

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

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

APPLICATION OF THE NEW MEXICO OIL)
CONSERVATION DIVISION FOR REPEAL OF)
EXISTING RULE 50 CONCERNING PITS AND)
BELOW GRADE TANKS AND ADOPTION OF A)
NEW RULE GOVERNING PITS, BELOW GRADE)
TANKS, CLOSED LOOP SYSTEMS AND OTHER)
ALTERNATIVE METHODS TO THE FOREGOING,)
AND AMENDING OTHER RULES TO MAKE)
CONFORMING CHANGES; STATEWIDE)

CASE NO. 14,015

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSION HEARING

BEFORE: MARK E. FESMIRE, CHAIRMAN
JAMI BAILEY, COMMISSIONER
WILLIAM OLSON, COMMISSIONER

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Volume VII - November 13th, 2007

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Commission, MARK E. FESMIRE, Chairman, on Tuesday, November 13th, 2007, 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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C U M U L A T I V E I N D E X

Monday, October 22nd, 2007 (Volume I)
 Commission Hearing
 CASE NO. 14,015

	PAGE
OPENING STATEMENTS:	
By Mr. Brooks	13
By Mr. Jantz	27
By Ms. Belin	30

* * *

Monday, November 5th, 2007 (Volume II)
 Commission Hearing
 CASE NO. 14,015

EXHIBITS	42
APPEARANCES	43

DIVISION WITNESSES:

<u>GLENN VON GONTEN</u> (Senior Hydrologist, Environmental Bureau, NMOCD) Direct Examination by Mr. Brooks	54
<u>WAYNE PRICE</u> (Environmental Bureau Chief, NMOCD) Direct Examination by Mr. Brooks	58

PUBLIC COMMENTS:

<u>HON. PAUL BANDY</u> (New Mexico State Legislature, District 3: Aztec, Bloomfield, Blanco) Direct Testimony	111
<u>HON. JAMES STRICKLER</u> (New Mexico State Legislature, District 2: Farmington and rural San Juan County) Direct Testimony	118
Examination by Commissioner Bailey	124

(Continued...)

PUBLIC COMMENTS (Continued):

<u>HON. CANDY SPENCE EZZELL</u> (New Mexico State Legislature, District 58, southern Chaves County)	
Direct Testimony	126
Examination by Chairman Fesmire	129
<u>HON. DAN FOLEY</u> (Republican Whip, New Mexico House of Representatives)	
Direct Testimony	130
<u>DANA MCGARRH</u> (small business owner, Farmington, New Mexico)	
Unsworn Position Statement	145
<u>MIKE EISENFELD</u> (San Juan Citizens Alliance)	
Direct Testimony	150
Cross-Examination by Ms. Foster	152
<u>DEENA ARCHULETA</u> (Wilderness Society)	
Unsworn Position Statement	157
<u>JOHNNY MICOU</u> (Drilling Santa Fe)	
Unsworn Position Statement	160
<u>OSCAR SIMPSON</u> (New Mexico Wildlife Federation, National Wildlife Federation)	
Unsworn Position Statement	162

DIVISION WITNESSES (Resumed):

<u>WAYNE PRICE</u> (Environmental Bureau Chief, NMOCD)	
Direct Examination (Resumed) by Mr. Brooks	165
<u>GLENN VON GONTEN</u> (Senior Hydrologist, Environmental Bureau, NMOCD)	
Direct Examination (Resumed) by Mr. Brooks	176
<u>WAYNE PRICE</u> (Environmental Bureau Chief, NMOCD)	
Direct Examination (Resumed) by Mr. Brooks	204
<u>WAYNE PRICE</u> (Environmental Bureau Chief, NMOCD) and <u>GLENN VON GONTEN</u> (Senior Hydrologist, Environmental Bureau, NMOCD) (Resumed)	
Cross-Examination by Mr. Carr	207
Cross-Examination by Mr. Hiser	227
Cross-Examination by Ms. Foster	248

(Continued...)

PUBLIC COMMENTS:

<u>BILL HAWKINS</u> (BP America Production Company) Unsworn Position Statement	288
---	-----

REPORTER'S CERTIFICATE	290
------------------------	-----

* * *

Tuesday, November 6th, 2007 (Volume III)
Commission Hearing
CASE NO. 14,015

EXHIBITS	296
----------	-----

APPEARANCES	297
-------------	-----

MOTIONS:

To compel (by IPANM)	302
----------------------	-----

For alternative dispute resolution (by IPANM)	309
---	-----

To strike IPANM's prehearing statement, witnesses and exhibits (by OCD)	312
--	-----

DIVISION WITNESSES (Continued):

WAYNE PRICE (Environmental Bureau Chief, NMOCD) and
GLENN VON GONTEN (Senior Hydrologist, Environmental
Bureau, NMOCD) (Resumed)

Examination by Ms. Belin	321
Examination by Mr. Jantz	324
Examination by Commissioner Bailey	328
Examination by Commissioner Olson	346
Examination by Chairman Fesmire	356
Further Examination by Commissioner Bailey	362
Further Examination by Chairman Fesmire	363
Further Examination by Commissioner Olson	363
Redirect Examination by Mr. Brooks	365
Recross Examination by Mr. Hiser	370

(Continued...)

DIVISION WITNESSES (Continued):

WAYNE PRICE (Environmental Bureau Chief, NMOCD)
(Resumed)

Direct Examination by Mr. Brooks	373
Cross-Examination by Ms. Foster	400
Cross-Examination by Mr. Hiser	404
Examination by Ms. Belin	416
Examination by Commissioner Bailey	417
Examination by Commissioner Olson	419
Examination by Chairman Fesmire	419

GLENN VON GONTEN (Senior Hydrologist,
Environmental Bureau, NMOCD) (Resumed)

Direct Examination by Mr. Brooks	421
Voir Dire Examination by Ms. Foster	425
Direct Examination (Resumed) by Mr. Brooks	427
Cross-Examination by Mr. Carr	527

REPORTER'S CERTIFICATE	538
------------------------	-----

* * *

Wednesday, November 7th, 2007 (Volume IV)
Commission Hearing
CASE NO. 14,015

EXHIBITS	546
----------	-----

APPEARANCES	548
-------------	-----

DIVISION WITNESSES (Continued):

GLENN VON GONTEN (Senior Hydrologist,
Environmental Bureau, NMOCD) (Resumed)

Cross-Examination by Ms. Foster	568
Cross-Examination by Mr. Hiser	625
Examination by Mr. Frederick	653
Examination by Commissioner Bailey	656
Examination by Commissioner Olson	663

(Continued...)

DIVISION WITNESSES (Continued):

<u>EDWARD J. HANSEN</u> (Hydrologist, Environmental Bureau, NMOCD) Direct Examination by Mr. Brooks	675
<u>GLENN VON GONTEN</u> (Senior Hydrologist, Environmental Bureau, NMOCD) (Resumed) Examination by Chairman Fesmire	689
Redirect Examination by Mr. Brooks	700
Examination (Continued) by Chairman Fesmire	706
Further Examination by Mr. Carr	709
Further Examination by Ms. Foster	714
Further Examination by Mr. Hiser	720
Further Examination by Mr. Frederick	721
Further Examination by Commissioner Olson	722
<u>EDWARD J. HANSEN</u> (Hydrologist, Environmental Bureau, NMOCD) (Resumed) Direct Examination (Resumed) by Mr. Brooks	729
Cross-Examination by Mr. Hiser	765
Cross-Examination by Ms. Foster	771
Examination by Mr. Frederick	777
Examination by Dr. Neeper	783
Examination by Commissioner Bailey	786
Examination by Commissioner Olson	793
Examination by Chairman Fesmire	799
Redirect Examination by Mr. Brooks	802
Recross-Examination by Ms. Foster	806
Recross-Examination by Mr. Hiser	807
Further Examination by Mr. Frederick	812
REPORTER'S CERTIFICATE	816

* * *

(Continued...)

Thursday, November 8th, 2007 (Volume V)
 Commission Hearing
 CASE NO. 14,015

EXHIBITS 824

APPEARANCES 826

DIVISION WITNESSES (Continued):

BRAD JONES (Environmental Bureau, NMOCD)
 Direct Examination by Mr. Brooks 830

PUBLIC COMMENTS:

KEITH JOHNSON (City Manager, City of Bloomfield;
 County Commissioner, San Juan County; task force
 member)
 Direct Testimony 1049
 Examination by Commissioner Bailey 1055
 Examination by Commissioner Olson 1056
 Examination by Chairman Fesmire 1056

REPORTER'S CERTIFICATE 1060

* * *

Friday, November 9th, 2007 (Volume VI)
 Commission Hearing
 CASE NO. 14,015

EXHIBITS 1070

APPEARANCES 1072

DIVISION WITNESSES (Continued):

BRAD JONES (Environmental Bureau, NMOCD)
 Direct Examination (Continued)
 by Mr. Brooks 1076

(Continued...)

PUBLIC COMMENTS:

JOHNNY MICOU (Drilling Santa Fe)
Unsworn Position Statement 1162

ZANE GALLOWAY (President, ORE Systems,
San Juan County, New Mexico)
Direct Testimony 1163
Examination by Mr. Brooks 1167
Examination by Ms. Foster 1168
Examination by Mr. Baizel 1169
Examination by Chairman Fesmire 1171

IRVIN BOYD (Lea County)
Unsworn Position Statement 1178

OPENING STATEMENT:

By Mr. Carr 1181

INDUSTRY WITNESSES:

DANIEL B. STEPHENS (Hydrogeologist)
Direct Examination by Mr. Carr 1183
Cross-Examination by Mr. Brooks 1216
Cross-Examination by Mr. Frederick 1268

PUBLIC COMMENTS:

IRVIN BOYD (Lea County)
Unsworn Position Statement 1303

JOHN OBERLY (Applied Plastics)
Direct Testimony 1312
Examination by Mr. Brooks 1316
Examination by Ms. Foster 1317
Examination by Chairman Fesmire 1320

(Continued...)

INDUSTRY WITNESSES (Resumed):

DANIEL B. STEPHENS (Hydrogeologist)

Examination by Dr. Neeper	1322
Examination by Commissioner Bailey	1338
Examination by Commissioner Olson	1343
Examination by Chairman Fesmire	1363
Redirect Examination by Mr. Hiser	1374
Recross-Examination by Mr. Frederick	1383
Recross-Examination by Mr. Brooks	1384
Further Examination by Commissioner Olson	1390

REPORTER'S CERTIFICATE	1395
------------------------	------

* * *

Tuesday, November 13th, 2007 (Volume VII)
 Commission Hearing
 CASE NO. 14,015

EXHIBITS	1407
----------	------

APPEARANCES	1409
-------------	------

OGAP WITNESSES:

THEO COLBORN (Environmental Health Analyst)

Direct Examination by Mr. Jantz	1415
Cross-Examination by Mr. Hiser	1432
Cross-Examination by Mr. Carr	1450
Cross-Examination by Ms. Foster	1452
Examination by Dr. Neeper	1470
Redirect Examination by Mr. Jantz	1471
Recross-Examination by Mr. Hiser	1475
Recross-Examination by Ms. Foster	1477
Examination by Commissioner Olson	1479
Examination by Chairman Fesmire	1480
Further Examination by Mr. Jantz	1485

MARY ELLEN DENOMY (Oil and Gas Accountant)

Direct Examination by Mr. Jantz	1487
Voir Dire Examination by Ms. Foster	1489
Direct Examination (Resumed) by Mr. Jantz	1491
Cross-Examination by Mr. Carr	1508
Cross-Examination by Ms. Foster	1526

(Continued...)

PUBLIC COMMENTS:

<u>TWEETIE BLANCETT</u> (Blancett Ranches, San Juan County) Direct Testimony	1537
<u>AMY TREMPER</u> (Galisteo Basin) Unsworn Position Statement	1539
<u>ANN MURRAY</u> (Village of Cerrillos) Unsworn Position Statement	1541
<u>STEVE SUGARMAN</u> (Galisteo Basin) Unsworn Position Statement	1542
Transcript of various voices on CD-ROM presented by Tweetie Blancett	1544
<u>TWEETIE BLANCETT</u> (Blancett Ranches, San Juan County) Direct Testimony (Resumed)	1549
Examination by Commissioner Bailey	1549
Examination by Commissioner Olson	1550
<u>DAVID BACON</u> Unsworn Position Statement	1551

OGAP WITNESSES (Resumed):

<u>MARY ELLEN DENOMY</u> (Oil and Gas Accountant) (Resumed)	
Cross-Examination by Ms. Foster	1554
Examination by Dr. Neeper	1579
Examination by Commissioner Bailey	1581
Examination by Chairman Fesmire	1583
Redirect Examination by Mr. Jantz	1596
Recross-Examination by Mr. Hiser	1602
Recross-Examination by Ms. Foster	1604

DIVISION WITNESSES (Continued):

<u>BRAD JONES</u> (Environmental Bureau, NMOCD)	
Cross-Examination by Ms. Foster	1611
Cross-Examination by Mr. Hiser	1686

(Continued...)

PUBLIC COMMENTS:

<u>PAUL THOMPSON</u> (Independent producer and consulting engineer, Farmington, New Mexico)	
Direct Testimony	1703
Examination by Mr. Brooks	1707
Examination by Mr. Hiser	1708
Examination by Mr. Carr	1708
Examination by Dr. Neeper	1710
Examination by Chairman Fesmire	1711
<u>BUTCH MATTHEWS</u> (M&R Trucking, Inc., Farmington, New Mexico)	
Direct Testimony	1713
Examination by Mr. Brooks	1715
Examination by Ms. Foster	1716
Examination by Dr. Bartlit	1718
Examination by Chairman Fesmire	1719
<u>BARRY WIELAND</u> (Weatherford International, Farmington, New Mexico)	
Direct Testimony	1722
<u>JIMMY CAVE</u> (Cave Enterprises, Farmington, New Mexico)	
Unsworn Position Statement	1725
<u>COLLEEN MCCANN</u>	
Unsworn Position Statement	1726
<u>STEVE TALBOT</u> (Cerrillos)	
Unsworn Position Statement	1727
<u>TOM AAGESON</u>	
Unsworn Position Statement	1727
<u>CAROL AAGESON</u>	
Unsworn Position Statement	1729
REPORTER'S CERTIFICATE	1733

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	163	163
Exhibit 2	163	163
Exhibit 3	-	-
Exhibit 4	(58)	205
Exhibit 5	(61)	205
Exhibit 6	(94)	205
Exhibit 7	-	-
Exhibit 8	421	-
Exhibit 9	(373)	399
Exhibit 10	(383)	399
Exhibit 10A	(385)	399
Exhibit 11	(176)	205
Exhibit 12	178	205
Exhibit 13	427	511, 527
Exhibit 13A	430	-
Exhibit 13B	430, 432, 832	834
Exhibit 13C	(345), 433	511
Exhibit 14	428, 449, 511	-
Exhibit 15	449	511
Exhibit 16	457, 459	511
Exhibit 17	450, 458, 484	511
Exhibit 18	484	511
Exhibit 19	676	764
Exhibit 20	677, 764	764
Exhibit 21	679	764
Exhibit 22	-	1159
Exhibit 23	842	1159
Exhibit 24	844, 846, 1109, 1156	1159
Exhibit 25	846, 1157	1159
Exhibit 26	1158	1159
Exhibit 27	847, 1158	1159

* * *

E X H I B I T S (Continued...)

Industry	Identified	Admitted
Exhibit 1	1184, 1212	1216
Exhibit 2	1187, 1212	1216
Exhibit 3	1213	1216
Exhibit 10	1213	-

* * *

OGAP	Identified	Admitted
Exhibit 1	1417	1417
Exhibit 2	1489	1490
Exhibit 3	1418, 1420	1486
Exhibit 4	-	-
Exhibit 5	1491	1607
Exhibit 6	1491	1607
Exhibit 7	1491	1607
Exhibit 8	1491	1607
Exhibit 9	1492	1607
Exhibit 10	1492	1607
Exhibit 11	1492	1607
Exhibit 12	-	1607

* * *

Additional submissions by the Division, not offered or admitted:

	Identified
OCD's Requested Changes to 9/21/07 proposal, 11/7/07	558
e-mail from David Brooks to Kelly O'Donnell, 10/22/07	559

* * *

A P P E A R A N C E S

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FOR THE DIVISION:

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FOR NEW MEXICO OIL AND GAS ASSOCIATION; CONOCOPHILLIPS COMPANY; DUGAN PRODUCTION CORPORATION; and ENERGEN RESOURCES CORPORATION; and an INDUSTRY COMMITTEE comprised of BP America Production Company, Inc.; Benson-Montin-Greer Drilling Corporation; Boling Enterprises, Ltd.; Burlington Resources Oil and Gas Company; Chesapeake Energy Corporation; Chevron USA, Inc.; ConocoPhillips Company; Devon Production Company; Dugan Production Corporation; Energen Resources Corporation; Marathon Oil Company; Marbob Energy Corporation; Merrion Oil & Gas Corporation; Occidental Permian, which includes OXY USA, Inc., and OXY USA WTP Limited Partnership; Samson Resources Company; J.D. Simmons, Inc.; Williams Production Company, LLC; XTO Energy, Inc.; and Yates Petroleum Corporation:

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(Continued...)

