

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. 20814

Application of Delaware Water Management
Company, LLC, for Authorization to Inject
into the E Murphy Federal SWD No. 1 Well
for Purposes of Disposal, Lea County,
New Mexico

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

THURSDAY, OCTOBER 3, 2019

SANTA FE, NEW MEXICO

This matter came on for hearing before the
New Mexico Oil Conservation Division, Examiner Phillip
Goetz, Examiner Dylan Rose-Coss, and Eric Ames, Legal
Counsel, on Thursday, October 3, 2019, at the New Mexico
Energy, Minerals, and Natural Resources Department,
Wendell Chino Building, 1220 South St. Francis Drive,
Porter Hall, Room 102, Santa Fe, New Mexico

Reported by: Mary Therese Macfarlane
New Mexico CCR 122
PAUL BACA COURT REPORTERS
500 Fourth Street NW, Suite 105
Albuquerque, New Mexico 87102

1 A P P E A R A N C E S.

2 For the Applicant: Adam Rankin, Esq.
 Holland & Hart
 3 110 North Guadalupe, Suite 1
 Santa Fe, New Mexico 87501
 4 (505) 988-4421
 arankin@hollandandhart.com.

5
 6 For the New Mexico State Land Office:

7 Andrea Antillon, Esq.
 State Land Office
 8 Office of General Counsel
 310 Old Santa Fe Trail
 9 P.O. Box 1148
 Santa Fe, NM 87504-1148
 10 (505) 827-5752.
 aantillon@slo.state.nm.us

11 I N D E X

12	CASE NUMBER 20814	CALLED	
13	APPLICANT WITNESSES:		PAGE
14	MARSHALL BROOKS VERSHOYLE		4
15	(BY AFFIDAVIT)		
16	BRADLEY M. ROBINSON		10
17	(BY AFFIDAVIT)		
18	TAKEN UNDER ADVISEMENT		17

19 E X H I B I T I N D E X

20	APPLICANT DELAWARE WATER MANAGEMENT, CO., LLC	ADMITTED
21	EXHIBIT	PAGE
	A	14
22	A-1	14
	A-2	14
23	B	14
	B-1	14
24	B-2	14
	B-3	14
25	C	14

1 (Time noted 11:41 a.m.)

2 EXAMINER GOETZ: We will go back on the record.

3 And we have Case No. 20814, Application of
4 Delaware Water Management Company, LLC for authorization
5 to inject into the E. Murphy Federal WSWD No. 1 well for
6 purposes of disposal, Lea County, New Mexico.

7 Call for appearances.

8 MR. RANKIN: Mr. Examiner, Adam Rankin with the
9 law firm of Holland & Hart on behalf of the Applicant in
10 this case, Delaware Water Management Company, LLC.

11 I have three witness to be presented by
12 affidavit.

13 MS. ANTILLON: Andrea Antillon on behalf of The
14 State Land Office. I do not have any witnesses, I only
15 have a statement to make at the end of the case.

16 EXAMINER GOETZ: So before we proceed any
17 farther, Ms. Antillon you have no interest in crossing or
18 asking questions? I just want to make sure --

19 MS. ANTILLON: No.

20 EXAMINER GOETZ: -- that the use of an
21 affidavit...

22 MS. ANTILLON: The State Land Office has no
23 objection to the use of affidavits.

24 EXAMINER GOETZ: Okay. Thank you very much.

25 Mr. Rankin.

1 MR. RANKIN: Thank you very much, Mr. Examiner.

2 Before you is an exhibit packet containing
3 three affidavits and three exhibits. The exhibits have
4 previously been submitted to the Division as part of its
5 Administrative Application.

6 This case has been set for hearing because
7 of the protest by the State Land Office which is the sole
8 protestant or objector in this case.

9 If you turn to your exhibit packet,
10 Exhibit A is the first affidavit in the packet, prepared
11 by Mr. Marshall Verschoyle who is the landman for Delaware
12 Water Management Company, LLC.

13 In the affidavit by Mr. Verschoyle reviews
14 what Delaware is seeking in this case. Delaware is
15 seeking authority to inject into a proposed well to be
16 named the E Murphy Federal SWD No. 1 Well. An API number
17 is pending.

18 The well will be located approximately 2443
19 feet from the north line and 2,634 feet from the west
20 line, which is Unit F, Section 1, Township 23 South, Range
21 32 East, in Lea County, New Mexico.

22 Page 12 of the attached Exhibit No. 1,
23 which is the C-108, at page 12 contains a C-102 depicting
24 the location for the proposed injection well, as well as
25 the latitude and longitude values for the location.

1 The proposed injection well will be
2 disposing within the Devonian or Siluro-Devonian through
3 an open hole completion. Mr. Verschoyle testifies that
4 approximately 16,314 feet to 17,294 feet below the
5 surface.

