and what is the Applicant seeking by the Application?
- A. We'd like to amend the disposal interval in the McKinney State Number 1. It was back in 1968 when the Division made the order, handed down the order, and it was improperly stated that the disposal interval was from 3141 feet to 3210.
- Q. Okay. Have you researched the proceedings in Case Number 3978, which originally authorized the McKinney State Well to be used as a saltwater disposal well?
  - A. Yes.
    - O. And the Order R-3621?
- 15 A. Yes.

- Q. And have you researched the actual use of this well since 1969 as a disposal well, both in the records of the Division and in the actual use of that well by Hartman, since it was acquired by Hartman in 1986?
  - A. Yes, we have.
- Q. Okay, so then is the purpose of this Application for the Division to recognize the true depth of the injection interval?
  - A. Yes, it is.
  - Q. Okay, and the correction of the error in Order

R-3621, which misstates that interval? 1 2 Α. Yes. Okay. And have you prepared exhibits in support 3 0. of this Application? 4 Yes, we have. 5 Α. Okay, let's go through those in sort of summary 6 Q. 7 fashion, Mr. Hartman, starting with Exhibit Number 1. 8 Generally, what does this show? Α. Exhibit Number 1, on the first page, is a wellbore diagram of the well in its current state right 10 11 now, and behind the wellbore diagram we have the well 12 chronology from the time it was spud until the present. 13 All right, let's come back to this diagram and Q. 14 the information on it a little later, and if you'll just 15 kind of go through the chronology concerning this well, and as you do so, would you relate the exhibits that may have 16 17 some relevance to particular events shown here? 18 Α. Yes, yes, I will. 19 Okay, on November 9th of 1948 the original 20 operator, R. Olson, they set 10-3/4-inch surface casing at 21 298 feet and cemented it with 200 sacks of cement and 22 circulated the cement to the surface. 23 March 4th of 1949 they commenced drilling the 24 8-3/4-inch production hole.

On March 22nd of 1949 they set the 7-inch

production casing in that well at 3148 feet, with 500 sacks of cement.

Then on March 25th, 1949, while drilling below the 7-inch OD casing and at a depth of 3210 feet, open hole interval 3148 to 3210 was acidized with 2000 gallons of acid. I presume they saw some shows in there and they wanted to test that interval before they commenced -- or completed drilling the rest of the open hole interval.

- Q. Okay, in those days was that sort of the practice, you'd use the same rig to --
- A. Yes, at that time it was a common practice to drill and complete your wells with the same rig.

On March 31st, 1949, they finished drilling the 6-1/4-inch open hole from 3148 to a total depth of 3490.

And then in April, April 5th of 1949, on their C-105, which is Exhibit Number 2, it is the last three pages, this is the C-105 that the original operators filed with the OCD, and they stated on that C-105 that there's a good show of oil from 3390 to 3490.

And April 20th of that year --

- Q. 3490 being the TD?
- A. The total depth, TD of the well.
- Q. Okay.

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A. And April 20th they flow-tested the well, the open hole interval, through a 15/64 choke at a rate of 9

barrels of oil a day and 2000 MCF of gas.

And in July of -- July 1st of 1949, they ran a gamma-ray neutron log in the well.

In Exhibit 3 it states that the loggers found the TD in that well to be 3479, and they found the bottom of the 7-inch casing at 3137. That's stated right there on the log header.

And then late July to early August of 1949 they went in and stimulated the open hole interval from 3360 to 3450 with 100 quarts of nitroglycerine, and that is stated here on our C-103, which is attached with our C-105.

- Q. Which is Exhibit --
- A. Exhibit Number 2. And there's two pages of Exhibit Number 2.

Okay, and then after that --

- Q. It went through various changes of operators --
- 17 | A. Yes.

- 18 Q. -- I think we can move on by that. And then the
  19 well went out of production --
  - A. Yes, in May of 1968 was the last month of production. It produced 40 barrels of oil, 2000 MCF, 2200 MCF of gas and 279 barrels of water.
  - Q. Okay. Did that bring it to the history of this well where the then operator sought from the Division approval to use the well for water disposal?

1 Α. Yes. 2 Q. Okay. Α. Yes. 3 Would you go the exhibits that you have in your Q. 4 packet there that relate to that proceeding? 5 Yes, Exhibit Number 4, we have the original Α. 6 7 application for Case Number 3976, Texas Pacific seeking approval to convert the McKinney Number 1 to a saltwater 8 9 disposal well. And what was the injection interval that was 10 Q. stated in that --11 The injection interval that they originally 12 Α. 13 applied for was 3148 to 3450 feet. Q. Okay. And then do you have a copy of the 14 15 transcript --16 Α. Yes, and we have a --17 Q. -- in Case 3976. 18 Yes, we've got a copy of the transcript here. Α. Was there one witness in behalf of the 19 Q. 20 application by the name of John Walters? 21 Α. Yes, there was. Okay, and is there some particular testimony -- I 22 Q. think it appears at page 4 and 5 of that transcript that 23 you'd like to call to the Examiner --24

Yes, at the bottom of page 4 of Exhibit Number 5,

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Α.

the witness, Mr. Walters, states that:

Our original application shows that we applied for injection into the interval 3,148 to 3,450. However, a check of our records has shown that the well had been plugged back at an earlier date, and the interval that we propose to use will be 3,148 to 3,210, the current plug-back depth, this being an open-hole disposal.