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BY: ERIC D. JANTZ
and
BRUCE BAIZEL

* * *

ALSO PRESENT:

JOHN BARTLIT, PhD
DONALD A. NEEPER, PhD
New Mexico Citizens for Clean Air and Water

* * *

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

1 WHEREUPON, the following proceedings were had at
2 9:00 a.m.:

3 CHAIRMAN FESMIRE: Let's go back on the record.

4 Let the record reflect that it is Tuesday,
5 November 13th, 2007, that this is a special meeting of the
6 New Mexico Oil Conservation Commission. The special
7 meeting is to address Case Number 14,015, in the matter of
8 the Application of the New Mexico Oil Conservation Division
9 for repeal of existing Rule 50 concerning pits and below
10 grade tanks and adoption of a new rule governing pits and
11 below grade tanks, closed loop systems and other
12 alternative methods to the foregoing, and amending other
13 rules to conforming changes; statewide.

14 For the record, the case was adjourned last
15 Friday late in the evening. We had finished the direct and
16 cross-examination of Dr. Stephens.

17 Due to scheduling conflicts, the Oil and Gas
18 Accountability Project has asked that they be able to put
19 their witnesses on today. Counsel has agreed to that. Is
20 that correct, counsel?

21 MR. CARR: That's correct.

22 CHAIRMAN FESMIRE: Okay. Let the record reflect
23 that all counsel present indicated that they had agreed to
24 it.

25 Let the record also reflect that Commissioners

1 Bailey, Fesmire and Olson are all present, we therefore
2 have a quorum.

3 Since it's been three days since we've last been
4 together, I'm going to ask the attorneys to renew their
5 appearance at this time.

6 Mr. Brooks?

7 MR. BROOKS: David Brooks for the Oil
8 Conservation Division.

9 CHAIRMAN FESMIRE: Mr. Hiser?

10 MR. HISER: Eric Hiser for the New Mexico
11 industry committee and Yates Petroleum Corporation.

12 MR. CARR: William F. Carr, the New Mexico
13 industry committee, BP, ConocoPhillips and Dugan.

14 MS. FOSTER: Karin Foster for the Independent
15 Petroleum Association.

16 MR. JANTZ: Eric Jantz, the Oil and Gas
17 Accountability Project.

18 MR. HUFFAKER: Greg Huffaker, Controlled
19 Recovery, Inc.

20 CHAIRMAN FESMIRE: Is that all? Not that I'm
21 disappointed, I just want to make sure everybody gets a
22 chance.

23 (Laughter)

24 CHAIRMAN FESMIRE: Okay --

25 MS. FOSTER: Is Citizens for Clean Air and Water

1 here?

2 CHAIRMAN FESMIRE: Pardon, ma'am?

3 MS. FOSTER: Is Citizens for Clean Air and Water
4 here? I didn't hear a --

5 MR. BROOKS: Ms. Belin had indicated previously
6 that she could not be here today.

7 DR. NEEPER: To save you concern, we're without
8 representation today. I think our counsel has a different
9 case.

10 CHAIRMAN FESMIRE: Okay.

11 Pursuant to the agreement previous, Mr. Jantz,
12 are you ready to begin your case today?

13 MR. JANTZ: I am, Mr. Chairman.

14 CHAIRMAN FESMIRE: Are you going to give any sort
15 of an opening statement, or part of an opening statement?

16 MR. JANTZ: We gave our -- OGAP gave its opening
17 statement at the beginning of the hearing on October 22nd,
18 so I think we could go straight to the witnesses.

19 CHAIRMAN FESMIRE: Okay, who's your first
20 witness, Mr. Jantz?

21 MR. JANTZ: I'd like to call Dr. Theo Colborn.

22 CHAIRMAN FESMIRE: Okay, Dr. Colborn, would you
23 please come forward? Dr. Colborn, before you sit down
24 would you raise your right hand and be sworn?

25 (Thereupon, the witness was sworn.)

1 (Off the record)

2 THEO COLBORN,

3 the witness herein, having been previously duly sworn upon
4 her oath, was examined and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. JANTZ:

7 Q. Good morning, Dr. Colborn. Would you introduce
8 yourself, please?

9 A. My name is Theo Colborn. I am an environmental
10 health analyst, president of TEDX, a 502.C.3 organization
11 located in Paonia, Colorado, and a professor at the
12 University of Florida, Gainesville.

13 Q. Could you give us a brief summary of your
14 education and experience, please?

15 A. I have a BS in pharmacy from Rutgers University
16 in New Jersey; an MA in freshwater ecology from Western
17 State College, Gunnison, Colorado; and a PhD in zoology
18 from the University of Wisconsin, Madison, with distributed
19 minors in epidemiology, toxicology and water chemistry.

20 My field and laboratory research for the graduate
21 level degrees involved tracking the mobilization of low
22 levels of toxic trace metals in high-altitude streams in
23 Colorado.

24 In 1985 I moved to Washington, DC, on a
25 fellowship from the US Congress's Office of Technology

1 Assessment and later established and ran the wildlife and
2 contaminants program at World Wildlife Fund until 2003.

3 I have served on the US EPA Science Advisory
4 Board and several EPA panels, the US and Canadian State
5 Department's International Joint Commission's Ecosystem
6 Health Committee since 1989, and advised Environment
7 Canada, Health Canada, the US Fish and Wildlife Service,
8 the US Department of the Interior, the Centers for Disease
9 Control and Prevention, Agency for Toxic Substances and
10 Disease Registry, and similar government agencies in
11 Europe, the United Kingdom, Japan and Denmark.

12 I have published in scientific journals and books
13 on the effects of low-level and/or ambient exposure to
14 toxic chemicals, which has initiated action at the state,
15 national and international level to improve the protocols
16 for testing chemicals when determining their safety.

17 In 2002 I returned home to Paonia, Colorado,
18 where I established TEDX, The Endocrine Disruption
19 Exchange, whose goal is to reduce the use of and exposure
20 to chemicals that interfere with human development and
21 function. TEDX's mission is to provide objective technical
22 information to a wide range of clientele, including policy
23 makers.

24 Q. Dr. Colborn, does any of your research involve,
25 and has any of your past research involved, the effects of

1 hazardous chemicals on human beings?

2 A. Yes.

3 Q. I'd like to show you what has been marked and --

4 CHAIRMAN FESMIRE: Mr. Jantz, would you like to
5 approach the witness?

6 MR. JANTZ: Please.

7 CHAIRMAN FESMIRE: Go ahead.

8 MR. JANTZ: Thank you, Mr. Commissioner.

9 Q. (By Mr. Jantz) I'd like to show you the document
10 labeled Exhibit 1 for OGAP's prehearing statement. It's
11 your curriculum vitae. Is that a fair and accurate
12 representation --

13 A. Yes.

14 Q. -- of your CV?

15 A. It is.

16 MR. JANTZ: Thank you. At this point, Mr.
17 Chairman, members of the Commission, I'd like to qualify
18 Dr. Colborn as an expert in environmental health and move
19 that Exhibit 1 be accepted into evidence.

20 CHAIRMAN FESMIRE: Is there any objection?

21 MR. CARR: No objection.

22 MR. HISER: No objection.

23 CHAIRMAN FESMIRE: Let the record reflect that
24 there was no objection, so we so admit the -- Exhibit 1
25 will be so admitted and her credentials accepted as an

1 expert.

2 MR. JANTZ: Thank you, Mr. Chairman.

3 Q. (By Mr. Jantz) Dr. Colborn, I understand that
4 you have a PowerPoint presentation today. Would you like
5 to begin that?

6 A. Yes. I'm here to speak to you about the possible
7 health effects --

8 MS. FOSTER: Mr. Chairman, I would actually
9 object to the use of this PowerPoint presentation. This
10 was not distributed to counsel, I do not have a copy of
11 this, and if she would like to talk about it I would at
12 least like five minutes to review all the slides myself
13 prior to her testifying.

14 MR. JANTZ: In fact, your Honor, the substance of
15 this PowerPoint presentation is in OGAP Exhibit 3. It
16 includes all the graphs, as well as Dr. Colborn's written
17 testimony.

18 Moreover, we're only using it as a demonstrative
19 exhibit. If counsel would like a few minutes to review the
20 slides, I have no problem with that.

21 MS. FOSTER: I would.

22 CHAIRMAN FESMIRE: Okay. Having started nearly
23 10 minutes ago, we will now take a 10-minute break to allow
24 Ms. Foster to review the exhibits.

25 We'll reconvene at 20 minutes after nine.

1 MS. FOSTER: Thank you.

2 (Thereupon, a recess was taken at 9:10 a.m.)

3 (The following proceedings had at 9:20 a.m.)

4 CHAIRMAN FESMIRE: Let's go back on the record.

5 Ms. Foster, did you get a chance to review the
6 exhibit?

7 MS. FOSTER: I did, thank you for your
8 indulgence, Mr. Chairman. I did review them, and there was
9 also another exhibit that Mr. Jantz showed me concerning
10 OGAP's other witness, which we would not -- which had not
11 been given to counsel, but he did show me that second
12 exhibit, and I have asked him to give me hard copies of
13 that, but that pertains to their next witness.

14 As to this exhibit, thank you for allowing me to
15 review it.

16 CHAIRMAN FESMIRE: Okay. Mr. Jantz, would you
17 please continue?

18 MR. JANTZ: Thank you, Mr. Chairman.

19 Q. (By Mr. Jantz) Dr. Colborn, would you care to
20 present your PowerPoint?

21 A. Yes.

22 Q. Thank you.

23 A. I am here to speak to you about the possible
24 health effects of the chemicals that were detected by the
25 oil and gas industry, which it submitted to the Pit Rule

1 task force, in at least one sample in each of the six
2 drilling reserve pits in New Mexico, and the data were
3 submitted to TEDX on May 16th, 2007.

4 Q. So, Dr. Colborn, your analysis is based on
5 industry data?

6 A. Yes.

7 Q. Thank you. Please go on.

8 A. Okay, thank you.

9 To do this, I will provide some background for
10 the Commission on how and why TEDX staff structured the
11 information that you have in handout about the health
12 effects of the chemicals found in the six New Mexico pits.

13 Q. Now Dr. Colborn, when you talk about your handout
14 are you talking about OGAP Exhibit 3? And may I approach
15 the witness --

16 CHAIRMAN FESMIRE: You may, sir.

17 MR. JANTZ: -- Mr. Chairman?

18 THE WITNESS: No --

19 MR. JANTZ: That's essentially what you --

20 THE WITNESS: Okay, this is what I submitted.

21 MR. JANTZ: Yeah.

22 THE WITNESS: Is it all -- then both of them are
23 here, it's in one --

24 MR. JANTZ: Yeah, yeah.

25 THE WITNESS: Oh, okay. Yes, I'm sorry. I

1 looked at the top only. All right, fine.

2 Q. (By Mr. Jantz) Please continue, Dr. Colborn.

3 A. I will discuss how we use the information on the
4 materials -- oh, let me see -- yeah, how we went ahead and
5 we started to structure the information, and I will discuss
6 how we used the information on the material safety data
7 sheets that accompany chemicals that can be harmful.

8 And for comparison purposes I will then present
9 an overview of an analysis of the possible health effects
10 of the chemicals that are used in gas and oil production in
11 New Mexico.

12 I will then provide a similar analysis of the
13 chemicals that were reported in the residues from six gas
14 and oil drilling reserve pits from two regions in New
15 Mexico, and will close with a look at the residues in
16 relation to the chemicals on the CERCLA and EPCRA lists of
17 toxic chemicals.

18 So for three years TEDX has received the names of
19 products used in oil and gas fields in New Mexico. As the
20 information came in, we entered the names of the products
21 into an Excel spreadsheet, and when the information was
22 available we listed their chemical ingredients as well.

23 We then searched the peer-reviewed literature and
24 government and industry documents for the health of the
25 chemicals.

1 As we entered the health effects of the chemicals
2 they broke out into 14 different categories, and to date
3 there are now 1430 citations in our database to pack up our
4 findings.

5 When a material safety data sheet, or an MSDS,
6 was available for a particular product we also entered that
7 information into the health-effects columns on the
8 spreadsheet. We found that the health information on the
9 MSDS's is limited, it provides data about the immediate
10 acute toxic effects of the chemicals in the product but in
11 most cases does not take into consideration the long-term
12 delayed health effects, other than cancer.

13 The purpose of the MSDS is to alert those
14 handling the product and those providing emergency response
15 assistance in the case of a spill or accident. When the
16 use of respirators, eye protection, suiting up and hosing
17 down after handling the product is needed, it will appear
18 on the MSDS. The MSDS's may only list one or two of the
19 chemicals in a product, and the sheets do not have to
20 account for 100 percent of a product.

21 Next.

22 The last time TEDX updated the New Mexico
23 spreadsheet, there were 214 products and 172 different
24 chemicals on the list. We were able to find health effects
25 for 94 percent of the products. The other six percent

1 represents the products for which there is no information
2 because it is either proprietary or no health studies could
3 be found.

4 Of the 94-percent products that had health
5 effects, only 17 percent had one to three effects, and 83
6 percent had four to 14 effects.

7 In looking at all the products again, 43 percent
8 contained endocrine disruptors. That is, they have the
9 potential for adverse health effects on the hormone systems
10 that control the construction of our bodies and how we
11 function. They are especially damaging during the earliest
12 stages of development, before birth.

13 Q. Now Dr. Colborn, could I interrupt you for a
14 second? What are the indications of exposure to endocrine
15 disruptors?

16 A. Well, from fertilization to birth the baby is
17 under the control of numerous hormones and auxiliary enzyme
18 systems that actually operate in the range of about a part
19 per billion down to less than a part per trillion. Very
20 low concentrations.

21 And there is now a growing list of chemicals that
22 have been identified that can interfere with the hormone
23 systems that control how a baby is constructed [sic] and
24 alter how the child will function later in life. In other
25 words, they interfere with the programming, just like the

1 programming of a computer of the child.

2 The endocrine disruptors can interfere with the
3 programming of the brain and the vital organs and undermine
4 intelligence and behavior and the ability to reproduce, and
5 more recently, we are discovering now, they can cause what
6 we call second-generation cancers, precipitate a cancer in
7 the offspring of the parents who were exposed.

8 Consequently, the expression of damage resulting
9 from adult exposure, then, to endocrine disruptors has to
10 be -- can be manifested in the child, and we call these
11 trans-generational health effects.

12 Q. Thank you.

13 A. Here we see a pattern. What we did, then, was to
14 break out the data. We had it there, we didn't know what
15 to do with it. And I said, Well, let's start organizing
16 this and looking at it and see if there is any kind of a
17 pattern to what we are seeing. And you see a pattern here
18 of the possible health effects that our data analysis
19 produced by the 172 chemicals in the products used to
20 generate and deliver gas and oil in New Mexico.

21 For visual purposes, we've plotted only the top
22 nine effects. And I can take it across here, I'm sure.
23 It's skin and eye irritation -- Let me see, it would
24 probably be next respiratory, gastrointestinal,
25 neurological -- I didn't want to shine this in your face,

1 I'm sorry.

2 MR. HISER: That's okay.

3 THE WITNESS: Deadly, you know.

4 MR. HISER: Uh-huh.

5 THE WITNESS: -- cardiovascular, kidney, immune
6 response, reproduction and cancer.

7 You can see that, the full numerical breakout of
8 the hard copies of this, by the way, again in that handout
9 that you have.

10 Across the bottoms of the graphs, you will see
11 the names of the health effects. The height of the bars
12 represent the percentage of the chemicals on the list that
13 can cause that particular effect.

14 As you can see from left to right, those effects
15 on the left are more likely -- I don't dare use this, okay.
16 On the left they're more likely to damage -- cause damage
17 to the skin, eyes, sinus, nose, throat, lung and stomach.
18 And they also have immediate neurotoxic effects ranging
19 from headaches, blackouts, memory loss, confusion, complete
20 exhaustion and permanent neuropathies.

21 Some of the chemicals have been identified as
22 sensitizers because they have a tendency to cause
23 allergies.

24 Now you see a lower percentage of the chemicals
25 cause disorders that develop slowly, such as the immune,

1 cardiovascular, kidney, reproductive organ damage and
2 cancer. And you can see in this particular pattern there
3 are less than 40 percent.

4 These health effects are often difficult to
5 diagnose early on except for the immediate irritation
6 problems that you see, and trying to link them with an
7 environmental contaminant would be almost impossible for a
8 physician in the course of trying to do a diagnosis with a
9 patient.

10 Q. (By Mr. Jantz) And why is that, Dr. Colborn?

11 A. Well, because for one thing, the doctor -- many
12 of these effects are the kind of common things you see,
13 previral infections, people get asthma, they get --
14 typically the average kind of annoyance kind of disorders
15 that we have that they go to the doctor's for treatment.

16 And remember, doctors are very, very -- they do
17 not do much in terms of doing case histories with their
18 patients. You come in with a sinus infection, the doctor
19 wants to treat it. He's not interested in trying to find
20 out where you've developed it.

21 And if the problem persists and the doctor may
22 ask a few more questions, in many instances the patients
23 don't even know they're exposed, nor do the doctors know
24 that there are chemicals like this in the environment. And
25 it would take a very brilliant doctor to be able to link

1 any chemical, believe me, with any particular effect
2 because doctors are not trained to do this.

3 Q. Thank you.

4 A. Now, have we got the next one up? Yes, okay.

5 Upon breaking out the health effects of only the
6 water-soluble chemicals used in New Mexico, the sequence of
7 disorders barely shifts, as you can see again, but these
8 are only the water-soluble ones. And here you see a
9 pattern that looks a little more toxic. And as you can
10 see, down here we're getting up to about 50 percent. Close
11 to a hundred percent, skin, eye and sensory -- sensory
12 organ irritation and damage.

13 And you can see over here, right on the right,
14 wildlife effects do begin to appear in the top nine of the
15 health effects.

16 Next.

17 In order to produce this graph, we took
18 industry's test result data from the six New Mexico reserve
19 pits that OGAP send to TEDX last May 26th. We put the
20 chemicals, then, into an Excel spreadsheet and similarly
21 searched their health effects in the peer-reviewed
22 literature and government and industry documents.