6 The estimated average disposal volume will
7 be 40,000 barrels of water per day with a maximum rate of
8 45,000 barrels per day. The average injection pressure is
9 expected to be approximately 2500 psi with a maximum
10 surface injection pressure of 3262 psi.

11 It will be a new system, a closed injection
12 system.

13 Mr. Verschoyle reviews the Notice that was
14 provided and the offsetting interest owners and surface
15 owners in his affidavit starting at page 10. He reviews
16 the analysis they undertook to identify the surface owners
17 and the offsetting operators through the BLM records and
18 county records. He testifies that he undertook a good
19 faith effort to identify the correct and valid addresses
20 for each of those parties within the one-mile aerial view;
21 to the best of his knowledge those addresses were correct
22 and valid, and there were no unlocatable parties.

23 If you turn to page 26 to 30 of Exhibit 1,
24 which is the C-108 attached to Mr. Verschoyle's affidavit,
25 that identifies all the noticed parties that he sent --

1 that actually Permits West, which is our contractor, sent
2 notice of the C-108 Administrative Application to, which
3 includes the BLM and the State Land Office in this case as
4 affects the parties.

5 In addition, for purposes of this hearing
6 we provided notice of today's -- of the application and
7 hearing to the sole protestant in this case, which is the
8 State Land Office. Exhibit 2 reflects the affidavit
9 prepared by me and my office reflecting that we have given
10 notice of the Application and the hearing date under the
11 Notice Letter, which is the second page of that exhibit,
12 reflecting that the hearing was to be set today. And then
13 the following pages reflect the postal service tracking
14 information sheet showing that the State Land Office did
15 get notice. Obviously they are here.

16 Now, Exhibit B is a copy of the affidavit
17 prepared by Dr. Edmund Locke Frost III. He has previously
18 testified before the Division and he's had his credentials
19 as an expert in petroleum geology accepted as a matter of
20 record.

21 He conducted a geologic study of the area
22 surrounding the proposed injection well.

23 All the information required for approval
24 is contained in the C-108 according to his affidavit,
25 starting at page 8 on the geology, that is.

1 Mr. Frost testifies that the proposed
2 injection interval is the Devonian or the Siluro-Devonian.
3 He testifies that it is comprised of limestone and
4 dolomite and is approximately 1200 feet thick in this
5 area, and in terms of the proposed injection it will be
6 from 16,314 to 17,294 feet below the surface.

7 He testifies that the injection into the
8 Devonian will be contained and prevented from migrating
9 out, either formation up zones or down, by an overlying
10 seal which is the Woodford Shale, and that a basal seal,
11 which is the Simpson Group, will function effectively to
12 contain the injection fluids in that zone.

13 Recent nearby injection, he testifies, has
14 demonstrated that the Devonian in this area is suitable
15 for injection and capable of receiving and containing the
16 injection volumes at the rates proposed.

17 He testifies that he has conducted
18 aanalysis of publicly available data and proprietary 3D
19 seismic data to confirm that there are no faults or other
20 geologic features around the injection zone that would
21 serve as a conduit or pathway for injection fluids to
22 escape.

23 In addition there's a statement prepared by
24 a geologist of the company, Mr. Jake Harrington, and at
25 page 24 of Exhibit 1, reflecting that they have conducted

1 a geologic study of the area that have confirmed that
2 there are no faulting or other geologic/hydrologic
3 conduits that would permit the escape of fluids from the
4 zone to any other sources of drinking water.

5 Dr. Frost testifies that in his opinion the
6 injection will not impair correlative rights, will not
7 adversely affect any production of hydrocarbons in the
8 area. He testifies that the Devonian is not prospective
9 for hydrocarbons in this area and that there are no zones
10 below the Devonian that are prospective.

11 He testifies that the geologic seals that
12 he has reviewed, and I previously mentioned, serve to
13 isolate the disposal fluids from overlying zones capable
14 of producing hydrocarbons.

15 In addition, there is a significant
16 vertical offset between the injection and any shallow
17 zones that are capable of producing.

18 As to fresh water, parahraph 11, Dr. Frost
19 testifies that there is fresh water in the area found
20 within sediments, quaternary sediments down to a depth of
21 about 700 feet. There are no underground sources of fresh
22 water or drinking water below that depth.

23 State Engineer's data base reflects there
24 are no fresh water wells within the mile radius of the
25 proposed injection, as depicted on page 22 and 23 of

1 Exhibit 1.

2 They confirm that by doing a field
3 inspection, and identified no other sources of -- no wells
4 in the area they could identify.