- Q. Did that injection interval, then, at a total depth of 3210, end up being reflected in Order R-3621?
  - A. Yes, sir.
- Q. Okay. Is there something that you found in the record that would indicate to you the source of Mr.

16 | Walters' error?

- A. Yes, the only place that I can find in the records where he came up with the 3210 is on -- in Exhibit 2, on page 4 of the Exhibit, there's -- under the "Record of Shooting or Chemical Treatment" it says they acidized from 3148 to 3210 with 2000 gallons of acid.
  - Q. And presumably Mr. Walters --
- A. Yeah, that's the only assumption I can make, is where he came up with 3210.
  - Q. In fact, do the records reflect that the well was

never plugged back?

- A. Yes, that's correct, there's no record or mention anywhere in the well file or OCD files of the well ever being plugged back to 3210.
- Q. Okay, did Doyle Hartman become the owner and operator of that well in 1986?
  - A. Yes, he did.
- Q. And since 1986, what has been the injection interval?
- A. Since 1986 the injection interval has been from 3148 to 3490, the TD of the well.
- Q. And from all indications, both records and in the field, was that the injection interval before operatorship by Doyle Hartman?
- A. Yes, yes.
- Q. If you'll -- What brought this matter to your attention recently, Mr. Hartman?
- A. Beginning in March of this year, we decided we wanted to go into the McKinney Number 1 and log the well because we're considering drilling -- We've got an offset lease and we're considering drilling a well on that offset lease, and we wanted to log the McKinney Number 1 to get an idea of what the Jalmat section looks like in the well, and also we wanted to make sure that the water's going where we thought it would be, so when we drilled the new well we

wouldn't end up with a water well.

And in the process of doing that, we rigged up on the well, pulled out of the hole with the old injection tubing and the -- They had a Baker Model 81 packer in there; we pulled out of the hole with that and the tubing, and then we ran in the hole with a bit and drill collars and 2-3/8-inch tubing and proceeded to clean out the well.

- Q. Now, if it had ever been plugged back, you certainly would have known that and --
  - A. Yes.

- Q. -- the result of that process?
- A. Yes, and we cleaned out the well from the bottom of the 7-inch casing all the way to the bar measurements. We found the TD at 3483. And in the process of cleaning out the well we did not encounter a bridge plug or retainer or any cement or anything like that.
- Q. But in the process of doing that, were you contacted by somebody from --
- A. Yes --
- Q. -- the Division?
- A. -- when we rigged up on the well, the day we pulled out of the hole with the original tubing and packer, I think it might have been Buddy Hill from the OCD in Hobbs came out and asked if we had filed a notice of intention, and I informed him that we did not.

And he just said, Well, next time make sure you do that.

And I said all right.

And then the following day when we were cleaning out the well, Mr. Gary Wink came out and notified us that we weren't allowed to go below 3210 because he said that's what the original injection interval in the order stated, from 3148 to 3210, and I informed him that, you know, the well had never been plugged back or anything like that, and we were just cleaning it out to the original TD.

- Q. But did you discontinue use of the well as a water disposal well at that time?
  - A. Yes, at that time.
  - Q. Okay.

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- A. We finished our cleanout operations and finished logging the well, and we also performed a casing integrity test in the 7-inch casing.
- Q. And do you have some exhibits that will demonstrate for the Examiner the results of those casing integrity tests?
- A. Yes, if you will please refer to Exhibit Numbers 9 and 10, Exhibit Number 9 is when we tested the 7-inch casing from the surface to a depth of 2980 feet, to 2000 p.s.i., and it was approximately a 25-minute test, and as you can see on the chart there was no leak-off.

And then on April 10th, after we ran the hole with a new Baker Lok-Set packer that's nickel-plated externally, plastic-coated internally, plastic-coated tubing, we tested from the surface to 3064 feet, we tested the casing to 650 pounds for 20 minutes, and that test was witnessed by Buddy Hill of the OCD in Hobbs.

Q. Okay.

- A. That's Exhibit Number 10.
- Q. For the record, would you identify Exhibits 7 and 8? We skipped over those.
- A. Okay, Exhibit Number 7 is a C-103 that Texas

  Pacific filed with the OCD. It was a subsequent report of

  a -- They repaired a casing leak at approximately -- from

  520 to 660 feet, and it's probably a split in the casing.