23 So the 51 chemicals that were detected produced a
24 health pattern even more toxic than anything we have
25 discovered thus far.

1 We found that 43 of the 51 chemicals that were
2 detected in the pit were not on our list of chemicals used
3 to produce gas and oil in New Mexico, and many of the
4 chemicals are at concentrations well above state and
5 federal safety levels.

6 Since only eight chemicals detected in the pits
7 matched the chemicals in our New Mexico spreadsheet, we
8 asked to see the chemical analytical protocols used to test
9 the pit residues and found that except for those eight
10 chemicals, the pit residue study design did not include
11 testing for the other chemicals on the list.

12 The chemicals that overlap included naphthalene
13 and seven metals: arsenic, cadmium, mercury, zinc, lead and
14 copper.

15 Q. Now, Dr. Colborn, have you reviewed the Oil
16 Conservation Division's Excel spreadsheet, which was their
17 Exhibit 16, that had the data about their sampling results?

18 A. I only got to see it late yesterday afternoon.

19 Q. Okay.

20 A. And I did look at it. It was very cursory, but I
21 did see it.

22 Q. Was there overlap between the two?

23 A. Well, I made a little kick-off note here. Here
24 we go. Where is my sheet?

25 There was an overlap of 22 chemicals.

1 Q. Okay. I also had a quick question about the
2 number of chemicals used in oil and gas operations in New
3 Mexico, versus the number that are in pits.

4 Not all these chemicals are going to appear in
5 pits; is that accurate?

6 A. That's accurate.

7 Q. But do the patterns that you describe here for
8 health effects still hold, regardless of the chemicals in
9 the pits?

10 A. I'm trying to figure out what you're asking me,
11 Eric.

12 CHAIRMAN FESMIRE: Mr. Jantz, would you re-ask
13 that question?

14 MR. JANTZ: I certainly will.

15 THE WITNESS: Yes --

16 Q. (By Mr. Jantz) The pattern -- the health
17 patterns you describe, you described -- you found patterns
18 of health effects from the chemicals that are found in pits
19 and that are found in oil and gas --

20 A. Yes.

21 Q. -- operations.

22 A. Uh-huh.

23 Q. Do these patterns hold regardless of where the
24 chemicals are used?

25 A. Oh, yes, the interesting thing is that we are

1 also looking at Colorado, we've been looking at New Mexico
2 in building these basic health patterns. The health
3 patterns have been almost identical. The top four here,
4 all the skin, eye, respiratory -- what's the other one in
5 there? Okay, oh, yes, respiratory and neuro and
6 gastrointestinal have held at the top of the list --

7 Q. Okay.

8 A. -- no matter what we've looked also.

9 We also are trying to do sensitivity testing with
10 this, because there's not much you can do with it, but we
11 oftentimes just took -- dropped out -- took a computer
12 dropout type of thing, it's -- let the computer throw out a
13 number of chemicals, you know, just loosely and unbiased in
14 any way, and actually kept getting the same pattern as we
15 started building this. We didn't start looking for the
16 pattern until we had about half the data that we have now,
17 particularly for Colorado, and as we kept adding the
18 pattern held. There may be a shift, a percentage shift, as
19 we kept adding new chemicals, but it didn't change this
20 particular pattern at all. So I think this is the kind of
21 pattern you would expect.

22 And again, the ones that you can see immediately
23 again are on the left. These others are always the longer-
24 term delay problems, would be on the right.

25 Q. Thank you. Please continue.

1 A. Now I'd like to go back to review just -- what I
2 just showed you once more, and -- Flip again. Again.

3 Here you see the overall pattern of the possible
4 health effects for all chemicals used in New Mexico. And
5 then here you see the pattern for only the water-soluble
6 chemicals used in New Mexico. They overlay. And then here
7 you see the pattern for the 51 chemicals reported in six
8 different pit residues.

9 So in closing -- Next graph.

10 In closing, this graph is based on the percentage
11 of the 51 chemicals -- that would be white bars -- found in
12 the six pits that are on the Superfund or CERCLA, and I
13 guess because I am testifying, I'd better read out what
14 CERCLA is. That is the Comprehensive Environmental
15 Response, Compensation and Liability Act, summary data for
16 2005, priority list of hazardous substances.

17 And then on the EPCRA list, the Emergency
18 Planning and Community Right to Know Act, section 313,
19 chemical list for reporting year 2006.

20 And the EPCRA lists of lists, which is new,
21 they've just done this, and that's a consolidated list of
22 chemicals subject to the Emergency Planning and Community
23 Right to Know Act, and section 112.(r) of the Clean Air
24 Act.

25 So as you can see here, about 75 percent of the

1 chemicals that were in the pit are on the CERCLA list, the
2 Superfund list, and then the EPCRAS drop down to about 50,
3 and then the EPCRA list of lists is higher.

4 And then for the 13 chemicals that were found
5 over the limits which the committee report -- the
6 government -- the industry report provided for us, we now
7 find that on the CERCLA list you're jumping up to 84
8 percent of those that are on the over-the-limit for safe
9 levels in the State of New Mexico. And then jumping over
10 to about 70 percent here for the two EPCRAS.

11 And that's my testimony.

12 MR. JANTZ: Thank you, Dr. Colborn.

13 I'd like to offer this witness for cross-
14 examination.

15 CHAIRMAN FESMIRE: Mr. Brooks?

16 MR. BROOKS: No questions, your Honor.

17 CHAIRMAN FESMIRE: Mr. Hiser?

18 MR. HISER: Oh, I'm sure I have a couple
19 questions.

20 CROSS-EXAMINATION

21 BY MR. HISER:

22 Q. Thank you, Dr. Colborn. In your opinion, what's
23 the technical distinction between the terms "hazard" and
24 "risk" as you would use them as an environmental health
25 professional?

1 A. Hazard basically measures the probable in terms
2 of health, health effects, and risk is based on exposure.

3 Q. And the information that you've been presenting
4 here so far today, has it been mostly in terms of hazard?

5 A. Yes.

6 Q. Now, is it true that the -- that whether or not
7 those hazards would be realized is going to depend upon the
8 dose of the receiving organism, whether that be a human or
9 something else?

10 A. Yes.

11 Q. And --

12 A. I'll take that back. Dose and timing.

13 Q. Dose and timing?

14 A. Timing.

15 Q. So there may be a difference between a short-term
16 high dose and a long-term chronic exposure?

17 A. And the state of development the individual is in
18 during its exposure period.

19 Q. Okay. Now don't your tables basically sort of
20 confirm, I think an observation was made by the OCD staff
21 that all 172 chemicals could be toxic if the dose was high
22 enough?

23 A. I don't know. I haven't seen -- Okay, I don't
24 know what the OCD said.

25 Q. That's fine.

1 A. Well, certainly, I get this argument all the
2 time, I'll tell you that. You can drink too much water,
3 you'll die --

4 Q. Uh-huh.

5 A. -- so -- Okay.

6 Q. Okay. Now is it your testimony today basically
7 that if the chemical has the potential to produce an
8 adverse effect or hazard, as you've demonstrated, that it's
9 then the OCD's responsibility to identify and regulate that
10 chemical? Is that what you're asking the Commission to do
11 today?

12 A. I want them to take it into consideration, yes.

13 Q. Okay, take it into consideration in what way?

14 A. In terms of how they manage the use and the
15 disposal of the chemicals.

16 Q. And so as an environmental health professional,
17 what tools are you recommending to the Commission that they
18 use in doing that? I dose going to be important to that?

19 A. Yes, dose will be very important to that.

20 Q. From your evaluation of the literature and the
21 work that TEDX has done, which of the chemicals that you've
22 looked at do you believe are present in drilling pits at
23 levels that might be high enough to produce the types of
24 adverse effects that you've listed in your table?

25 A. I just gave you that. Can we go back through?

1 Q. So this is ones that you believe would be high
2 enough to actually have an effect, based on a dose-response
3 evaluation?

4 A. You're going to start ranking chemicals, you
5 could go back and start working with the bar graphs that I
6 gave you, looking at the pattern.

7 With hazardous chemicals, the way to deal with it
8 is to try to reduce exposure as much as possible.

9 Q. Correct.

10 A. So if we use technology that can reduce exposure,
11 let's go for it.

12 Q. Is there any reason to reduce exposure if that
13 exposure is not at a level that would cause an effect?

14 A. I think we just showed you that a number of these
15 chemicals in the pits are at the levels, at exposures at
16 which they need to be taken care of.

17 Q. Well, I guess I'm confused, Dr. Colborn, because
18 I don't know that I saw any dose information presented in
19 your information. Which of your graphs shows us a dose
20 exposure? Could you put it back up?

21 A. I don't.

22 Q. Well then how can you conclude that there's going
23 to be an effect based on the dose?

24 A. Because -- Well, do you want to take a particular
25 chemical? Let's look at arsenic. We're getting -- Let's

1 take lead. We have learned now that the levels that we
2 thought were safe 25 years ago for lead now -- are more
3 than an order of magnitude lower now in terms of what we
4 know about the damage to our children's brains and how
5 they've developed. Lead at extremely low doses now has
6 been linked with criminal behavior, as you get older. We
7 didn't know that 20 years ago.

8 Q. Well, once again, Dr. Colborn --

9 A. Well, here's the problem. None of these
10 chemicals have been tested for the effects that we're
11 concerned about.

12 Q. I'll repeat my question, though, which is that
13 that's a hazard of lead, and I don't think that anybody in
14 this room is going to dispute the hazard that lead my pose.
15 The question is, do the drilling pits or the materials here
16 have an amount of lead that a person could receive a dose
17 that would cause the effect that you're -- that is of
18 concern to you, and have you shown that in your testimony
19 today?

20 A. I have not shown that in my testimony, because if
21 I started doing that, we would be here for a week going
22 through the literature, and then I would have to take
23 chemical by chemical by chemical, because we have to look
24 at cumulative exposure as well.

25 Q. But you would agree that as an environmental

1 health professional making a recommendation to a policy-
2 setting body like the Commission, that looking at that
3 dose-response relationship is an important aspect of what
4 should be done?

5 A. Definitely.

6 Q. Are you familiar with the EPA analytical methods
7 that were used in the OCD and industry sampling programs

8 A. I saw what they wrote. I was not impressed.

9 Q. Okay. And what would be -- Are those EPA methods
10 generally deemed to be appropriate and adequate to give --

11 A. Not anymore.

12 Q. Not anymore. And what would be your critique of
13 those EPA methods?

14 A. I'm afraid I can't answer that question without
15 -- I would have to look -- go back and look at it and be
16 very careful about it.

17 But I know one thing. We have not tested any
18 chemical today for its endocrine effect on the developing
19 embryo, using a verified, validated assay to test the
20 chemicals. And also I though -- One thing I do know, I
21 thought EPA's list was short on the number of chemicals
22 that they needed to look for.

23 Q. EPA's list?

24 A. (Nods)

25 Q. Does EPA's -- while we're on that, under the

1 Toxic Substances Control Act review the chemicals?

2 A. Pardon me, I can't hear you.

3 Q. Does EPA under the Toxic Substances Control Act
4 review the chemicals before they're released on the market?

5 A. No.

6 Q. They do not.

7 A. They do, but they're looking at traditional
8 toxicology. They're not looking at the new way to look at
9 and determine the safety of chemicals.

10 Q. And when you say that they're not looking at that
11 new way, is that new way generally accepted now in the
12 scientific community?

13 A. Pardon me?

14 Q. Is that, quote, new way generally accepted in the
15 scientific community?

16 A. The scientific community accepts it, but the
17 regulatory agencies have not figured out how to take that
18 knowledge and interpret it into -- and get it into the
19 regulatory process, because they've based their -- all of
20 their studies and the health effects of chemicals on high-
21 dose testing on adult animals, and then extrapolating down
22 to the lowest dose on the bar, on the -- you know, on the Y
23 axis, and you cannot predict what kind of effects chemicals
24 are going to have on a developing embryo. You cannot
25 predict that from high-dose testing.

1 And EPA is having a difficult time right now
2 working on this issue. There's a lot of internal work
3 going on, on it. They're under review by Congress because
4 of this lack of using the knowledge that we have gained
5 about chemicals and their use.

6 But I'll be quite frank with you. The chemicals
7 that are in your pit list are dangerous chemicals. They're
8 chemicals that are extremely toxic. And if you would give
9 me time I can -- believe me, I can go back. I need my
10 computer in front of me, I need my spreadsheets, and I
11 could answer your questions better. But you're dealing
12 with chemicals that are immediately toxic.

13 Q. Toxic, if there's --

14 A. If someone went in there they'd get very sick,
15 believe me. And if --

16 Q. If they were to be exposed at a dose that would
17 have that effect?

18 A. Yes, I am certain that would happen.

19 Q. Now, you said that the analytical procedures that
20 were used by OCD and the industry were not perhaps the
21 best. What other approaches would you have recommended?

22 A. I would have recommended that they started
23 looking for some of the chemicals that we know are being
24 used by industry, and look for them.

25 Q. Okay, and what methodology would you propose to

1 be done for that purpose?

2 A. Well, the protocols that are out there to test
3 for the chemicals that they didn't look for. They just
4 didn't look for all the chemicals that we know are being
5 used, they were not -- the lists that I saw did not look
6 for the chemicals, they did not match the chemicals that we
7 had a list for, that they tested for.

8 Q. And is the list that you've developed -- is that
9 one that relies on such sources as the EPA 1987 report and
10 the two 2000 reports?

11 A. No, the list we produced was from the information
12 received from OGAP on chemicals that are being used in New
13 Mexico to process, develop and deliver gas.

14 Q. So your list is only as good as what OGAP has
15 supplied you with?

16 A. That's right.

17 Q. As a scientist and a health professional, how
18 would you evaluate whether a specific chemical is present
19 in a pit at an unacceptable level? What steps would you go
20 through?

21 A. I would go back to the health literature.

22 Q. Okay, so that gives you the hazard of chemical,
23 does it not?

24 A. That's right, uh-huh.

25 Q. And what else would --

1 A. For a lot of these chemicals there was no health
2 testing, no data to support what was on the MSDS sheet. I
3 wish my associate were here who had done this work for me,
4 but she was not able to come.

5 There are a couple chemicals right on the top of
6 the list -- dibromofluoromethane, tetrachloro-m-xylene --
7 for which we could find no health-effect literature
8 anywhere. Apparently the chemicals have never gone through
9 this kind of testing.

10 And it's not uncommon, because when you start
11 mixing these highly reactive chemicals like fluorine and
12 bromine and chlorine together, you get all kinds of
13 combinations. And I'm sure that many of these were not
14 produced intentionally, so that basically there would be no
15 health literature out there for -- they didn't even have a
16 -- some of them didn't have CAS numbers.

17 Q. Do all compounds have to have CAS numbers?

18 A. No, they don't. I mean, they -- Well, it would
19 be nice if they did, but the American Chemical Society
20 can't keep up with that. They have well over 360,000
21 chemicals now they're dealing with, and they're getting new
22 products every day, so we're seeing new CAS numbers turning
23 up. The first thing we always do when we get the name of a
24 chemical, we go immediately to the CAS list to see if
25 there's anything there on it.

1 Q. Did you have an opportunity to review the
2 Division's proposed rule as part of your preparing for this
3 testimony --

4 A. No.

5 Q. -- proposed pit rule?

6 A. Wait a minute. Okay, you're talking about the
7 proposed rule. This is where they want to use the closed-
8 loop system?

9 A. This would be where they're moving towards either
10 a closed-loop system, and then they set certain performance
11 standards for, for example, total petroleum hydrocarbons,
12 BTEX --

13 A. I did read that. I didn't know whether there was
14 anything new. Oh, yes, I think it's very good idea.

15 Q. What do you understand to be the specific concern
16 respecting total petroleum hydrocarbons? What's the --

17 A. Now I couldn't hear you again.

18 Q. What is the -- what do you -- as an environmental
19 health professional, what for you is the concern with total
20 petroleum hydrocarbons?

21 A. They're endless, they're hard to control, because
22 you're dealing with, you know, the cracking of crude or
23 anything else. You get a long list of chemicals. I should
24 have brought the list, the latest breakout of what you get
25 when you start fooling around with petroleum products.

1 Q. Well, if you look at crude oil, for example, has
2 crude oil ever had a toxicological assessment done on it?

3 A. I don't know.

4 Q. Okay.

5 A. I'm sure -- I know one thing, it isn't the same
6 wherever you get it.

7 Q. No, that's true --

8 A. Yes.

9 Q. -- there are crudes that are different, having
10 more --

11 A. It would be very tough, very difficult.

12 Q. What is your understanding of the objectives
13 behind limiting of chloride, in the groundwater for
14 example?

15 A. What did you say?

16 Q. What would be the concern with having chloride in
17 the groundwater?

18 A. Well, it's an indicator species.

19 Q. An indicator species for what?

20 A. For the invasion of salt products.

21 Q. For the invasion of salt.

22 A. Salts.

23 Q. Are there any specific health concerns in regard
24 to the chloride anion?

25 A. Hypertension.

1 Q. Hypertension. And in general, though, are we
2 concerned about the chloride anion, or about the cation
3 that may be associated with it?