5 Based on this review and analysis on the
6 fresh water and geologic analysis, Dr. Frost testifies
7 that because of these geologic seals above and below and
8 the significant vertical offset, it's his opinion that the
9 proposed injection will not threaten any drinking water
10 sources or sources of fresh water in the area.

11 In addition to the standard geologic
12 analysis for the C-108 Dr. Frost also conducted a
13 fault-slip potential analysis based on the Stanford model.
14 That summary of the study he prepared and conducted is
15 attached as Exhibit No. 3.

16 His affidavit summarizes his -- what he did
17 and his conclusions starting at paragraph 13 in his
18 affidavit.

19 The study included all the wells in the
20 area, including, as I understand, proposed wells, starting
21 with injection dates, assuming that they are approved, and
22 injection dates starting at 2020, going out 30 years, and
23 assuming a maximum rate of injection of 40,000 barrels per
24 well over a 30-year period at, you know, full injection
25 capacity.

1 Based on his analysis of the -- using all
2 the faults known to him, publicly available, and based on
3 the 3D seismic, he conducted a fault slip analysis,
4 running multiple runs on that model, and identified a
5 minimal risk, very low risk for any fault failure in the
6 area.

7 Uhm, in addition Dr. Frost testifies that
8 based on the 3D modeling they screened the location of
9 this well to avoid any faults in the area, which further
10 reduces the risk of any fault-slip failure.

11 In his opinion the granting of the
12 Application will conserve resources, avoid waste, and
13 protect correlative rights.

14 Now, Exhibit C is the Affidavit of
15 Mr. Bradley Robinson. He's a reservoir engineer for the
16 company. He has previously testified before the Division,
17 and has had his expert credentials as a petroplane engineer
18 accepted as a matter of record.

19 He testifies generally about the
20 operational and casing design for the proposed well.

21 Starting at Exhibit C at paragraph 4, he
22 reviews the location and the well casing design for the
23 proposed well as depicted in the well data sheet on pages
24 4 and 5 of Exhibit 1 in the C-108. I won't go into those
25 details there because they are part of the well data

1 sheet.

2 But again he confirms that the injection
3 interval will be between 16,314 feet to 17,294 feet in the
4 Devonian or Siluro-Devonian Formation.

5 The well will have a 5 1/2-inch injection
6 tubing which permits them to inject larger volumes of
7 water than the smaller tubing, which they would have the
8 need to drill fewer wells, which means there will overall
9 fewer, less of a surface footprint, which is beneficial to
10 everybody

11 Mr. Robinson requests that should this
12 Application be approved that it also grant authority for
13 them to seek administrative approval to increase the
14 injection tubing size to 7 5/8 diameter at later time,
15 should they decide that it is necessary or appropriate.

16 So that's a request that Mr. Robinson makes
17 in paragraph 6 of his affidavit.

18 He testifies that the cement job will be
19 confirmed by a cement bonding log or an equivalent cement
20 integrity log, to establish the top of the cement and the
21 quality of the bonding to the casing.

22 The well's annular space between the
23 injection tubing and casing will be filled with an inert
24 packer fluid that will protect the casing and tubing, and
25 the annular pressure will be monitored at the well to

1 confirm the integrity of the well through injection, and
2 that will be done through a continuous SCADA electronic
3 system.

4 The average injection rate, as I mentioned
5 before, will be 40,000 barrels per day with a maximum of
6 45,000 barrels per day.

7 He confirms that the surface injection
8 pressure maximum will be 3,262 psi, based on the
9 Division's guideline of .02 psi per foot of depth to the
10 top of the injection interval.

11 He testifies that the proposed injection
12 volumes can be easily achieved without exceeding the
13 maximum surface injection pressures under the Division
14 guidelines.

15 The source of the injection fluids in this
16 well will be water from the Bone Spring, Delaware, and
17 Wolfcamp Formations. A summary of produced water
18 chemistry from the area is provided within the C-108,
19 which is Exhibit 1, at pages 18 to 21, as well as a
20 summary of the Devonian, the receiving water formation
21 chemistry is provided on page 8 of the C-108, which is
22 Exhibit 1.

23 And he testifies that a review of the water
24 chemistry combined with their experience injecting in this
25 area with the same sources of water, provides -- gives

1 them confidence that there's no issues or problems with
2 compatibility between those fluids.

3 Page 17 of the C-108, which is Exhibit 1
4 again, contains a map, one-mile aerial review map
5 identifying all the wells within the area of review. No
6 wells active, proposed, plugged, abandoned penetrate the
7 proposed injection interval within the area of review.
8 The deepest existing proposed well within a mile is a Bone
9 Spring producing well which is completed for a total
10 vertical depth of approximately 10,860 feet.

11 Based on that Mr. Robinson testifies there
12 are no concerns or issues with any wells in the area
13 providing a conduit for escape of injection fluids out of
14 the injection zone into shallower zones, therefore none of
15 the wells require any remedial work or any additional work
16 to maintain the integrity of those wells or the injection
17 within the zone.

