

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

**ORIGINAL**

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

CASE NO. 14161

SECOND AMENDED APPLICATION OF TARGA  
 MIDSTREAM SERVICES, LP, FOR APPROVAL OF  
 AN ACID-GAS INJECTION WELL, LEA COUNTY,  
 NEW MEXICO

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

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BEFORE: DAVID K. BROOKS, Legal Examiner  
 RICHARD EZEANYIM, Technical Examiner  
 TERRY G. WARNELL, Technical Examiner

*Lead Examiner* →

←

September 18, 2008

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico  
 Oil Conservation Division, DAVID K. BROOKS, Legal Examiner,  
 RICHARD EZEANYIM, Technical Examiner, and TERRY G. WARNELL,  
 Technical Examiner, on Thursday, September 18, 2008, at the  
 New Mexico Energy, Minerals and Natural Resources Department,  
 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: JOYCE D. CALVERT, P-03  
 Paul Baca Court Reporters  
 500 Fourth Street, NW, Suite 105  
 Albuquerque, New Mexico 87102

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## A P P E A R A N C E S

## FOR THE APPLICANT:

J. Scott Hall, Esq.  
MONTGOMERY & ANDREWS LAW FIRM  
325 Paseo De Peralta  
Santa Fe, New Mexico 87501

## FOR MOMENTUM OPERATING COMPANY:

James G. Bruce, Esq.  
ATTORNEY AT LAW  
P.O. Box 1056  
Santa Fe, New Mexico 87504

1 MR. EZEANYIM: Let's go back on the record and call  
2 the next case, which is Case No. 14161. This is a Second  
3 Amendment Application of Targa Midstream Services, LP, for  
4 Approval of an Acid-Gas Injection Well, Lea County, New Mexico.

5 Call for appearances.

6 MR. HALL: Mr. Examiner, Scott Hall from Montgomery  
7 and Andrews law firm of Santa Fe, on behalf of the applicant.  
8 I have one witness this morning. He's previously been sworn  
9 and his credentials as an expert petroleum geologist accepted.

10 MR. EZEANYIM: That will be put on the record that  
11 he's so qualified, which is fine.

12 Any other appearances?

13 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe. I'm  
14 here for Momentum Operating Company. I have no witnesses.

15 MR. EZEANYIM: Okay. I understand that this case was  
16 continued from the last August 7 hearing to September 18th so  
17 the operator could come in and provide more data and  
18 information.

19 MR. HALL: Mr. Examiner, it was heard originally on  
20 August 7th, and a second amended application was filed to  
21 correct the surface injection pressure reflected on the  
22 advisement, and new notice went out to all the affected persons  
23 pursuant to that.

24 At the August 7th hearing, Mr. Jones, who heard this  
25 case, asked for Targa to submit an additional application with

1 respect to water analyses and also with respect to any DST data  
2 that might be available so we would have a better understanding  
3 of the permeability of the injection formation and then also  
4 some more detail on the well schematics.

5 I have recalled Michael Pierce here today to discuss  
6 these briefly with you, so I would refer to him and the  
7 exhibits.

8 MICHAEL PIERCE

9 after having been first duly sworn under oath,

10 was questioned and testified as follows:

11 DIRECT EXAMINATION

12 BY MR. HALL:

13 Q. Mr. Pierce, let's talk about Exhibits 7 and 8.  
14 Would you identify Exhibit 7 for us?

15 A. Exhibit 7 is a water analysis of a new well just  
16 west of the Targa facility. It's within the one-mile area of  
17 review. In the original application, we did a survey and found  
18 no freshwater wells in the area, and this well was recently  
19 located. The plant and the one occupant that lives in the area  
20 of review out there get their water piped in from elsewhere.  
21 So there's really no freshwater sources out here.

22 And as you can see on this one, this new water well  
23 has a total dissolved solids of 22,000. I don't even know if  
24 the cows can drink that safely.

25 Q. Is the location of this well in the NE/4, NW/4 of

1 Section 1 just to the south of the injection zone?

2 A. That is correct.

3 Q. Okay. Let's refer to Exhibit No. 8. What does  
4 Exhibit 8 show us?

5 A. This is a water analysis of the fluid that's  
6 currently disposed in the disposal well that Targa currently  
7 operates at the plant site. This is water that comes from  
8 plant operations, and this is just the analysis of that water.

9 Q. All right. There's no issue with respect to  
10 compatibility of these injection fluids into the injection  
11 formation?