4 A. Is the cation associated with it?

5 Q. I think we have sodium chloride --

6 A. All right, you're talking -- okay. Of course
7 you're concerned about sodium. Yeah, both.

8 Q. Are you familiar with the New Mexico Water
9 Quality Control Commission's list of 3103 constituents?

10 A. No.

11 Q. I think in one of your slides here -- I think it
12 may have been the one just previous to this -

13 A. Can you go back?

14 Q. -- you listed there a number of -- maybe it
15 wasn't, but anyway you said over limits. What limits were
16 those?

17 A. They're the --

18 Q. There were 13 chemicals, you said, that were
19 over --

20 A. -- soil -- there were 13 that were over the
21 limits that were set by the State of New Mexico for either
22 soil, the SSL's or other health effects.

23 Q. And so you're repeating that information that was
24 presented by the industry committee or --

25 A. Yes.

1 Q. -- the Oil Conservation Division? Okay.

2 Couple of questions about your -- I don't -- Are
3 you entering this report, Exhibit 3?

4 MR. JANTZ: I plan to, yes.

5 Q. (By Mr. Hiser) On page 4 of the exhibits you
6 give a concern about landfarming as a way that materials
7 can be entered into that. Can we place liquids into
8 landfarms in New Mexico? Do you know?

9 A. Pardon me, I can't -- You're going to have to
10 speak louder. I seem to be hard of hearing, and there's
11 overground noise.

12 Q. All right, I'm sorry.

13 A. I'm getting old.

14 Q. On page 4 of your Exhibit Number 3 where you're
15 talking about comments on chemical use and disposal,
16 towards the bottom of the first paragraph --

17 A. Uh-huh.

18 Q. -- if that's helpful, you make a couple of
19 comments there about how landfarming can release toxic
20 chemicals to the air. And I guess my question -- And you
21 seem to be talking about this mostly in the context of
22 liquids, and so I was wondering if you know whether we can
23 dispose of liquids in landfarms in New Mexico?

24 A. I don't know whether you do in New Mexico, but I
25 know where they do at other places.

1 Q. Okay, but you don't know about New Mexico?

2 A. I don't know New Mexico specifically, no.

3 Q. In the next paragraph you talk about regional
4 differences in geology and technology, that 100 percent of
5 injected material may remain underground. Do you know if
6 that's the case in New Mexico?

7 A. I don't know. I know where it does.

8 Q. Now in the third paragraph you state that, Highly
9 persistent and mobile chemicals could migrate from these
10 pits into underground --

11 A. Now wait a minute, you're losing me. Where are
12 you now?

13 Q. I'm on the same page, ma'am, on page 4 under your
14 Chemical use and disposal --

15 A. Okay.

16 Q. -- in the third paragraph at the very bottom of
17 that paragraph.

18 A. Uh-huh.

19 Q. You make the statement that, Highly persistent
20 and mobile chemicals could migrate from these pits into
21 underground water resources.

22 A. Uh-huh.

23 Q. Do you know if they actually do, or is this
24 merely that they have the potential to do so?

25 A. We have evidence of aquifer damage.

1 Q. Is that for all of the different chemicals, 172,
2 or just for a smaller --

3 A. No, this is a general statement --

4 Q. General statement.

5 A. -- that chemicals have been shown. And if you
6 would like, I can go back and we can work at the office and
7 I can send you some examples where there have been major
8 aquifer damage.

9 Q. Now finally you talk about how -- in the fourth
10 paragraph there, you're talking about products have to be
11 shipped and stored before they're transported and that
12 hence they pose a hazard on the highways.

13 What's your opinion about taking all these
14 hazardous materials and, instead of leaving them where they
15 were, placing them into trucks and then shipping them
16 through communities? Is that a good idea?

17 A. It's not a very good idea.

18 Q. Okay, I see.

19 A. But it may have to be done temporarily.

20 Q. Well, what would be the -- Is the health
21 consequence of that going to be greater from leaving it in
22 place or from running it through the community? If I have
23 a remote pit, which many pits are remote, not all.

24 A. I don't know, but I know -- you know, we're
25 sitting over in Colorado right now where in a period of two

1 weeks we had a number of serious spills, trucks --

2 Q. From trucks?

3 A. Yeah, you know, the usual --

4 Q. Were there adverse effects --

5 A. -- it's --

6 Q. -- from those --

7 A. That's right.

8 Q. -- from those --

9 A. So we have problems now, we're going to have
10 problems now. That's why we need to go to the closed
11 system. Then we wouldn't have to face this anymore, we can
12 reduce the probability of these kinds of things happening.

13 Q. Does closed loop reduce the amount of truck
14 traffic?

15 A. It sure will, if you're --

16 Q. How?

17 A. -- if you're not going to have to use trucks.

18 Q. So if --

19 A. It won't reduce it completely, of course.

20 Q. I guess I'm confused, then, Dr. Colborn, by what
21 you are advocating as a closed-loop system. Are you
22 proposing that we leave the pit materials present on-site,
23 or are you proposing that we truck them to another site?

24 A. No, that's the problem you're dealing with now.
25 In a closed-loop system the chemicals will not have to be

1 trucked. They will be taken, reinjected on the site, or
2 moved and used on another site, through a pipe --

3 Q. Okay --

4 A. -- the newest -- I'm thinking of the latest
5 technology.

6 Q. Okay.

7 A. Okay.

8 Q. So in your vision, either injecting them back or
9 taking them and using them at another site is preferable
10 to --

11 A. Piping it.

12 Q. -- putting them into a pit or trucking them
13 through communities?

14 A. I think it would be. I don't know, I would have
15 to look at the figures. I'm going to have to -- You're
16 taking me beyond what I know, quite frankly, and I do not
17 want to be considered an expert in how to deal with this.

18 Q. Okay. Then I guess the last thing, I would ask
19 that you come back and ultimately -- There's hazards with
20 these chemicals, but whether those hazards are realized
21 would depend upon the dose; is that correct?

22 A. That's right --

23 Q. Thank you --

24 A. -- based on exposure.

25 MR. HISER: -- Dr. Colborn.

1 THE WITNESS: Thank you.

2 MR. HISER: Thank you.

3 CHAIRMAN FESMIRE: Mr. Carr?

4 CROSS-EXAMINATION

5 BY MR. CARR:

6 Q. Dr. Colborn, I believe you testified that you
7 took the data from the industry sampling and that then
8 based on your review you determined that there were 51
9 chemicals above state safety levels; is that correct?

10 A. That's what the study said.

11 Q. What state safety levels --

12 A. No, no, there were 51 chemicals. 13 were over
13 the limit, according to your report.

14 Q. Okay, and when -- I'm trying to find out what
15 those limits are. When you talk about state safety levels,
16 where do you find those?

17 A. This was selected out of your report.

18 Q. I mean, are you looking at Water Quality Control
19 Commission sample levels?

20 A. This was all -- this would have included any of
21 the chemicals that were above any kind of a safe level,
22 whether it was the state level, the federal level or the --

23 Q. But my question is, when we have these levels
24 that have been set by the state --

25 A. Yes.

1 Q. -- are those levels based on -- are these
2 exposure levels that we're talking about?

3 A. They were --

4 MR. JANTZ: Objection, Mr. Chairman. Dr. Colborn
5 has already testified where she got the information. The
6 relevance of the policy behind that information is not at
7 issue here.

8 MR. CARR: I'm not asking what her policy is, I
9 just -- When we say state safety levels, I just want to
10 know what we're talking about.

11 CHAIRMAN FESMIRE: Mr. Jantz, I'll overrule the
12 objection. Go ahead and answer, Doctor.

13 THE WITNESS: All I can tell you is --

14 Q. (By Mr. Carr) Uh-huh.

15 A. -- that in the report --

16 Q. Yeah.

17 A. -- they spoke about the SSL's and other health
18 effects --

19 Q. Okay.

20 A. -- and they pointed out there were 13 chemicals
21 on that list over the safety level.

22 Q. And I'm not trying to ask you a question you
23 don't know the answer to. I'm just asking you if when we
24 talk about safety levels, aren't we talking about the
25 exposure to the chemical, as opposed to just the --

1 A. No, the concen- --

2 Q. -- chemical?

3 A. -- this is the concentration that you should not
4 be exposed to.

5 Q. Okay.

6 A. Okay, is that --

7 Q. That answers --

8 A. I'm sorry, I didn't understand your question.

9 Q. Thank you.

10 A. Okay.

11 MR. CARR: That's all I have.

12 CHAIRMAN FESMIRE: Ms. Foster?

13 MS. FOSTER: Thank you.

14 CROSS-EXAMINATION

15 BY MS. FOSTER:

16 Q. Dr. Colborn, you're not a medical doctor, are
17 you?

18 A. No, I am not.

19 Q. Okay, and your PhD is in zoology?

20 A. Yes.

21 Q. Could you give me the definition of -- you said
22 that in your zoology PhD that you did a -- I don't know the
23 exact word, but you did a specialization --

24 A. You're going to have to speak slower and speak
25 louder, I can't hear you.

1 Q. You'd like me to speak louder?

2 A. Yeah, that would help.

3 Q. Okay, I'll speak --

4 A. Good.

5 Q. -- louder then. You did a specialization in
6 epidemiology?

7 A. Toxicology and water chemistry. My PhD in
8 zoology was a distributed minor.

9 Q. In epidemiology?

10 A. In epidemiology, toxicology and water chemistry,
11 in the zoology department.

12 Q. Okay, and could you give me a definition of
13 epidemiology?

14 A. Epidemiology is the study of human disorders,
15 population study, level of health effect.

16 Q. Okay.

17 A. Very simple --

18 Q. It's concerned with the incidence of disease as
19 it --

20 A. That's right.

21 Q. -- relates to --

22 A. -- to --

23 Q. Okay.

24 A. -- populations.

25 Q. All right. And I believe in your previous

1 examination you stated that there are quite a few chemicals
2 that the effects have not been studied yet, correct?

3 A. There are chemicals that have not been thoroughly
4 tested.

5 Q. Right.

6 A. Okay.

7 Q. And how would one as an epidemiologist go through
8 thorough testing of a chemical that's in the pit?

9 A. Epidemiologists don't test chemicals in pits.

10 Q. Okay, but you're here as an expert with your
11 background, stating that these toxins are in the pits and
12 that they have adverse effects; is that not what you're --

13 A. That's right.

14 Q. -- testifying to?

15 A. But I am not looking at the population level
16 effects. I have not taken this to the population level
17 effect or even to the individual effect.

18 Q. All right, then I want to make sure that I
19 understand what your charts stated, then. You are taking
20 an EPA list of what they consider to be a toxin, correct?

21 A. No.

22 Q. All right.

23 A. I'm taking -- I am taking the peer-review
24 literature as well. EPA -- we took -- There are hundreds
25 of studies out there on some of these chemicals, because

1 they have been so well studied. We went to the peer-
2 reviewed literature to look what the health effects were of
3 these chemicals.

4 Many of the epidemiological studies that are
5 underway right now have never been based on the EPA -- what
6 EPA says is a safe level for the chemical. They're going
7 out and looking at possible health effects at ambient
8 concentrations, and that's where epidemiology is moving
9 today, away from -- Epidemiology can be limited to
10 industrial exposure, it can be limited to -- what you would
11 say, a certain segment of the population exposure, it can
12 be limited to a municipality, it can be limited to actually
13 taking the whole nation, and there are now international
14 epidemiological studies going on.

15 Q. Okay --

16 A. They vary, they're very different, depending upon
17 the situation.

18 Q. Are you familiar with the American Institute of
19 Cancer Research?

20 A. Yes, I am.

21 Q. Are you familiar with the World Health
22 Organization?

23 A. Yes, I am.

24 Q. Are you familiar with their 2002 report that
25 states that there's no convincing evidence that any food

1 contaminants, including pesticides, modifies the risk of
2 any cancer, nor is there any evidence of any probable
3 causal relationship?

4 A. Yes, I am.

5 Q. Okay, you --

6 A. I'm very much so, and I want you to go to my
7 database, because there are a number of people working
8 internationally to prove that that study is wrong, and that
9 report --

10 Q. Okay --

11 A. -- is being looked at.

12 Q. -- you as an expert witness here, you're telling
13 me that the World Health Organization, the American Cancer
14 Institute -- they're wrong, and you --

15 A. Wait a minute, read what they said. Read what
16 you said they said.

17 Q. There is no convincing evidence that any food
18 contaminants, including pesticides, modifies the risk of
19 any cancer, nor is there any evidence -- nor is there
20 evidence of any probable causal relationship.

21 A. That is incorrect.

22 Q. Okay, but -- You're saying that the researchers
23 are incorrect, in your opinion?

24 A. Their decision was incorrect.

25 Q. Okay. Are there not natural endocrine disruptors

1 in the environment?

2 A. Yes, there are.

3 Q. In fact, the relationship is 40 million to 1 in
4 plants; is that not correct?

5 A. I don't know. I don't know where you got that
6 figure.

7 Q. Okay. In fact, we eat plants with estrogens
8 every single day, don't we?

9 A. That's right, we evolved with those plants as
10 well, keep that in mind.

11 Q. Okay, so are you saying that there are plants or
12 things that we use that can actually help us develop our
13 bodies?

14 A. Yes.

15 Q. Okay, so these endocrine disruptors can be a good
16 thing and a bad thing?

17 A. Definitely.

18 Q. Okay.

19 A. Timing. Timing, with endocrine disruption, is
20 the answer.

21 Q. The timing, and I believe you stated --

22 A. The timing of exposure.

23 Q. I believe you stated also the dose, the dose?

24 A. That's right, very low dose. You high-dose with
25 an endocrine disruption, and the system shuts down and you

1 may not get an effect.

2 Q. Right. Now are you familiar with all the
3 studies, because there were multiple studies done, on
4 hormone replacement therapy?

5 A. A number of them.

6 Q. Yes. In fact, hormone replacement therapy during
7 the 1980s was a solution for women that were going through
8 menopause and having negative --

9 A. That's right.

10 Q. -- menopausal effects, correct?

11 A. Uh-huh.

12 Q. And hormone replacement therapy, effectively, is
13 levels of estrogen?

14 A. That's right.

15 Q. Right? And is hormone replacement therapy -- is
16 that a valid -- has the science been validated to support
17 the use of hormone replacement therapy?

18 A. No, there's now conflicting evidence, that women
19 who went on hormone replacement therapy basically have a
20 greater opportunity of developing breast cancer now.

21 Q. That's right. Now -- But epidemiologists were
22 the ones that were initially pushing for a hormone
23 replacement therapy to --

24 A. I'm not sure it was. I think it was probably the
25 pharmaceutical companies that were pushing it.

1 (Laughter)

2 Q. But that was synthetic estrogen, correct?

3 A. No, it was natural hormone made from mares'
4 urine. They're still making it, they boil down gallons and
5 gallons of urine to get 17-beta-estradiol, which is known
6 as Premarin by one company, and that's what they've been
7 using for years.

8 Q. Right. And the pill is also synthetic estrogen,
9 correct?

10 A. The pill?

11 Q. The pill.

12 A. The pill, yes.

13 Q. But there are certain forms of hormone
14 replacement therapy that are synthetic estrogen; not all of
15 them are the natural --

16 A. That's right, yes.

17 Q. Okay.

18 A. Uh-huh.

19 Q. All right. Now I believe that you stated that
20 your concern with some of the testings was the heavy
21 metals, right?

22 A. Uh-huh.

23 Q. Specifically I think you mentioned lead, but
24 arsenic is also considered one of the --

25 A. Arsenic is on the list.

1 Q. Yes --

2 A. Did you read -- it looks like it had been into
3 the literature. Did you see how arsenic at very, very low
4 doses interferes with male development?

5 Q. That is what your studies say, yes.

6 A. No, my studies don't say that, this is what --
7 there have been at least three new studies done by
8 independent laboratories that came up with similar results.
9 The knowledge is converging.

10 Q. Okay, let's talk about that. You're saying
11 that --

12 CHAIRMAN FESMIRE: Wait a minute here. Dr.
13 Colborn, why don't you answer her questions and continue
14 that way, okay?

15 MS. FOSTER: I'm actually learning something
16 here. The --

17 CHAIRMAN FESMIRE: Well -- That's all well and
18 good, but I don't think we have the time to --

19 MS. FOSTER: Okay.

20 CHAIRMAN FESMIRE: Okay?

21 Q. (By Ms. Foster) The levels of arsenic, you
22 mentioned, impact male development?

23 A. Uh-huh.

24 Q. Okay, and what levels are we talking about of
25 arsenic?

1 A. Very, very low levels, extremely low levels. I
2 can't tell you now, I don't have it in front of me.

3 Q. Okay --

4 A. I can't remember the dose in every study that was
5 used --

6 Q. Would that be --

7 A. -- but it is low-dose testing.

8 Q. Low-dose testing. Would it be less than, say, 30
9 parts per million?

10 A. Oh, my gosh, yes.

11 Q. Okay. Are you familiar that the San Juan River,
12 where it intersects Bernalillo here in the state, has
13 arsenic levels of 30 parts per million, actually all the
14 way up to 70 parts per million in the water?

15 A. Per million? Parts per million? I didn't know
16 that. I think you'd better check that out, it may be
17 billion, parts per billion. Parts per million, that's
18 amazing.

19 Q. It's parts per million.

20 A. It is?

21 Q. Yes.

22 A. I'd like to see that. That's fascinating.

23 Q. Well, even it was parts per billion, is it 30 --
24 in your studies, is it parts per billion that you're
25 talking about?

1 A. We're talking in the nano.

2 Q. In the nano --

3 A. In the nano.

4 Q. -- so it's even smaller doses, you are saying --

5 A. That's right.

6 Q. -- that will impact male fertility, right?

7 A. I didn't say male fertility. In fact, *in vitro*
8 assays and *in vivo* laboratory assays they're finding this
9 impairment.

10 Q. Right. Now -- so then, what you're saying, then,
11 is that any woman who lives in the Bernalillo area who
12 might drink water in that area might be risking her unborn
13 fetus to damage?