  And they repaired that.

And then Exhibit Number 8 is a C-104 showing the change of operator from Sun Exploration to Doyle Hartman.

- Q. It helps document at what time Doyle Hartman became the operator?
  - A. (No response)
- Q. Okay, and that would bring us to Exhibit Number 11, and if you'd open that up and explain to the Examiner what that shows.

Also, before you tell what it shows, explain how it was prepared.

A. Okay, this is a composite log that we put together from -- Schlumberger logged the well for us in March when we were doing our work, and we acquired the logging data, and we've replotted it on a different scale here.

And on the left we've got our cement bond log, and then next to that we've got the open-hole caliper log, and then next to that we've got the gamma ray, and then next to that we've got cased hole porosity log; it's a sonic log. And next to that one we've got -- the next two are what's called a platform express tool. It shows open hole porosity and the resistivity. And then the log on the far right is the original lane wells gamma ray neutron.

- Q. Okay, and what can you derive from this concerning both the injection intervals and the suitability of this well to serve its purpose as a disposal well?
- A. Well, the bond log shows that we've got good cement bonding in the 7-inch casing, and this also shows us where the bottom of our 7-inch is, and it also confirms where the TD of the well is. And it also shows like, you know, the actual disposal interval that -- it's been in this well since 19- -- since they've been injecting in this well since 1969.
- Q. In sum, is the disposal interval the open-hole interval?

- A. Yes, it is.
  - Q. The area below the casing?
- 3 A. Yes, it is.

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- Q. Anything else that you want to point out that's shown by this exhibit?
- A. Yeah, it also shows -- You can see by the caliper log where they accumulated the well with the 100 quarts of nitroglycerine.
- Q. And that's shown on which -- that's the -- over on the left-hand, open hole caliper?
- A. Yeah, the open hole caliper.
- 12 Q. Okay.
- A. And it also shows the area where they treated it with the acid too.
- Q. Did this also give you some information that you had sought concerning the gas interval for the --
  - A. Yes, it --
    - Q. -- for the well that you were thinking of drilling offsetting this well?
    - A. Yes, it does, you can see that over there on the cased hole porosity log, you can see where we've got the -They reported a very good show of that gas from -- It's like at the top of the Yates there, and the log confirms that too.
- 25 Q. Okay. Let's just go back to Exhibit Number 1 and

this cover sheet, then, and let me just ask you if that sheet, which is this legal-length paper, gives a summary for the Division.

- A. Yeah, it just summarizes kind of what we've just been talking about, in a -- you know, a picture form. It shows where the casing is set, shows where our tubing and packer are set --
  - Q. Summarizes the casing integrity test?
  - A. Yes, it does that.

- Q. All right, anything else on there that you wanted to point out?
- A. And it shows like where we found TD and where the open hole section is.
  - Q. All right. Now, was this well restored to use after the casing integrity tests were presented to the Division and word was received from the Division --
  - A. Yes, yes, we received verbal approval, I think, on April 27th, to continue disposal operations in this well, or to resume them.
  - Q. All right. And what is the source of the water and approximately how much water per day is being disposed of in this well?
  - A. Right now we're disposing of approximately 300 barrels of water a day. It's primarily under a vacuum.
- 25 The only time we're under pressure is -- We've got about 25

wells total that are disposing in this well, and most of it is primarily trucked, and when the truck -- the water haulers drop off the water and when the water level reaches a certain level in the tank, then the pump kicks on. And at that time it injects under about 275 p.s.i. wellhead pressure.

- Q. All right, and you have a packer set to --
- A. And we've got the packer set at 3064. It's a brand-new packer. Like I said, it's been nickel-plated externally, plastic-coated internally to prevent corrosion. And we've also got a new injection and tubing string in there, 2-3/8-inch tubing, and it's plastic-coated internally.
- Q. So in sum, you have good cement on the outside of the casing, and then the upper levels of the well are isolated off by this packer?
  - A. Yes, yes, they are.

MR. GALLEGOS: All right, I have nothing further of the witness, Mr. Examiner.

EXAMINER CATANACH: Mr. Gallegos, who did we provide notice to in this case?

MR. GALLEGOS: I wanted to comment on it and offer Exhibit Number -- I think it's 11, which summarizes the notices that were sent to all offset operators. Is that 11?