12 A. No, there's not.

13 Q. All right. Let's look at Exhibit No. 9, and is  
14 this the new well bore schematic with additional detail?

15 A. Yes. This is what the well will look like once  
16 it's been drilled with respect to casing and cement and  
17 sub-surface safety valve.

18 Q. The sub-surface safety valve that's reflected at  
19 the top of the tubing at 250 feet; is that where that is?

20 A. Yes, sir. That's correct.

21 Q. Can you review for the Examiner where the casing  
22 depths are on the schematic?

23 A. The 13 3/8 casing will be set at approximately  
24 1,050 feet in the Rustler and Hydrac formation; 9 5/8 will be  
25 set at approximately 5,000 feet. This gets us below the San

1 Andres formation. The 7-inch casing will be set at the top of  
2 the Devonian at 8350 feet. All strings will be circulated to  
3 surface. We have 3 1/2-inch dual line tubing that we'll set  
4 within 50 feet of the casing shoe approximately 8300 feet. We  
5 propose to load the backside with diesel fuel.

6 Q. Mr. Pierce, we've asked for maximum surface  
7 injection pressure not to exceed 1,660 psi. Is that injection  
8 pressure less than anticipated fracture break-in for the  
9 formation at the injection interval?

10 A. Yes, it is.

11 MR. EZEANYIM: How much pressure is that? 1600?

12 THE WITNESS: Pardon me?

13 MR. EZEANYIM: What is the injection pressure? 1600?

14 THE WITNESS: 1660.

15 MR. HALL: 1660. That concludes my examination of  
16 the witness, Mr. Examiner.

17 Let me do this: I'm sorry.

18 Q. (By Mr. Hall): Were Exhibits 7, 8 and 9 compiled  
19 by you or at your direction?

20 A. They were.

21 MR. HALL: Okay. I move the admission of Exhibits 7,  
22 8 and 9, Mr. Examiner. And that concludes my direct of the  
23 witness.

24 MR. EZEANYIM: Any objection?

25 MR. BRUCE: No objection. And I do not have any

1 questions of the witness.

2 MR. EZEANYIM: Okay. Exhibits 7, 8 and 9 will be  
3 admitted. Do you have any questions?

4 MR. BROOKS: No questions.

5 MR. EZEANYIM: Do you have any questions?

6 MR. WARNELL: One question, Mr. Pierce. What is the  
7 estimated fracture pressure? What would you estimate that as?

8 THE WITNESS: We estimate that just putting water in  
9 the well will be on a vacuum. But to keep the gas, acid-gas,  
10 in a gas phase, we have to compress it to -- what were those  
11 numbers exactly? I think 1150 pounds, I believe were the  
12 numbers to -- let's see -- which is well below the 1660 pounds  
13 we're -- 1150 pounds? Yes.

14 To keep it in phase, to keep it in a gas phase, it  
15 will be 1150 pounds surface pressure.

16 EXAMINATION

17 BY MR. EZEANYIM:

18 Q. Not 1660?

19 A. No, sir. That's just the upper limit we're  
20 asking for.

21 Q. You can't inject the acid-gas on the --

22 A. That's correct.

23 Q. You can't do that.

24 A. No, sir. But if the Devonian, if we're injecting  
25 just strictly water, it would take it on a vacuum.

1 MR. EZEANYIM: Yeah. Did you do the  
2 re-advertisement? I understand that you're suppose to do that,  
3 too.

4 MR. HALL: We advertised, yes, sir. If you look at  
5 Exhibit 10 and 11, Exhibit 10 is my Notice of Affidavit. And  
6 the first page under Exhibit 10 is a list of -- it says  
7 operators, but it also includes surface owners within the  
8 one-mile area of review.

9 We provided notice to -- there was -- the third page  
10 is an operator who we provided notice to, but did not receive a  
11 signed certified receipt back from that operator's corporation.  
12 All the others were received. We have a copy, an example, of  
13 my notice letter and then copies of all of the return receipts  
14 under that. Exhibit 11 is the Affidavit of Publication from  
15 the Hobbs News Sun for hearing today.

16 So we move the admission of Exhibits 7 through 11.

17 MR. EZEANYIM: Exhibits 7 through 11 will be  
18 admitted.

19 [Applicant's Exhibits 7 through 11 admitted into  
20 evidence.]