14 A. I can't say that.

15 Q. Well, if it's in their -- if it's in their
16 drinking water system --

17 A. Maybe.

18 Q. Maybe. And it's a naturally occurring level of
19 arsenic in New Mexico?

20 A. Yes.

21 Q. And it's not in an oilfield, it's in an actual
22 municipality?

23 A. Yes, we have the problem in Colorado --

24 Q. Okay.

25 A. -- as well.

1 Q. Okay. So I wanted to ask you -- I believe -- and
2 I unfortunately don't have the document here in front of
3 me, but there was a document that I believe that you stated
4 that, you know, there's so many toxins out there that you
5 need to actually focus your energies on specific locations,
6 right?

7 For example, I believe you mentioned it was okay
8 to have toxins in airplanes, in construction --

9 A. I said this?

10 Q. Yes, you did.

11 A. I said this?

12 Q. Yes, in one of your documents.

13 A. In one of my documents?

14 MR. JANTZ: Objection, without a substantiation
15 of the document to which Ms. Foster is referring, Dr.
16 Colborn can't answer.

17 MS. FOSTER: Well, I'll ask another question
18 then.

19 Q. (By Ms. Foster) Is there a reason why it is that
20 you're focusing on the oilfield?

21 CHAIRMAN FESMIRE: Ms. Foster, if you're going to
22 ask that and point it out in the document, would you be so
23 kind as to point it out for all of us?

24 MS. FOSTER: Oh, I could spend the time looking
25 through the document, but I'll just -- I'll just leave --

1 I'll just return to --

2 CHAIRMAN FESMIRE: Okay, then I'll sustain the
3 objection. You withdraw the question?

4 MS. FOSTER: Yes, I do.

5 CHAIRMAN FESMIRE: Okay.

6 MS. FOSTER: Yes, I do.

7 THE WITNESS: Yeah, I would like to see that
8 document too.

9 MS. FOSTER: Could I ask her --

10 CHAIRMAN FESMIRE: Doctor --

11 Q. (By Ms. Foster) Could I ask her, you know, is
12 there a reason why you're focusing on the oilfield
13 specifically?

14 A. Actually, I live where natural gas development is
15 just beginning in Colorado, and I actually was handed a
16 document that suggested that several chemicals were going
17 to be used in a watershed that provides the water for my
18 family's farm and home.

19 Q. Okay, so this started out as a personal -- a
20 personal issue?

21 A. So it was sort of a personal thing. And then
22 when suddenly someone calls me and tells me they have a
23 rare adrenal tumor, and then I hear from people that are
24 having these idiopathic hemorrhages, I got -- I became
25 concerned.

1 Q. Okay. Now did you review their case studies for
2 the cause of the adrenal tumor?

3 A. I have seen their medical records. In one
4 instance, only one instance. I have not tried to bond with
5 individuals who are getting ill. But this prompted me to
6 begin to look at what was going on, and I was fascinated b
7 the lack of oversight and recourse for the people who are
8 being exposed.

9 Q. And that's in Colorado, correct?

10 A. This is in Colorado.

11 Q. Right. Now are you familiar with the Silent
12 Spring study in Massachusetts?

13 A. Yes.

14 Q. Okay --

15 A. Well, they have a lot of studies. I'm familiar
16 with Silent Spring.

17 Q. Silent Spring, okay. Are you familiar with the
18 study where they tried to achieve a link between breast
19 cancer and drinking water contaminated by waste water in
20 Cape Cod?

21 A. I've looked at a number of their studies. I
22 would have to go back.

23 Q. Okay. Well, you're not familiar with that study?
24 I mean --

25 A. No, I've seen practically everything they have

1 produced. I'm sorry, I can't put it all together. You're
2 asking too much. Give me the paper, and I'll respond.

3 Q. Okay. Well, the study where they tried to link
4 breast cancer and drinking water contaminated by waste
5 water, they were not able to actually find a link, were
6 they?

7 CHAIRMAN FESMIRE: Ms. Foster, who is "they"?

8 MS. FOSTER: Spring -- the group that she's
9 familiar with, Spring -- Silent Spring.

10 CHAIRMAN FESMIRE: Okay.

11 MR. JANTZ: Again, Mr. Chairman, I'll renew my
12 objection. Without Dr. Colborn actually having the study
13 in her hand, it seems unfair to ask specific questions
14 about the study's findings and methodology.

15 CHAIRMAN FESMIRE: Mr. Jantz --

16 MR. BROOKS: The Division joins in that
17 objection.

18 CHAIRMAN FESMIRE: Mr. Brooks, Mr. Jantz, I think
19 the witness indicated that she was familiar with the study.

20 MR. JANTZ: I believe in a general -- that she
21 knew of the study, but not the specific methodology and
22 findings.

23 CHAIRMAN FESMIRE: Okay, and I think she can
24 point that out in her response, but I will overrule the
25 objection.

1 THE WITNESS: I really can't answer the question
2 until I have it in front of me.

3 Q. (By Ms. Foster) Okay, so you're not able to
4 answer any questions pertaining to any specific chemicals
5 relating to -- and their findings?

6 A. And their findings. Oh, they're finding -- they
7 have done other -- they have been doing other
8 epidemiological studies. There you go now, they're getting
9 into the home --

10 Q. Okay, but I'm --

11 A. -- they're monitoring the --

12 Q. -- asking you specifically about --

13 CHAIRMAN FESMIRE: Ms. Foster --

14 THE WITNESS: But you're talking about --

15 CHAIRMAN FESMIRE: -- I think we need to let
16 her --

17 THE WITNESS: But you've been talking about
18 groundwater. I'm sorry, I would have to see it.

19 Q. (By Ms. Foster) Okay. As far as you know, based
20 on your experience and reviewing all the literature, are
21 you aware of a causal link between breast cancer and the
22 ingestion of drinking water contaminated with waste water?

23 A. No.

24 Q. Okay, there is no link?

25 A. No, I don't think I've seen one yet.

1 Q. Okay, that is what I was trying to ask. Thank
2 you.

3 Finally, I wanted to ask you a final question.
4 In your Congressional testimony you mention -- there is a
5 discussion about the use of water trucks, particularly as
6 they relate to the coalbed methane production, and there is
7 a high frequency of trucks coming onto a location and
8 hauling water off of a location in coalbed methane
9 production. Are you aware of that or familiar --

10 A. I was -- I was testifying -- When I went to
11 Congress, I told them I was testifying what I knew based on
12 tight-sand production. And yet in our area we do -- and
13 you can't separate it, because we have some wells that are
14 CBM and others that are tight sand. So I was talking about
15 the generalized truck experience.

16 Q. Okay, the generalized truck experience. So on
17 CBM locations and locations that you have a lot of truck
18 traffic, that poses a concern to you as an epidemiologist,
19 correct? Or --

20 A. No, as a person living there, as a citizen, I'm
21 concerned.

22 Q. But from the scientific perspective, trucks
23 coming onto a location releases ambient contaminants,
24 correct?

25 A. Correct.

1 Q. And what would those contaminants be?

2 A. You would have VOC's, the BTEX's and any other
3 volatile substance that might be in that water -- they call
4 it the water.

5 Q. In the water that's taken off of the CBM
6 location?

7 A. Yeah.

8 Q. Right. Now --

9 A. There are a number of -- You know, there are a
10 number of volatile products that are being introduced. So
11 they could easily be volatilizing when this stuff reaches
12 the surface.

13 Q. Right, and what about the vehicles themselves
14 emitting gases to the environment?

15 A. They're releasing a lot of nitrogen oxides.

16 Q. Okay.

17 A. Okay, and particulates.

18 Q. All right. And where -- I understand that you're
19 probably not a specialist in trucking, in terms of the
20 levels of toxins that are released. Is that -- Are those
21 studies done by the Department of Transportation?

22 A. No, they're not, but I could refer you to a
23 nonprofit in Colorado that has fantastic figures on the
24 tons of VOC's, the tons of nox's, and I haven't tried to
25 even begin to memorize what they have. But they have

1 excellent -- they have excellent information on this for
2 you. If you want it, we can get it to you.

3 Q. Okay, I would appreciate that.

4 So as a research scientist, or a scientist, you
5 would be concerned of additional -- of trucking traffic
6 increasing at particular locations --

7 A. Oh, sure.

8 Q. -- would that be a fair statement --

9 A. Yes.

10 Q. -- of your testimony?

11 A. Yeah.

12 MS. FOSTER: Thank you, I have no further
13 questions.

14 CHAIRMAN FESMIRE: Mr. Huffaker?

15 MR. HUFFAKER: Nothing, Mr. Chairman.

16 CHAIRMAN FESMIRE: Dr. Neeper, did you have any
17 questions of this witness?

18 DR. NEEPER: One question, your Honor.

19 CHAIRMAN FESMIRE: Please.

20 DR. NEEPER: I can ask it from here if that's
21 acceptable.

22 EXAMINATION

23 BY DR. NEEPER:

24 Q. Dr. Colborn, you were asked a previous question
25 regarding arsenic in the San Juan River. Do you know if

1 the State of New Mexico has issued an advisory that people
2 should not fish in the San Juan River, due to
3 contamination?

4 A. No, I didn't know that.

5 Q. I did not state it as a fact, I asked you.

6 A. I'm sorry, I don't know.

7 CHAIRMAN FESMIRE: Thank you, Dr. Neeper.

8 Mr. Jantz, any redirect?

9 MR. JANTZ: Yes, Mr. Chairman.

10 REDIRECT EXAMINATION

11 BY MR. JANTZ:

12 Q. Dr. Colborn, in his cross-examination Mr. Hiser
13 made much ado about dose and response. Could you explain
14 dose-response a little bit, as you understand it?

15 A. Well, traditional toxicology actually calls for
16 and demands a dose-response curve. In other words, as you
17 increase the dose, the effect will increase.

18 Q. Okay.

19 A. Okay. With what we know -- And I'm sorry we've
20 had to throw endocrine disruptors into this, but you're
21 going to get a lesson; I'm sorry, folks.

22 When you're dealing with -- and now that's using
23 high-dose testing usually, with adult animals. When you're
24 testing for endocrine effects, these effects that can be
25 passed on to the next generation, that system -- remember,

1 the endocrine system controls -- has the brain as the
2 thermostat. There are certain parts of the brain that
3 control and monitor the amount of chemicals that are
4 flowing through your body at all times. And if you should
5 start producing too much testosterone or estrogen, the
6 brain will shut down the organ that's producing that
7 hormone, as well as shut down those target organ receptors
8 where that hormone will have an effect.

9 So you get an effect like -- I wish I had -- I
10 should have brought my -- I have a wonderful slide
11 presentation on this, I'm sorry, you should have prepared
12 me, Eric.

13 Anyway, so you show the dose going up, and you'll
14 see the effect go up. But suddenly the effect will taper
15 off and go down to the point where it doesn't even respond
16 to the chemical, and that is because of this wonderful
17 thermostatic control we have in our brain that controls the
18 level of concentration -- level of chemicals in our body.

19 Now if you get a yo get a chemical that blocks
20 the hormone effect, then you will start with an inverted
21 response curve, and it will go like this as the dose goes
22 up.

23 Q. Thank you, Dr. Colborn. I assume that dose-
24 response studies have been done on some of the chemicals
25 that have been found in pits according to the industry

1 data?

2 A. Yes, traditional toxicology.

3 Q. Sure. But probably not all?

4 A. Oh, no.

5 Q. Now let me ask you this, Dr. Colborn. Is a dose
6 response necessary for every chemical in order to fashion a
7 regulation that will protect human health and the
8 environment?

9 A. No --

10 MS. FOSTER: Objection.

11 CHAIRMAN FESMIRE: And the objection is?

12 MS. FOSTER: And the objection is, this witness
13 is not a policy maker. The Commission is a policy maker.

14 CHAIRMAN FESMIRE: Well, I think the answer falls
15 within the expertise of the witness, so I'll overrule the
16 objection.

17 Q. (By Mr. Jantz) Again, the question, Dr. Colborn.
18 Is dose-response testing necessary for every chemical in
19 order to fashion a policy that will protect human health
20 and the environment?

21 A. No, and dioxin is a perfect example of that and
22 has been battled over the years, because there is no safe
23 level for exposure to dioxin. And now we're finding out
24 that a large number of these chemicals, there is no safe
25 dose to be exposed to.

1 Q. Mr. Hiser also discussed the data upon which you
2 relied for your testimony and PowerPoint presentation. You
3 mentioned that you got that data from OGAP. Is it your
4 understanding that OGAP got that information from public
5 sources?

6 A. Yes.

7 Q. Okay. Mr. Hiser also discussed the risks
8 associated -- or the hazards associated with transporting
9 pit chemicals in trucks. Let me ask you, in your opinion,
10 from a public health perspective, is it better to transport
11 chemicals in trucks to centralized facilities or leave
12 those chemicals in numerous pits throughout an area?

13 A. Well, that's what I was referring to. The option
14 here would be to take it to a centralized pit.

15 Q. And that, in your opinion, is a better option?

16 A. Yes.

17 Q. Thank you. I think two more things. Oh, just a
18 point of clarification. Ms. Foster asked you about arsenic
19 levels in the San Juan River when it intersected with
20 Bernalillo. Were you aware that the San Juan doesn't
21 intersect with Bernalillo, that's the Rio Grande?

22 A. No, I didn't know that.

23 Q. Okay, just a point for clarification. Ms. Foster
24 also mentioned a Silent Spring study --

25 A. Yes.

1 Q. -- and the -- a failure to find a causal link
2 between cancer, breast cancer, and ingestion of waste
3 water. Are you familiar with what was in the waste water
4 that was --

5 A. No, I have no idea.

6 MR. JANTZ: Okay, thank you. That's all I have.

7 CHAIRMAN FESMIRE: Any recross, limited to the
8 subjects of the redirect?

9 Mr. Brooks?

10 MR. BROOKS: No, your Honor.

11 CHAIRMAN FESMIRE: Mr. Hiser.

12 MR. HISER: I think just one question.

13 RE-CROSS-EXAMINATION

14 BY MR. HISER:

15 Q. Dr. Colborn, in response to the redirect from Mr.
16 Jantz, he asked you about whether dose-response testing is
17 necessary to establish policy that's protective, and you
18 indicated that -- no, and gave dioxin as an example.

19 A. Now you're talking quietly again, I'm sorry.

20 Q. I'm sorry, I'll try to be louder.

21 A. I really want to hear your question and not
22 answer incorrectly.

23 Q. Mr. Jantz asked you a question about -- in his
24 redirect, about whether dose-response testing is necessary
25 to establish policy that's protective, and you said no,

1 it's not, and gave dioxin as an example of that; is that
2 correct? In what you just discussed with Mr. Jantz?

3 A. Oh, now wait a minute. You have to do dose-
4 response testing, but you can show that for some chemicals
5 there is no safe level, and that's what we're talking
6 about, getting down to the very low dose. So in other
7 words, you wouldn't want -- There's no way you can set a
8 standard for allowing a chemical like that to be produced
9 and released into the environment.

10 Q. So what's your recommendation to the Commission
11 if such chemicals are present? Do we need to -- How do we
12 deal with all the many things that are present in the
13 natural environment?

14 A. Well, you need to reduce exposure as much as
15 possible.

16 MR. HISER: Okay, thanks.

17 THE WITNESS: That's the base -- we know -- Okay,
18 I'm not allowed to talk.

19 CHAIRMAN FESMIRE: Mr. Carr?

20 MR. CARR: No questions.

21 CHAIRMAN FESMIRE: Ms. Foster?

22 MS. FOSTER: Yes, I'd just like to clarify the
23 record. I did make a mistake, the river is not the San
24 Juan, it's the Jemez River, and I would ask the witness --

25 CHAIRMAN FESMIRE: Ms. Foster --

1 MS. FOSTER: Yes?

2 CHAIRMAN FESMIRE: -- could you present a witness
3 to do that?

4 MS. FOSTER: Okay, I just wanted to make sure the
5 record was clear. Then -- Okay, I will ask the witness
6 this question then.

7 CHAIRMAN FESMIRE: You asked a question, they
8 responded, and now you're in essence testifying.

9 MS. FOSTER: Okay, I will ask the witness if she
10 is aware that it was the Jemez River instead of the San
11 Juan River?

12 CHAIRMAN FESMIRE: Okay.

13 MS. FOSTER: I don't believe she'll know the
14 answer.

15 THE WITNESS: I didn't hear the question, but I
16 think I'm supposed to say no.

17 (Laughter)

18 RE-CROSS-EXAMINATION

19 BY MS. FOSTER:

20 Q. I believe that in your cross-examination you
21 stated that it would be preferable for -- to transport
22 wastes to a larger landfill than to leave into many small
23 pits. Is that a correct statement?

24 A. Yes.

25 Q. And do you -- would you be making that statement

1 irrespective of the levels of the wastes in the pits?

2 A. No, I think you have to determine what is in the
3 pits. And from my experience, no two pits are alike.

4 Q. Okay.

5 A. But the important thing is, when you're dealing
6 with a pit you deal with the hot spots, make sure you get
7 rid of the hot spots first, and that's a traditional
8 Superfund approach. No.

9 Q. Okay. But the reason that we're here today is
10 for a regulation to move wastes to a large landfill, as
11 opposed to leaving them on location. You're aware of that?

12 A. Yes.

13 Q. Okay, and a large landfill is quite large, much
14 larger than a pit location on a wellpad, correct?

15 A. Correct, but I would --

16 Q. And the large landfill would commingle wastes
17 from many locations?

18 A. Correct.

19 Q. All right. Would it be fair to say that the
20 levels of toxins in a landfill would be greater than in a
21 small pit?