1 THE WITNESS: That's 12. MR. GALLEGOS: That's 12, Exhibit Number 12, 2 which demonstrates the notice given to all offset 3 operators, with the return receipt to demonstrate that they 4 received those notices, and I would comment on the last one 5 to Prime Operating, which doesn't show the return receipt. 6 7 For the record, their attorney James Boldrick in 8 Midland called me to say that they had no objection to the 9 proceeding. So that Exhibit 12 will show the names of all 10 the offset operators. 11 EXAMINER CATANACH: Sorry, Mr. Gallegos, what was his last name? 12 Boldrick, B-o-l-d-r-i-c-k. 13 MR. GALLEGOS: EXAMINER CATANACH: 14 Thank you. MR. GALLEGOS: We ask admission of Exhibits 1 15 16 through 12 and tender Mr. Hartman for questions. 17 EXAMINER CATANACH: Okay, Exhibits 1 through 12 will be admitted as evidence. 18 19 EXAMINATION 20 BY EXAMINER CATANACH: 21 Q. Mr. Hartman, the interval that you're injecting 22 into is part of the Langlie-Mattix Pool? 23 Α. Yes, it also comprises part of the Jalmat --24 0. Okay. 25 Α. -- the lower part of the Jalmat or Seven Rivers.

- Do you believe that the injection interval is 0. 1 connected to the gas-bearing portion of the Jalmat Pool in 2 this well? 3 Α. No, I don't. 4 5 0. Then what isolates that from the gas-bearing portion? 6 I'd say probably some of that, the impermeable 7 part of the Seven Rivers there, and we didn't see any gas 8 9 shows either on our log here. 10 MR. GALLEGOS: What exhibit are you referring to? THE WITNESS: On Exhibit Number 11, that cased 11 hole portion of the log. And then also if you look down on 12 this -- the porosity log over here, which is the fourth one 13 on the right -- from the right. 14 15 ο. (By Examiner Catanach) Okay, so it's your opinion that the fluid that you've been injecting for 16 17 several years has not had any adverse effect on the Jalmat Gas Pool? 18 19 Α. No. What about the casing annulus in that well? 20 Q. 21 you confident that the cement is adequate to prevent any migration up the annulus? 22 23 Α. Yes, sir, yes.
  - from 1986, did we ever conduct any mechanical integrity

STEVEN T. BRENNER, CCR (505) 989-9317

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Q.

During the time that Hartman operated this well

tests on this well, Mr. Hartman?

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- A. Yes, we do, they're conducted yearly.
- Q. All right. Now, are you testifying as to pressure test or Bradenhead test or what kind of test?
- A. Pressure test where they test the casing tubing annulus. It's required by the OCD.
- Q. So your testimony is that we did test this every year?
  - A. Yes, to my knowledge, yes, sir.
  - Q. Do you have those records, by any chance?
- A. Not with me, but I think we can get them, where we've received notice from the State that, you know, it's time to test that casing tubing annulus.
- Q. So as far as you know, from 1986 through the current time, the well has operated with mechanical integrity?
- 17 | A. Yes.
- Q. And at the time that you pulled the tubing and started working on the well, you didn't perform any remedial casing operations?
- 21 A. No, no, sir.
- Q. No re-cementing or fixing holes in --
- 23 A. No, sir --
- Q. -- the casing?
- 25 A. No, we did not.

Q. Okay, so as far as you know, the well since 1986 1 has operated with mechanical integrity? 2 Yes, sir. That was part of the original -- When 3 we tested the casing to 2000 pounds there, that's what we 4 were going to see, if we were going to have to do any like 5 6 remedial repair to the 7-inch casing, and we found out it 7 held all right, and --Q. 8 Okay. 9 Α. -- you know. So as far as you know, the holes at 600 feet or 10 Q. 11 so were properly fixed by the previous operator? Yes, the fact that we tested the casing to 2000 12 Α. showed that. And if they weren't properly fixed, we would 13 have broken them down. 14 15 EXAMINER CATANACH: Okay. If you can provide me 16 with those records, Mr. Gallegos, I think --MR. GALLEGOS: Yes, Mr. Examiner, we'll do that, 17 18 records of the annual integrity test. 19 EXAMINER CATANACH: And we had no -- no offset 20 operators had any concerns about your Application, as far 21 as you --22 MR. GALLEGOS: No, none of them. The only one we heard from was Prime, and that was to advise us that they 23

Does Hartman still plan

did not have an objection.

(By Examiner Catanach)

Q.

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1	to drill the offset Jalmat gas well?
2	A. Yes.
3	EXAMINER CATANACH: Okay, I have nothing further.
4	MR. GALLEGOS: Okay, thank you.
5	MR. GALLEGOS: All right, there being nothing
6	further, Case 12,667 will be taken under advisement.
7	(Thereupon, these proceedings were concluded at
8	11:54 a.m.)
9	* * *
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16	haraby certify that the foregoing to
17	the Bearing of Case No. 12667
18	10001
19	Oli Conservation Division Examiner
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#### 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 Division 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 June 18th, 2001.

STEVEN T. BRENNER

CCR No. 7

My commission expires: October 14, 2002