21 Q. (By Mr. Ezeanyim): Okay. Good. As you know,  
22 this is an acid-gas. I know most of the issues may have been  
23 discussed on August 7th when this case was heard. I wasn't  
24 here. But I wanted to point out something and see what you --  
25 there are certain procedures we take when we are doing acid-gas

1 injection which can be very violent, and that is why we're  
2 doing it. And that's why we are approving these at the  
3 hearing.

4 I like your schematic, anyway. But my question is:  
5 At the point you are injecting this at 200 feet, do you have  
6 any production within two miles of that injection zone?

7 A. Not from the Devonian. The Devonian is not  
8 productive.

9 Q. Not productive at least within two miles. I have  
10 a criterion of within two miles of that injection.

11 A. Yes, sir. It's not productive within two miles  
12 of the well bore location.

13 Q. Okay. Now, you are asked to say something about  
14 permeability. We need to have some permeability and porosity  
15 work on that out there at the facility.

16 A. Well, what we were looking at is all the wells  
17 that penetrated the injection interval were drilled in the late  
18 '40s to the early '60s. There was eight or ten of them. And  
19 the only downhole pressure information we have is from old  
20 DSTs.

21 Q. Okay.

22 A. And Mr. Jones asked if we could possibly come up  
23 with some of the original DST charts so that we could get an  
24 idea of permeability. And, you know, I have made contact with  
25 Amerada Hess, or Hess Corporation now, and that information

1 is -- they won't say it doesn't exist anymore, but they're  
2 having difficulty finding it. And obviously, with what's been  
3 going on the last couple of weeks in Houston, it's not likely  
4 forthcoming.

5 You know, we did on the radius of injection estimated  
6 porosity, and we can't measure permeability directly from the  
7 logs. And so really there's -- I don't have any data except  
8 historical data on how the formation performs elsewhere in  
9 Lea County as to how it will do here.

10 Q. From your knowledge of the area, what would you  
11 say would be the permeability in that area? Because we want to  
12 have some permeability so we can put that gas in there.

13 A. Right.

14 Q. What type of degree are we looking at, from your  
15 experience, even though we don't have the data?

16 A. Like I mentioned earlier before, the Devonian  
17 very typically takes water on a vacuum, a very strong vacuum.  
18 So I can't tell you that that's two darcies or ten darcies --  
19 or I can't put a direct number on that. I just know that  
20 historically the Devonian is a very good disposal interval and  
21 stays on a vacuum for a very long time.

22 I mean, there's instances -- there's several wells I  
23 know about in Lea County that have disposed over 20 million  
24 barrels of water and are still on a vacuum.

25 Q. You have projects that operate on a vacuum right

1 now?

2 A. That's correct.

3 Q. Okay. We needed those permeability because we  
4 want to make sure, you know, when we inject those acid-gas  
5 there that they stay where they're supposed to. That's why  
6 we're looking for permeability.

7 A. Right. And, you know, I'm just not coming out.  
8 I mean, I don't know of a source where we can go to track that  
9 down. I mean, like I say, the easiest one would have been if  
10 we could have found some of those DSTs, but they're 50 to  
11 60-year-old data and it's just, you know, hard to keep track of  
12 something that long. And especially, you know, the area has  
13 changed. Hess drilled these wells, but they've since sold this  
14 production, so they don't even have a current file on it.

15 Q. Okay.

16 MR. EZEANYIM: Do you have anything, Mr. Bruce?

17 MR. BRUCE: Nothing.

18 MR. EZEANYIM: Anybody have anything? Okay.

19 Finally, Case No. 14161 will be taken under advisement.

20 \* \* \*

21 I do hereby certify that the foregoing is  
22 a complete record of the proceedings in  
23 the Examiner hearing of Case No. \_\_\_\_\_,  
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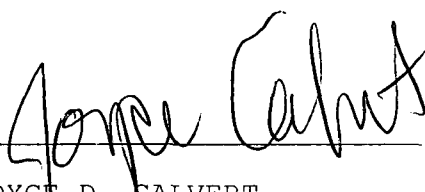
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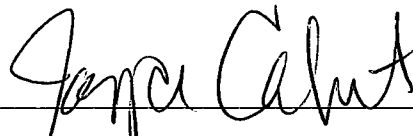
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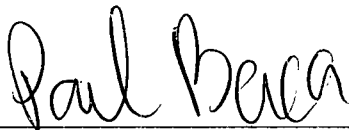
1 STATE OF NEW MEXICO )  
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3 OIL CONSERVATION DIVISION

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