22 A. Yes.

23 Q. And would it be fair to say that if you're
24 commingling wastes, then the dosage of the toxins would be
25 much higher as well?

1 A. Yes.

2 MS. FOSTER: Okay. And -- I have no further
3 questions, thank you.

4 CHAIRMAN FESMIRE: Mr. Huffaker? I'm assuming --

5 MR. HUFFAKER: (Shakes head)

6 CHAIRMAN FESMIRE: And Dr. Neeper, I assume
7 you're --

8 DR. NEEPER: No questions.

9 CHAIRMAN FESMIRE: Okay. Commissioner Bailey?

10 COMMISSIONER BAILEY: I have no questions.

11 CHAIRMAN FESMIRE: Commissioner Olson?

12 COMMISSIONER OLSON: Maybe just one question.

13 EXAMINATION

14 BY COMMISSIONER OLSON:

15 Q. Going to this issue of centralized disposal
16 versus field disposal in many locations versus a lesser
17 number of locations, is there more potential for exposure
18 from centralized facilities or from more dispersed field
19 locations?

20 A. Well, that's a hard question. I would assume
21 that if you were going to have a centralized site, you will
22 very carefully -- this will be very carefully thought out,
23 it will be -- the geology will be understood, you're going
24 to know whether this is a safe -- you're going to seek one
25 spot where you confine -- this stuff will be confined and

1 stay confined.

2 But I think what disturbs me most is that there's
3 a pit here and there's a pit here, and as I have watched
4 how wellpads have just sprung up all over in Colorado, I
5 assume New Mexico has gone ahead of -- you're ahead of us
6 in a lot of this. To have so many locations scattered
7 across the land is not a good idea. And so it's the common
8 sense. But if you don't do that landfill correctly, you
9 could cause more problems.

10 Q. Okay.

11 A. It's based on really good science, technology,
12 engineering, and get out there and find out what's
13 underneath.

14 COMMISSIONER OLSON: Okay, thank you, Doctor.

15 CHAIRMAN FESMIRE: Doctor, I think I'm going to
16 have to follow up on something that the Commissioner, Mr.
17 Jantz and Ms. Foster asked you.

18 EXAMINATION

19 BY CHAIRMAN FESMIRE:

20 Q. If I understood you correctly, it's -- you were
21 telling us that if the facility were well designed, well
22 regulated and controlled, it would be better to have the
23 wastes sequestered there than dispersed throughout the
24 landscape; is that what you're telling us?

25 A. Yeah, left behind.

1 Q. Okay.

2 A. Uh-huh.

3 Q. Now you made a statement at the very beginning of
4 your testimony that kind of -- I didn't exactly understand.
5 You said that the OCD and industry analysis using EPA
6 methods didn't impress you. Why again did you say that?

7 A. Well, I thought the study design was very poor
8 because they didn't test for what is being used. I thought
9 that was an obvious mistake.

10 Q. Okay.

11 A. And then when I saw what they looked for as well,
12 I just felt they needed to go back and do more sampling --
13 well, okay, more -- the number of samples taken was skimpy,
14 you really couldn't get into any kind of statistical
15 analysis with it. All I saw was the range. I was given
16 the range, low and high. And when I looked at the
17 difference between that, and then they -- like, you know,
18 you may have as much as 2 parts per million in something,
19 22,000 parts per million in another, and they took the
20 mean. I was very concerned about using that. We needed to
21 know more about what was there. The data were not
22 presented very well.

23 And so I would shy away from basically using --
24 as I said, go for the hot spots and avoid using means when
25 you're trying to decide whether something is safe or not.

1 Q. Okay.

2 A. So it was more -- sort of like Russian roulette
3 where this stuff is scattered around from the different six
4 wells.

5 Q. Okay. As the guy who had to write the check for
6 the \$30,000 of that cost --

7 (Laughter)

8 A. Is that what that cost?

9 Q. Yes, ma'am.

10 A. That was -- they didn't spend much money on that
11 at all.

12 (Laughter)

13 A. That's cheap.

14 Q. What could we have done differently?

15 A. Well, for one thing -- I mean, again, apparently
16 they got in a boat and went across and took samples from
17 the edges. I would have liked to have seen some really dry
18 samples, material that's laying around on the edges of the
19 ponds.

20 Silica is now being introduced. It's interesting
21 as we're watching the MSDS sheets come in and we're seeing
22 how a product may be upgraded, it may be product ABC, then
23 there's product ABC-1.

24 And as we look, they're adding microfine,
25 nanoparticulate level silicate to practically everything

1 that's being used. And I can understand why, it makes
2 thing slippery, it facilitates.

3 But what we know is, what's been happening in
4 Australia is of concern in the gas fields and in the oil
5 fields. Silicosis now is creeping up on -- it's far above
6 the levels of asbestosis and black-lung disorders that
7 they've had to deal with in the past.

8 And this is a very fine particulate, and it's
9 going to be laying around, where any of this spills, where
10 it builds up on the berms as they bring the mud back up to
11 build the berms and that sort of thing. We're going to
12 have a dust problem, we're going to have the blowing dust
13 that's loaded with silica.

14 And it's a nasty chemical, it gets down into the
15 alveoli in the lung, very deep and actually causes sever
16 asbestos- -- I mean, silicosis. But it also leads rapidly
17 to a lung cancer, much faster than asbestosis would.

18 So I'm very concerned about the dust. And we
19 have blowing -- you have blowing dust here, we have blowing
20 dust in Colorado. So it's that very fine stuff that we
21 don't think is going to be a problem that could very well
22 be a problem. And it's hard to -- How do you put that into
23 an epidemiological study or determine what is safe here?
24 But I don't think we've looked at inhalation enough, and
25 also dermal absorption of some of these chemicals. But I'm

1 worried about silica.

2 CHAIRMAN FESMIRE: Thank you, Doctor.

3 Are there any other questions of this witness?

4 MR. JANTZ: Actually, Mr. Chairman, I would like
5 to move OGAP Exhibit 3 into evidence. Dr. Colborn has
6 reviewed that -- Yes? It's a fair and accurate
7 representation of your testimony today?

8 THE WITNESS: Yes.

9 MR. JANTZ: Yeah, I would like to move that now
10 into evidence.

11 CHAIRMAN FESMIRE: Any objection?

12 MR. HISER: I believe that Dr. Colborn said that
13 she herself didn't prepare, that maybe it was done by
14 somebody else who -- staff --

15 THE WITNESS: Pardon me?

16 MR. HISER: That you said you didn't prepare it
17 yourself but that somebody else --

18 THE WITNESS: No, I have a woman who dumps this.
19 I don't use Excel spreadsheets, but I have her do it. And
20 we do -- Believe me, we check and we re-check. But I would
21 have liked to have had her here because she would have had
22 the computer, we could have pulled up some answers to your
23 questions.

24 CHAIRMAN FESMIRE: Okay, Mr. Jantz, do you want
25 to lay the foundation necessary to admit it?

1 MR. JANTZ: Sure.

2 FURTHER EXAMINATION

3 BY MR. JANTZ:

4 Q. Dr. Colborn, did you participate in writing the
5 testimony that is OGAP Exhibit 3?

6 A. Yes.

7 Q. Did you supervise your assistant Mary in writing
8 that testimony as well?

9 A. Yes.

10 Q. Thank you. And that does represent the testimony
11 that you gave today?

12 A. Yes.

13 MR. JANTZ: Thank you.

14 CHAIRMAN FESMIRE: Doctor, was it prepared under
15 your direction, I guess, or --

16 THE WITNESS: It certainly was.

17 CHAIRMAN FESMIRE: Okay.

18 MR. HISER: I have no real objection if it was a
19 TEDX person, you know, if that's acceptable to anybody
20 else.

21 CHAIRMAN FESMIRE: Okay, is there any objection
22 to the admission of OGAP Exhibit 3?

23 MR. BROOKS: No.

24 MS. FOSTER: No.

25 MR. CARR: No.

1 CHAIRMAN FESMIRE: Let the record reflect that no
2 objection was registered and it will be admitted.

3 Mr. Jantz, do you have your next witness?

4 MR. JANTZ: I do, Mr. Chairman, I'd like to call
5 Ms. Mary Ellen Denomy.

6 CHAIRMAN FESMIRE: Commissioner Olson indicates
7 that he's ready for a break, so we will take a 10-minute
8 break and reconvene at 15 minutes to 11:00.

9 (Thereupon, a recess was taken at 10:34 a.m.)

10 (The following proceedings had at 10:47 a.m.)

11 CHAIRMAN FESMIRE: Let's go back on the record.

12 For the record, this is the continuation of Case Number --
13 15,014? I'm sorry, 14,015.

14 Let the record also reflect that all three
15 Commissioners are all present and that a quorum is present.

16 I believe, Mr. Jantz, you were getting ready to
17 present your second witness?

18 MR. JANTZ: Yes, Mr. Chairman, I'd like to call
19 Ms. Mary Ellen Denomy.

20 CHAIRMAN FESMIRE: Ms. Denomy, have you been
21 sworn?

22 MS. DENOMY: I have not.

23 CHAIRMAN FESMIRE: Okay, would you please stand
24 and be so?

25 (Thereupon, the witness was sworn.)

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MARY ELLEN DENOMY,

the witness herein, after having been first duly sworn upon her oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. JANTZ:

Q. Good morning, Mrs. Denomy. Could you introduce yourself, please?

A. My name is Mary Ellen Denomy, and I am located at 5953, County Road 320, Rifle, Colorado.

Q. Could you give us a brief summary of your education and experience, please?

A. Well, I am a certified public accountant, an accredited petroleum accountant, a certified mineral manager, a certified fraud-deterrent analyst and a certified forensic financial analyst.

In addition, I have been hired and consulted with by numerous clients to do joint interest billing audits. I currently work for several county governments to do audits for them, for oil and gas taxes. I have been consulted by the State of Colorado to help with protocols for audit for severance tax. I have also done numerous royalty owner accounting, as well as being an expert witness in two prime royalty cases in the State of Colorado that have just been finalized at the state Supreme Court.

Q. Excellent. You say you're an accredited

1 petroleum accountant. What does that mean?

2 A. Well, there is an organization called the Counsel
3 of Petroleum Accountant Societies, and they offer an
4 accreditation that accredits you in standards that you are
5 able to achieve for eight different areas having to do with
6 oil and gas accounting. One is operations, law, taxes,
7 revenue, joint interest billing which includes revenue and
8 expenditure audits, there are financial reporting,
9 managerial and auditing itself.

10 Q. And what do you do as an accredited petroleum
11 accountant?

12 A. I provide financial reporting for several small
13 independent oil and gas companies, I do audits for state
14 and local governments. I also have an audit that's going
15 on for a tribe, so I also do Bureau of Indian Affairs-type
16 audits. That's -- you know, I'm busy.

17 Q. Okay, you're also a certified mineral manager.
18 What does that mean?

19 A. That is a certification that is offered by the
20 National Association of Royalty Owners that qualifies you
21 to determine how revenue and expenses are allocated by the
22 well to the owners in that well.

23 Q. Okay. Where do you have clients?

24 A. Well, actually I have clients pretty much all
25 over the United States. I have clients in West Virginia,

1 Louisiana, Texas, Oklahoma, Wyoming, Colorado, New Mexico,
2 California, the State of Washington, the State of Alaska,
3 and probably a few other ones that I haven't remembered
4 yet.

5 Q. So you're doing business in all those states?

6 A. Yes, sir.

7 MR. JANTZ: May I approach the witness, Mr.
8 Chairman?

9 CHAIRMAN FESMIRE: You may, sir.

10 Q. (By Mr. Jantz) I'm showing you a copy of your
11 curriculum vitae, OGAP Exhibit 2. Is this a fair and
12 accurate representation of your CV that you've produced?

13 A. Yes, it is.

14 MR. JANTZ: At this point I would like to qualify
15 Ms. Denomy as an expert in oil and gas accounting and move
16 her CV into evidence as OGAP Exhibit 2.

17 MS. FOSTER: If I may question the witness, Mr.
18 Chairman.

19 CHAIRMAN FESMIRE: You mean take the witness on
20 voir dire?

21 MS. FOSTER: Yes, please.

22 CHAIRMAN FESMIRE: You may.

23 VOIR DIRE EXAMINATION

24 BY MS. FOSTER:

25 Q. Ms. Denomy, it sounds like a lot of your

1 experience is Colorado-based, correct?

2 A. That is not correct.

3 Q. Okay. You're based in Colorado, though?

4 A. I am based in Colorado.

5 Q. All right, and you have, you said, New Mexico
6 clients?

7 A. I do.

8 Q. And when you perform audits for New Mexico
9 clients, are those state royalty audits, or are they --

10 A. They're private, individual.

11 Q. Okay, but do you -- my question is, do you need
12 to be familiar with the New Mexico tax code in order to do
13 the audits for your New Mexico clients?

14 A. Yes, I do.

15 MS. FOSTER: Okay, thank you. I have no further
16 questions.

17 CHAIRMAN FESMIRE: Is there any objection to her
18 admission as an expert?

19 MR. CARR: No objection.

20 MR. HISER: No.

21 MR. BROOKS: No objection.

22 CHAIRMAN FESMIRE: Okay, she will be so admitted
23 as an expert.

24 And Exhibit Number 2 will be admitted.

25 MR. JANTZ: Thank you.

1 DIRECT EXAMINATION (Resumed)

2 BY MR. JANTZ:

3 Q. Ms. Denomy, you've reviewed some documents
4 submitted by OGAP to this Commission in its prehearing
5 statement; is that correct? In the context of preparing
6 your testimony?

7 A. I have.

8 Q. Is one of those exhibits Exhibit 5, Offsite
9 Commercial Disposal of Oil and Gas Exploration and
10 Production of [sic] Waste: Availability, Options, and
11 Costs, produced by the Argonne National Laboratory?

12 A. It is.

13 Q. Okay. Have you also reviewed OGAP Exhibit 6, Oil
14 Conservation Division publication on --

15 CHAIRMAN FESMIRE: It's our annual report.

16 Q. (By Mr. Jantz) Annual report. Thank you, Mr.
17 Fesmire.

18 A. Yes, I have.

19 Q. And that's OGAP Exhibit 7, I believe -- or 6, I'm
20 sorry. Did you review Oil and Gas Accountability's Closed-
21 Loop Drilling Systems, a cost-effective alternative fact
22 sheet as Exhibit 7?

23 A. Yes.

24 Q. Closed-Loop Drilling Case Studies, Exhibit 8?

25 A. Yes

1 Q. Creative Strategies for Produced Water Disposal
2 in the Rocky Mountain Region, an abstract and article,
3 Exhibit 9?

4 A. Yes, that is the Cimarex.

5 Q. And then Exhibit 10, Advances in Drilling
6 Technology for the North American Rockies?

7 A. Yes.

8 Q. Exhibit 11, New Innovative Processes [sic] allows
9 Drilling without Pits in New Mexico?

10 A. Yes.

11 Q. Excellent. Based on your review of these
12 documents and your experience, have you formed an opinion
13 about the economics of waste disposal in the proposed rule?

14 A. I have.

15 Q. What is that opinion?

16 A. That opinion is that to further the economics of
17 operators in the State of New Mexico, it would behoove them
18 to look at using the closed-loop system as an economic
19 savings to produce minerals here in the State of New
20 Mexico.

21 Q. Okay, based on your review of the materials I
22 went through, you also reviewed the Independent Petroleum
23 Producer's exhibits proffered with their prehearing
24 statement; is that correct?

25 A. Yes, I did.

1 Q. As well as other publicly available information?

2 A. Yes, I did.

3 Q. Could you take us through how you arrived at your
4 opinion?

5 CHAIRMAN FESMIRE: So that's what the past tense
6 of arrived is.

7 (Laughter)

8 MR. JANTZ: Arrived. I appreciate the
9 grammatical correction, Mr. Chairman.

10 CHAIRMAN FESMIRE: That's coming from an
11 engineer.

12 (Laughter)

13 THE WITNESS: Well, in the instance of looking at
14 all of this review, an individual needs to start with the
15 income and expenses that a well will make and incur over
16 the life of the well.

17 So in order to do this, I have been asked to
18 share some documentation that I am the controller for one
19 of the companies for in the State of Colorado, that the
20 total depth of the well was for 7200 feet. The total cost
21 -- and this well was actually drilled and completed in the
22 year 2006 -- was \$1.5 million to drill, and you can find
23 that in the middle section there, the typical cost to drill
24 and maintain over a lifetime. That's the million and a
25 half dollars to drill.

1 The usual costs that are incurred from each of
2 the well sites normally in the region is about \$1500 a
3 month. Looking at some of the Independent Petroleum
4 Accountants' information, they pretty much concur with that
5 same number as a monthly cost.

6 Wells can be anticipated to produce for about 30
7 years. We have some in the State of Colorado that are
8 already at the 50 years and still going, so 30 years is
9 usually considered the economic life of a well.

10 So using the \$1500-a-month cost for 30 years and
11 the \$1500 original cost, you can look at a well costing
12 about \$2,040,000 for a 7200-foot depth.

13 Moving on from that --

14 Q. (By Mr. Jantz) Excuse me, Ms. Denomy, let me
15 just interrupt. The 7200-foot depth, what is that figure
16 based upon?

17 A. That is based upon a document that is called an
18 AFE or an authorization for expenditure. All of our wells,
19 pretty much, are shared with several owners, there are
20 several working interest owners in a well, and it's
21 basically because the state has required spacing units to
22 be combined. So they'll say everybody that has ownership
23 and minerals in 160 acres must share in the income from
24 each of those wells, and the conservation division is the
25 department that decides what are the spacing units. So

1 everybody in that division will participate in every well
2 that's drilled in that 160 acres.