18 Mr. Robinson testifies that it is his
19 opinion that granting of the application will conserve
20 resources, avoid waste, and protect correlative rights.

21 With that, Mr. Examiner, I think I've
22 covered the highlights for most of the items that are of
23 interest to the Division, but if you have any questions I
24 cans point you to where, hopefully, the information is
25 within the C-108 or the Affidavit.

1 With that I would request that Exhibits A,
2 B and C, and 1, 2 and 3 be admitted into the record.

3 EXAMINER GOETZ: So are you using the Jim Bruce
4 method of identifying exhibits in here?

5 So A is --

6 MR. RANKIN: Yeah.

7 EXAMINER GOETZ: And we jump between?

8 MR. RANKIN: A would be the 108 and -- A is the
9 affidavit of the landman. Exhibit 1 is the C-108.

10 EXAMINER GOETZ: Okay.

11 MR. RANKIN: Exhibit 2 is the Notice affidavit.

12 EXAMINER GOETZ: Okay.

13 MR. RANKIN: B is the affidavit of Dr. Frost.

14 3 is the Fault-Slip Potential study.

15 C is the affidavit of the engineer, Mr.
16 Roinson.

17 EXAMINER GOETZ: Just didn't want to...

18 So, Ms. Antillon, do you have any
19 objections?

20 MS. ANTILLON: No objection.

21 EXAMINER GOETZ: I would also say that all of
22 your folks that have provided affidavits have appeared
23 before Divisions and their credentials have been accepted.

24 With that I accept into record in Case
25 20814, a, 1, 2, B, 3 and C.

1 At this point do any of the examiners have
2 questions for Mr. Rankin?

3 EXAMINER ROSE-COSS: I do not have any
4 questions.

5 EXAMINER AMES: Counsel has no questions.

6 EXAMINER GOETZ: I will note that we have
7 received an application from another entity that is in
8 close proximity, and that would be the Rodman State SDV 1
9 by AWR Disposal, LLC.

10 Do you know if Delaware Water Management
11 has had any discussions with those folks?

12 MR. RANKIN: I don't.

13 EXAMINER GOETZ: Might be worth your while.

14 MR. RANKIN: Do you happen to know the section?

15 EXAMINER GOETZ: It is in Section 6 of 23 South,
16 33 East, and I would say it's very close to the
17 southeast -- or southwest corner of that Section 6.

18 MR. RANKIN: That was a later-filed
19 Administrative Application.

20 EXAMINER GOETZ: Actually they filed it
21 8-1-2019.

22 MR. RANKIN: Okay.

23 EXAMINER GOETZ: There you go.

24 So with that --

25 MR. RANKIN: We will have some discussions.

1 I'll let them know that that application has been filed.

2 EXAMINER GOETZ: Very good.

3 Meanwhile, Ms. Antillon, this is your
4 opportunity.

5 MS. ANTILLON: Thank you. The State Land Office
6 just would like to put on the record that we are reviewing
7 this application and have concerns with the salt water
8 disposal well spacing due to its close proximity to State
9 Trust land.

10 EXAMINER GOETZ: Thank you.

11 MS. ANTILLON: Thank you.

12 EXAMINER GOETZ: Mr. Rankin?

13 MR. RANKIN: No further questions, Mr. Examiner.

14 So at this time we ask this case be taken
15 under advisement.

16 EXAMINER GOETZ: Very good. Case No. 20814
17 Application of Delaware Water Management Company, LLC for
18 authorization to inject in the E Murphy Federal SDW No. 1
19 Well for Purpose of Disposal, in Lea County, New Mexico,
20 is taken under advisement.

21 (Time noted 11:28 a.m.)

22

23

24

25

1 STATE OF NEW MEXICO).
2) SS
3 COUNTY OF TAOS)
4

5 REPORTER'S CERTIFICATE

6 I, MARY THERESE MACFARLANE, New Mexico Reporter
7 CCR No. 122, DO HEREBY CERTIFY that on Thursday, October
8 3, 2019, the proceedings in the above-captioned matter
9 were taken before me; that I did report in stenographic
10 shorthand the proceedings set forth herein, and the
11 foregoing pages are a true and correct transcription to
12 the best of my ability and control.

13 I FURTHER CERTIFY that I am neither employed by
14 nor related to nor contracted with (unless excepted by the
15 rules) any of the parties or attorneys in this case, and
16 that I have no interest whatsoever in the final
17 disposition of this case in any court.

18

19

20 _____
21 MARY THERESE MACFARLANE, CCR
22 NM Certified Court Reporter No. 122
23 License Expires: 12/31/2019
24
25