3 So many of our wells that are produced produce by
4 partnership or what they call joint interest. It's a
5 quasi-partnership. They really don't file a partnership,
6 but they do file -- they pay expenses and they earn the
7 income together as a joint interest.

8 And so when a well is drilled, they are required
9 to send out to all their joint interest owners this AFE or
10 authorization for expenditure. And on that authorization
11 for expenditure they will list all of the typical kinds of
12 expenses that the well can be -- will cost over the term of
13 the drilling and completion. And in there you will find
14 things like, you know, the trucking, the water, the actual
15 day work drilling costs, the cost of the separators, the
16 cost of everything that has to do with that well to
17 completion.

18 And this is sent out to a joint interest owner,
19 and those joint interest owners can make a decision at that
20 time whether they want to participate in that well or not.
21 They can go nonparticipating or they can participate in it.
22 But these are where these numbers have been generated from.

23 And this is generated from an AFE that was
24 submitted to a working interest owner for a well that's
25 being drilled at 7200 total depth, and that's what TD

1 stands for.

2 Q. Thank you. Are you aware of differences in
3 average depth between the San Juan Basin and the Permian
4 Basin?

5 A. I am.

6 Q. What are those differences?

7 A. Well, the Permian Basin average right now is at
8 about 4800 feet, which is significantly less than what this
9 region is showing as its total depth. There are wells in
10 the Permian Basin that are being drilled to much deeper
11 depths, such as 14,000. So you could take these numbers
12 and use the same percentages and say pretty much those
13 costs would be increased in a deeper well or decreased in a
14 shallower well. Not all of them. You know, the separator
15 is going to be the same whether you have a 7200-foot well
16 or a 4800-foot well. But your length of time for drilling,
17 the amount of water you need because it's going to take
18 longer, those things will be higher or lower based on
19 whatever the depth is.

20 Now if you're looking at the San Juan Basin, the
21 average there is about between 500 and 4000. There's some
22 really shallow wells in the San Juan Basin, you know, and
23 then there are some ones that are at about the 4000.

24 Q. But as a general matter, do you feel that this
25 7200-foot depth is conservative?

1 A. It is conservative, because it's at a deeper
2 depth than the average of the state.

3 Q. Thank you, please continue.

4 A. Moving on, in -- no, sorry. Talking about -- you
5 know, first we looked at the expenses of the well. Now is
6 this well going to generate enough income for us to
7 actually drill it?

8 The typical well in this region, in the Rocky
9 Mountain region with the formations that we have here, is
10 about a million MCF's or a billion cubic feet. When we get
11 into cubic feet and we talking about it being in the
12 billions, it is so hard for people to grasp that big of a
13 number, so we've -- the industry has converted it to MCF's,
14 or thousand, which is the Roman numeral M, cubic feet. So
15 the typical well can produce about 1000 MCF's.

16 The average price per MCF, I used a conservative
17 five dollars. The San Juan Basin is paying over the last
18 several months somewhere between \$583 and \$604. It's a
19 little bit higher than that. So using five dollars just t
20 anticipate that there could be a drop in price or some
21 other problem happening --

22 Q. And -- I'm sorry, Ms. Denomy, where do you get
23 that pricing information?

24 A. The State of Colorado has on their website the
25 posted index prices for certain regions, and they do

1 include the San Juan Basin price. Our Colorado gas shares
2 the Blanco hub, which happens to be in the San Juan Basin
3 on the New Mexico side, as a market center for a lot of the
4 gas that's coming out of my back yard in Rifle, Colorado.
5 So that is where the price -- index prices have been
6 listed.

7 In addition, being the accountant for many of our
8 working interest owners, there is publications that are
9 published called gas daily or FERC gas price indexing.
10 Those things report daily the prices in the different
11 regions, and so five dollars is pretty common in the
12 region.

13 Q. Thank you.

14 A. Moving on, total income is just -- you know, a
15 million times five dollars, you expect the well to produce
16 about \$5 million. It's going to cost you \$2 million.

17 Now, that's only the original cost, and that's
18 the cost of maintaining the well site. After the gas has
19 been extracted from the ground, you need to determine the
20 taxes that have to be paid on that income to the state for
21 severance tax, property taxes, income taxes, sales taxes,
22 those kinds of things.

23 In addition, there are what they call in the
24 industry post-production costs, taxes -- deductions for
25 transportation, compression, dehydration, that have to be

1 accounted for as well. Not just the maintenance of the
2 well, but actually the cost of marketing the gas.

3 Those costs -- I have reviewed several -- There's
4 about six companies that I had access to information from
5 checks that they have paid to owners in the wells. These
6 are the averages of those payment -- withholdings that they
7 had made from checks that they had submitted for the year
8 2006. They ranged from 22 percent at Energen to 32 percent
9 at Yates. And so the average of those deductions was about
10 24.9 percent. That includes the taxes that are withheld
11 and the post-production costs, taking the gross amount of
12 the check compared to the net amount of the check. You
13 know, the simple math calculations.

14 Not going into, well, you know, the tax rate in
15 New Mexico is 6.9. This is what has been withheld for the
16 purposes of taxes, transportation, compression and
17 gathering.

18 That shows up in the second to -- this column
19 right here, the 2.49 percent. It amounts to about \$737,000
20 worth of those kinds of costs, based on those six company
21 averages. Meaning the well would cost you about \$2.8
22 million. You have a \$5 million income, you can anticipate
23 about a \$2.2 million income over the lifetime of the well.
24 I'd invest in the well.

25 Q. Now I understand you've broken out the costs for

1 waste disposal; is that -- is that true?

2 A. Well, I broke out the cost of the use of water,
3 the drilling water, the drilling pits, the completion-type
4 categories.

5 Now if you'll skip to that one.

6 Okay, the first column again is at the 7200-foot
7 depth, it's back to that \$1.5 million. There's our total
8 cost of everything. The total cost of roads and pits from
9 this particular AFE -- which was, like I said, completed in
10 2006 -- was a \$38,000 for roads and pits, the drilling
11 portion. This has been broken out by drilling portion.
12 AFE's are broken into what they call intangible and
13 tangible. Intangible drilling, intangible completion,
14 tangible drilling and tangible completion. So -- and
15 tangible meaning that it's the equipment that gets left
16 there, and so it's touchable, and those -- These are all
17 costs that are considered intangible costs, things that are
18 going to be spent and you don't have an asset to sell at
19 the end of the well's life. They're gone, they're money
20 gone.

21 Total cost of roads and pits was about \$38,000
22 and about 2.5 percent of the total cost. Drilling water
23 costs were about \$15,700. That was about 1 percent of the
24 total. And I did the percentages mainly because if we were
25 to use an extrapolation for a well that was drilled twice

1 as deep or half as deep, we could probably use those same
2 percentages to apply to depth differences.

3 Total cost of roads and pits was a little less --
4 a little greater than half a percent. That's the
5 completion portion. Completion water cost, \$30,000.
6 That's basically the water that had to be used for fracs,
7 fracturing -- underground fracturing to stimulate the well
8 to produce at its highest level.

9 Trucking, this was a line-item category that they
10 assigned to trucking the water and any leftover items that
11 were left on the well site. It was a little less than half
12 a percent.

13 So those total categories came to \$98,700, it's
14 about 6.5 percent of the total cost of the well.

15 Q. Okay. Do you have costs --

16 A. Now this was a -- this was a conventional earthen
17 pit cost --

18 Q. Okay.

19 A. -- earthen pit meaning, you dig the pit, you
20 produced a liner in there, and then you buried it when you
21 were done.

22 Q. Do you have cost analyses for the waste disposal
23 methods that are in the proposed new rule?

24 A. The centralized -- what I call the centralized
25 waste pit, that would be the next one.

1 You are still going to have the same costs of
2 roads and pits. You have to have some sort of storage unit
3 when you're drilling. You're going to have the same
4 drilling water costs, you're going to have the same costs
5 of completion and putting the pits back together, you have
6 completion water costs, you're still going to have to frac.
7 You would anticipate that the trucking to get the water to
8 the wellsite would be about the same.

9 According to the Cimarex report, their additional
10 wastewater haul-off cost at the end for locations that they
11 have completed and done the job for was \$42,000 from their
12 report, so that's added to the total. Those total costs
13 bring that up to 9 percent, or a little over 9 percent of
14 your total. It is more expensive to do the centralized
15 waste pit cost.

16 Q. Okay. What about closed-loop systems?

17 A. Now as for the closed-loop system, we have some
18 cost savings that we need to look at. And many of these
19 cost savings were things that I looked at from the Prima
20 Energy presentation that was made as an exhibit in the OGAP
21 files. We have a savings on the pit use because we're
22 going to be running tanks.

23 Some of these things, the additional closed-loop
24 costs, those things were -- that number, \$2500 a day, I
25 used the 16 days that -- the average from the Independent

1 Petroleum Accountant Association, listed as the normal
2 drilling days. In Colorado we're at the point where our
3 drilling days are down to four. So I'm using what New
4 Mexico is putting forth from the independent producers as
5 16 days. This number of \$2500 a day for -- included the
6 personnel, that was their average cost per day -- was from
7 local companies that do closed-loop systems. And so that
8 total additional cost was \$40,000 for that.

9 But you saved money on the drilling water costs,
10 because you're only using 20 percent of the total, because
11 it's re-used. You're also saving money on the completion
12 water costs, you're saving money on the roads and pits.
13 You're also saving money on the drilling mud re-use. Based
14 on what Prima Energy found in doing the 43 wells that they
15 did in Colorado in 1993, they saved a substantial amount on
16 their drilling muds because it was something that they
17 could re-use on site, and then re-use it at another well
18 site. So they didn't have to have additional cost of
19 supplying new drilling muds.

20 And actually, I think it wasn't too long ago that
21 we had a drilling-mud moratorium, and we couldn't get it
22 here. It was hard to get. So there was a moratorium on
23 some of the drilling going on, because there was a lack of
24 drilling mud that could be brought to the area.

25 So total costs being about 3.5 percent of the

1 total cost of the well.

2 Q. Okay. And you have plans to use closed-loop
3 systems?

4 A. I do.

5 Q. And what's been your experience with them?

6 A. They have -- they have found that they have saved
7 money using the closed-loop system. If you will allow me,
8 I will talk a little bit about what's going on in Colorado.

9 The fact is that today, with the price of gas,
10 many of our wells are run -- use an awful lot of gasoline
11 to produce the well, because they have generators running.
12 And so there's constantly a need for gasoline. With the
13 cost of gas being what it is, companies are looking for
14 ways and means to save money, as much as they can.

15 So just last week, one of our independent
16 producers in Garfield County came out with their new system
17 that they're going to be using for fracturing, which is
18 going to be saving even more money. They're going to be
19 fracturing from one well site. They have set up above-
20 ground water-distribution system between three other well
21 sites, and they're going to take all of the frac tanks at
22 one well sites and fracture four well sites at once from
23 that one location. It saves them on moving the water, they
24 can set up the closed-loop system to make sure that they
25 re-use the water that's there.

1 Water in Colorado, and in New Mexico and in --
2 pretty much in this whole region, is pretty precious. It's
3 hard to find. And when we have a call on the Colorado
4 River the industry can't get it from there, so they will
5 have to find other sources of getting water. It is tough
6 to come by.

7 So the systems that they have come up with, yes,
8 you have a cost at the beginning to do these kinds of
9 things. But many of the companies have come up with ways
10 of doing it, such as renting the equipment from companies
11 that are established already, rather than buying their own.

12 But I think most of the producers that have a
13 decent amount of money have found, Let's take our guys that
14 work in the frac tanks and have them convert -- I actually
15 have a client that is a person who has converted small frac
16 tanks into the closed-loop system with their own ideas. So
17 I kind of like to say, Necessity is the mother of
18 invention. And accountants are always on the backs of the
19 operators to say, We've got to save money, so what can we
20 do to be creative, to do these things?

21 Not only does it save money doing the system, you
22 also have, you know, a potential for doing other things to
23 save money in the drilling. And then that gives you more
24 money in your budget to drill more wells.

25 Q. What are some other economic benefits of a

1 closed-loop system?

2 A. Okay, during course of particularly the class-
3 action -- or not class-action, the lawsuits that I was the
4 expert witness for, there was -- one of the companies that
5 were locally there went to the centralized waste pit
6 system. Many of our companies have decided to use the
7 centralized waste pit system on their own, because they
8 have found that doing that they are able to recoup
9 hydrocarbons that they can make money from.

10 And I have brought as a sample one of the
11 completion pits' waters that came from the Rulison area.
12 It's from a pit that is -- the well has been completed. I
13 think the finished it in August, they did a recompletion
14 and that was completed in September, so it's still been
15 sitting there. But in the inside of this bottle, you will
16 find that there are hydrocarbons in there, there are oil --
17 there is oil in there.

18 So during the course of the case, after looking
19 at what happened at that centralized waste pit, we found
20 that the company was taking the hydrocarbons out of this
21 completion water and selling it, and they were making about
22 a million dollars a month from selling the hydrocarbons out
23 of the pit.

24 If we -- if they had left the completion water,
25 dug it into the ground, they have lost the revenue. So

1 they have decided, This is a way of paying for some of
2 these costs.

3 Unfortunately in the case that we were at, they
4 did not share that income with the royalty owners or the
5 taxing authorities --

6 (Laughter)

7 A. -- so they were found by the judge that they had
8 to recoup, pay these things. And this has brought on now a
9 very strong look by our state severance tax department and
10 our county government officials to start looking at these
11 centralized waste pit systems and going in and auditing
12 them for revenues that have been recouped.

13 In Vernal, Utah, there is a very large
14 centralized waste pit system, and it is the biggest
15 producer of oil in that region, because it goes out and
16 collects all of the water from all of local small pits, and
17 it -- not taxes or royalties are paid on that income.

18 So, you know, for a course of a year, at the 9-
19 percent rate that is the effective rate here in New Mexico,
20 it would get \$90,000 a month, or about a million dollars a
21 year, in lost revenues for the hydrocarbons that won't get
22 reported by digging them back into the ground. And that's
23 not mentioning the 12.5 percent royalties that -- it may
24 fall on state lands.

25 Q. One last thing, Ms. Denomy. Have you examined

1 the Independent Petroleum Producers' exhibits?

2 A. I have.

3 Q. Do you consider the figures that they used in
4 those exhibits as reasonable in terms of costs?

5 A. Not having any of the documentation to verify
6 those costs, they don't fall in line with any of the costs
7 that I have had experience with, so... I don't know where
8 they came from, so I'm going to leave it at that.

9 MR. JANTZ: Thank you, Ms. Denomy. I'll pass
10 this witness for cross-examination.

11 CHAIRMAN FESMIRE: Mr. Brooks?

12 MR. BROOKS: No questions at this time, Mr.
13 Chairman.

14 CHAIRMAN FESMIRE: Mr. Hiser?

15 MR. HISER: Mr. Carr is the lead on this one.

16 CHAIRMAN FESMIRE: Oil and gas issues, huh?

17 MR. HISER: Oil and gas.

18 MR. CARR: More traditional issues.

19 CROSS-EXAMINATION

20 BY MR. CARR:

21 Q. Ms. Denomy, when I look at the exhibits that
22 you've presented here today, you've been talking about
23 typical wells.

24 A. Yes, sir.

25 Q. My first question is, are we looking at -- have

1 you attempted to arrive average numbers, or are we working
2 from a typical number?

3 A. A million and a half, in the year 2006, was an
4 average.

5 Q. A million and a half, for what?

6 A. For a well drilled to 7200 total depth.

7 Q. And if we take your first page, average well
8 income and cost for a 7200-foot depth, you wouldn't argue
9 with me that the costs vary depending on the depth?

10 A. Yes, they do.

11 Q. And that they vary region to region?

12 A. They do.

13 Q. And they vary by the type of the well, whether
14 it's coal, gas or deep dry well --

15 A. They do.

16 Q. And that with all these different kinds of wells,
17 different practices are required?

18 A. Cost of supplying water, the cost of supplying
19 separators, the cost -- Many of those costs are pretty
20 standard. There is an added feature that the Council of
21 Petroleum Accountant Societies offer, and it's called CPS,
22 and so many of these things are standards that have been
23 set by the industry accountants, and so some of the costs
24 can be the same --

25 Q. And these are -- But these are averages, are they

1 not?

2 A. Yes.

3 Q. And if you were drilling, say, a coal gas well
4 and you have a water disposal issue, your costs are
5 different for coal gas --

6 A. That is correct.

7 Q. -- dry gas?

8 And each of these practices and costs impact
9 individual wells. If you're drilling a coal gas well, your
10 water cost disposal are higher than if you're drilling a
11 dry gas well?

12 A. That is correct.

13 Q. And so what we're looking here is at basically
14 what you've drawn from a typical 7200-foot -- is this a dry
15 gas well that we're using here?

16 A. Yes.

17 Q. And I think it was Dr. Colborn who said we should
18 stay away from averages, so we're dealing with typical
19 wells, not averages; isn't that fair to say?

20 A. I think she was talking about health issues and
21 not dollar issues.

22 Q. But an average also is -- would just be that?
23 Individual wells vary?

24 A. That is correct. But I have found that depths
25 make a difference.

1 Q. And the difference in cost?

2 A. The difference in cost.

3 Q. Let's look at this exhibit. We start with
4 lifetime production per well, and you have a lifetime of 25
5 to 30 years.

6 A. Yes.

7 Q. And is that figure -- does that figure vary by
8 the type of well drilled?

9 A. It can.

10 Q. Are you aware that the average well life in
11 southeastern New Mexico is much shorter than the average
12 well life in the San Juan Basin?

13 A. You know, the well life is not necessarily the
14 situation. It's the volume that that well is going to be
15 produced over. What I'm using is the 25 to 30 years for
16 the expenses per month. So if the well life is only 10
17 years, you're not going to have as high an expense for your
18 monthly expenses.

19 Q. And you're assuming a similar well performance
20 during that period of time as well?

21 A. Well, wells do not perform the same over their
22 life. You have a deep decline curve from the very
23 beginning, so the beginning of your well is going to
24 produce the most. It's kind of like the idea of a pop can:
25 You shake it up, and most comes out at the beginning and

1 then it slowly tapers off.

2 Q. But we're talking here generally about a typical
3 well. This data cannot be applied to any individual well?

4 A. This particular well, you can.

5 Q. And this is what you would use, recommending that
6 somebody go out and drill a well?

7 A. That is exactly right.

8 Q. You would say you're going to get \$5 an MCF?

9 A. Yes.

10 Q. That's your decision on that?

11 A. Yes.

12 Q. And that your well in southeast New Mexico is
13 going to produce for 25 to 30 years, use that as your
14 assumption.

15 A. That's the assumption for the cost.

16 Q. And that -- You're going to also assume some
17 volume is going to be produced, will you -- do you not?

18 A. The volume is usually anticipated by either a
19 petroleum engineer or a geologist, based on what they have
20 found in the local region on how much gas is produced at
21 the beginning of the life.

22 Q. And the volume you're going to get is going to be
23 the key factor in determining what your income is?

24 A. That is correct.

25 Q. And what volume have you used here?

1 A. A million MCF's.

2 Q. And is a million -- a BCF of gas, is that typical
3 for a Basin Fruitland Coal gas well, do you know?

4 A. It is not.

5 Q. Okay, is it typical for a deep Morrow gas well in
6 southeast New Mexico?

7 A. I do not know.

8 Q. Have you told -- Did you tell the person you're
9 advising how many -- what percentage of deep Morrow gas
10 wells would be dry holes?

11 A. I would have to look at the statistics in that
12 particular region to determine how many would be dry holes
13 and whether this is a region to drill or not.

14 Q. And if you've got a high dryhole rate, wouldn't
15 that be something you'd consider in trying to project your
16 economics for a well?

17 A. As an accountant I would say we would probably
18 want to go somewhere else.

19 Q. And if -- and it's an economic-driven industry,
20 is it not?

21 A. It is.

22 Q. And if the economics aren't so good, you may go
23 somewhere else; isn't that correct?

24 A. That is exactly right.

25 Q. And if the economics are bad in New Mexico, you

1 might just decide to drill in Colorado; isn't that right?

2 A. I would decide to drill in Colorado right now
3 today, because the amount of gas that's being produced from
4 our wells far exceeds the amount of gas that's being
5 produced in New Mexico.

6 Q. But if you had two identical wells, one in La
7 Plata County and one in the San Juan Basin, and it costs
8 you significantly more to drill and manage the well in the
9 San Juan Basin, which of those two wells would you drill if
10 you could drill one?

11 A. It would depend on where my leases were.

12 Q. If you had a lease on each that was the same, had
13 the same royalty right, had the same reserve projections
14 from your reservoir engineer, your petroleum engineer, and
15 it was going to cost 20 percent more to drill on one side
16 of the state line than the other, which one would be a
17 better economic choice?

18 A. I would have to look at the projections of the
19 income that were coming.

20 Now I need to add something here.

21 Q. Yeah.

22 A. We have an awful lot of drill rigs running in
23 Piceance Basin in Colorado. Right now the price in the
24 Basin of -- Piceance Basin, is \$1.11. We still have people
25 that are scrambling to try to drill there. So there are

1 more reasons to want to drill in areas other than just the
2 price.

3 Why are not people drilling in the San Juan Basin
4 where they could get six dollars?

5 Q. I'm going to give you a hypothetical question.

6 A. Okay.

7 Q. You have two wells. Everything about the two
8 wells is the same in terms of reserves, price, royalty
9 burden, everything. One is on one side of the Colorado-New
10 Mexico line and the other is on the other side, and it's
11 going to cost you 20 percent more to drill on the New
12 Mexico side, for whatever reason. Just assume that. Which
13 is the better economic choice?

14 A. Colorado.

15 Q. All right. Now, when we look at your graph and y
16 you talk about taxes and transportation, what's included in
17 transportation?

18 A. What's included in transportation?

19 Q. Yeah, you say total average withholding for
20 taxes, transportation in New Mexico, based on six
21 companies. What is that cost for? What are they paying to
22 move? Do you know?

23 A. The gas, after it's been produced.

24 Q. Did you factor into that transportation number
25 what it might cost to move waste?

1 A. That is not -- that is included in those costs
2 that I talked about for drilling the well. These costs are
3 after that fact.

4 Q. Okay. Where are your costs for drilling your
5 well?

6 A. Put -- There.

7 Q. All right. Now we have trucking. Is that the
8 same transportation?

9 A. That is not the same transportation that's being
10 talked about as post-production cost.

11 Q. Okay, where is the post-production cost?

12 A. The post-production costs are on the other ones.
13 Those are after a well is completed and starting to
14 produce.

15 Q. Okay.

16 A. You have post-production costs and marketing
17 costs that have to be incurred after you're done drilling
18 and doing all of the expenses to put the well in the
19 ground.

20 Q. And you included in those post-production costs,
21 costs for trucking, did you not?

22 A. You know, I cannot tell you, because this is what
23 I did, is, I took the gross check that was paid by Yates to
24 the individual company and subtracted the net.

25 And so if they're counting transportation by

1 trucking in transportation, I don't know that, because I
2 didn't audit it.

3 Q. Okay, you would agree with me that it would -- if
4 you're moving a truckload of waste a hundred miles, that
5 would be a cost you would have to factor in, as opposed to
6 being able to dispose on site, would you not?

7 A. That would not be part of your post-production
8 costs.

9 Q. That is not -- the trucking of your waste is not
10 a post-production cost?

11 A. No, that's part of the drilling and completion
12 costs.

13 Q. Okay, and then if we go back to the drilling
14 costs, if you have to take the material --

15 A. Yes.

16 Q. -- and move it a hundred miles, that is going to
17 cost you more than if you are allowed to dispose on-site;
18 is that right?

19 A. Exactly.

20 Q. And did you factor those two differences in?

21 A. Yes, in this --

22 Q. Okay, let's see where.

23 A. -- in the -- next one -- next one, not back --
24 centralized waste pit, the \$42,000 additional waste water
25 haul-off costs.

1 Q. And that is a number that --

2 A. -- was provided by Cimarex's report, that is
3 Exhibit -- 8? 9? Something like --

4 Q. Do you know what they were saying they were going
5 to be hauling?

6 A. They were hauling several -- what is it, three
7 yards of -- I'm not sure, I think it was three yards.

8 Q. And -- Three yards of --

9 A. -- waste.

10 Q. -- of waste. And do you know how far they were
11 taking it?

12 A. I don't think they described how far they were
13 taking it.

14 Q. If you increase the cost for removing the waste,
15 if you have to take 30 yards a hundred miles, that's going
16 to be an increased cost, is it not?

17 A. My experience is that it's about \$378 a load, to
18 take it that far.

19 Q. To drive it that far, and then what did you pay
20 the facility to receive --

21 A. That includes all costs.

22 Q. So you can move three yards a hundred miles for
23 \$360?

24 A. No, you can do it per truckload of \$378.

25 Q. And those figures are based on the Cimarex

1 report?

2 A. That is not based on the Cimarex report.

3 Q. And that is based on what?

4 A. Experience.

5 Q. And --

6 A. These numbers are taken strictly from the
7 report --

8 Q. How -- And have you experience with moving waste
9 hundreds of miles?

10 A. Yes.

11 Q. We look at the exhibit that is a list of data
12 from six companies that you've provided us.

13 A. Yeah -- Back.

14 Q. Now, what was the source of this information?

15 A. They were checks that were given to owners in the
16 wells?

17 Q. And these were just check details?

18 A. Check detail.

19 Q. And so you don't know if there was a
20 transportation charge, I think you testified, what it was
21 for or how far they took it?

22 A. That is right.

23 Q. You don't --

24 A. These are post-produ- -- These are after the well
25 is drilled.

1 Q. Now, but these costs are based on what,
2 individual check details?

3 A. Yes.

4 Q. For a total of six wells?

5 A. Yes -- No, six companies. These were net checks
6 that could be -- some of these ranged -- you know, 25 wells
7 were paid by Energen, a hundred wells were paid by BP, two
8 wells paid by McCay. You know, they -- it was net and
9 gross check.

10 Q. And were the percentage figures like the 22.4
11 percent for Energen -- was that a total or an average for
12 all the Energen wells, however many there may have been?

13 A. The wells that this particular person owned, or
14 had an interest in.

15 Q. And did you do any effort to analyze where they
16 were located, what kind of wells they might --

17 A. They are all located in the San Juan Basin.

18 Q. Do you know what kind of leases there were on the
19 properties on which these wells were located?

20 A. They're all 1/8 leases.

21 Q. Do you know if they authorized deductions for
22 marketing or any of those sorts of things --

23 A. They are --

24 Q. -- post-production --

25 A. -- your -- your usual model 88's that were

1 written about 30 to 40 years ago with ambiguous language
2 that hasn't been determined in the State of New Mexico.

3 Q. And there might be different interpretations by
4 different companies?

5 A. Absolutely. That's why I have large and small
6 companies represented here.

7 Q. But a small company can drill a large well,
8 correct?

9 A. True, but their practice, whether the well is
10 large or small, should be the same. Their practice of
11 using what marketing techniques, what gathering systems
12 that they're using, what pipelines they're using, should be
13 the same.

14 Q. But regardless of company, one company may be
15 deducting a marketing charge --

16 A. Absolutely.

17 Q. -- the other may not?

18 In this calculation -- and I just don't find it,
19 and I'm sure you're going to show me where -- where's the
20 royalty that's being paid? Where does it come out of this
21 calc- --

22 A. Oh, there is no royalty paid in this, there's no
23 royalty paid in this.

24 Q. So the royalty payment would be something over
25 and above --

1 A. That is correct.

2 Q. -- the costs that are shown?

3 Did you factor in any regulatory costs that these
4 people might have to incur to come here and get these
5 exceptions we're going to be coming in for?

6 A. The regulatory costs are included in, usually, a
7 contingency cost that's included with your AFE. There's
8 usually a -- you know, \$20,000 to \$30,000 to \$40,000 to
9 \$50,000 contingency fee that's added to each one of the
10 types of cost to account for things that we didn't account
11 for originally.

12 Q. Did you take into account the economic impact on
13 an operator who, because of the costs of a new regulatory
14 proposal, might decide not to drill?

15 A. Take into -- I don't understand the question.

16 Q. Operators lease properties for oil --

17 A. That is correct.

18 Q. -- and gas development?

19 Operators do that and then estimate the reserves
20 they may be able to produce from those properties?

21 A. That's right.

22 Q. And if the game rules change and there are new
23 and additional costs, some of those costs that they
24 incurred to acquire the properties may be rendered useless?

25 A. True.

1 Q. And did you take any of that into account in
2 terms of the impact of a proposal that would drive
3 operators toward closed-loop systems?

4 A. I did not look at a global look. I looked at
5 what is the difference to an operator individually, doing
6 A, B or C?

7 Q. Is it your testimony that moving to a closed-loop
8 system is desirable and economically attractive in all
9 areas of the state?

10 A. It has been the case in the State of Colorado,
11 whether it's coalbed, deep wells, Weld County, La Plata.

12 Q. Does it have any bearing on the quality of the
13 area or the area in which the well was being drilled, in
14 your experience?

15 A. The quality of the area?

16 Q. If you're drilling in a national forest, would
17 you be more inclined to advocate closed-loop surface -- a
18 closed-loop system than if you're drilling -- I hate to
19 pick on my friend -- south of Artesia?

20 MR. JANTZ: Well, objection, your Honor. This
21 doesn't really go to the economics of the drilling systems
22 It seems to be more about the environmental impacts or
23 aesthetics.

24 Q. (By Mr. Carr) We're advocating the economics of
25 going across the board to a closed-loop system. My

1 question is, is that -- is your conclusion in any way
2 dependent upon the area in which --

3 CHAIRMAN FESMIRE: Mr. Carr, are you making an
4 argument, or are you asking a question?

5 MR. CARR: No, that's the question, and it's
6 appropriate for her to tell us if -- that if -- She can say
7 no, your Honor.

8 CHAIRMAN FESMIRE: Mr. Jantz, since it's phrased
9 as a hypothetical, we'll go ahead and overrule the
10 objection.

11 THE WITNESS: The closed-loop system really
12 doesn't have any significance on whether it's done on
13 private lands, public lands or company-owned lands. It's a
14 question of looking at, How much is this well going to
15 cost, and what can we save?

16 The EPA has a program --

17 Q. (By Mr. Carr) I'm --

18 A. The EPA has a program called the Star program
19 that has been promoted amongst many of our industry
20 participants to save VOC's, save hydrocarbons, and they
21 will offer grants to do these. It doesn't matter where
22 it's drilled.

23 Q. And I'm getting old too, and I didn't hear part
24 of that. You said drilled on -- One of the considerations
25 was, you look at these to see what can be saved; is that --

1 Is that what you said?

2 A. Dollarwise. I am an accountant, I look at the
3 money.

4 Q. Yes, and regardless of where you put this, you
5 think it's cheaper going to a closed-loop system?

6 A. It has been historically found to be that way in
7 Texas and in Colorado, and in New Mexico.

8 Q. When you conducted this study, you focused your
9 study, if I understand it, on the impact on operators, not
10 on the impact on the state or --

11 A. That's right.

12 Q. And your study and your cost study, you're using
13 a typical well at 7200 feet as the basis for conclusion?

14 A. Yes.

15 Q. You did not factor in a royalty rate?

16 A. I did not. We could take 1/8 off of there, 12
17 percent, 15 percent, whatever --

18 Q. Whatever.

19 A. Individual operators have different rates that
20 they pay for royalties.

21 Q. And all of those factors impact their decision to
22 drill?

23 A. That is correct.

24 MR. CARR: That's all I have.

25 CHAIRMAN FESMIRE: Ms. Foster?

1 MS. FOSTER: Yes, thank you.

2 CROSS-EXAMINATION

3 BY MS. FOSTER:

4 Q. I want to make sure that I have your testimony
5 correct. In terms of the factors that impact a well in
6 terms of cost, you looked -- I believe on your spreadsheet,
7 you looked at the depth of the well for starter -- as one
8 of the factors?

9 A. It wasn't a factor, it was a fact.

10 Q. Okay.

11 A. This well was drilled to 7200 feet.

12 Q. Right. And I believe that you also used the IPA
13 New Mexico numbers for the assumption that for a closed-
14 loop system, that it would cost \$2500 a day?

15 A. I used 16 days as the drilling days.

16 Q. For 16 days, okay. But getting back to your
17 first slide, the average well income costs, did you take
18 well volume into account at all?

19 A. Yeah, well volume is a million MCF's.

20 Q. All right, and did you account for waste volume
21 at all?

22 A. Waste volume. This is not -- No, because this
23 was done for an earthen pit. This is your typical well
24 that's done with an earthen pit, put it back the way --
25 where it is.

1 Q. Okay, but would you not agree that in drilling --
2 when you're drilling a hole in the ground, there is
3 cuttings and things that come out, and --

4 A. Yes, and that number is included in the total
5 cost. That is part of the AFE. When it's presented to a
6 joint interest owner to pay part of the expenses, all of
7 those expenses are included in the \$1.5, everything.

8 Q. All right. And an AFE is prepared by whom?

9 A. It is prepared by the operator.

10 Q. Okay. And you said that an AFE includes
11 regulatory costs?

12 A. Absolutely.

13 Q. And does it include taxes?

14 A. No, because those are post-production costs.
15 That's why it has its own column at the end of that first
16 slide.

17 Q. All right. But isn't waste volume something that
18 would be considered in terms of the pit location, how big
19 you'd have to make your pit, for example?

20 A. Yes, and the operator makes that decision and
21 decides it's going to cost, you know, \$38,000 to do the
22 pit, the excavation, and the cleanup of that pit is another
23 amount later on.

24 Q. All right. Now moving on with this waste-cost
25 question, under the closed-loop systems don't wastes have

1 to be hauled off location since you don't have a pit?

2 A. They do.

3 Q. All right.

4 A. And there is trucking in this.

5 Q. All right, I want to make sure that -- and I know
6 you went over this with Mr. Carr, but I want -- I want to
7 make sure that I understand it.

8 On your trucking -- Here it is. Thirteen -- It's
9 \$1300 for trucking --

10 A. Uh-huh.

11 Q. -- is the cost for a closed-loop --

12 A. Uh-huh.

13 Q. -- system? Okay, and this is -- the assumption
14 is what type of a well?

15 A. Same well, same 7200-foot well.

16 Q. 7200-foot well, but I believe you said it was dry
17 gas?

18 A. Dry gas.

19 Q. In the San Juan?

20 A. No.

21 Q. Colorado?

22 A. Yes.

23 Q. All right. And is the same well that you said
24 was producing 1 billion --

25 A. 1 billion cubic or a million MCF's.

1 Q. Right, right. Okay. Now, are you -- with these
2 gas wells, don't you have a lot of hauling costs in the
3 front end to de-water?

4 A. Not in a dry well.

5 Q. All right. And on a closed-loop system you're
6 hauling off basically everything that comes out of the
7 ground, because you're not putting it into a pit?

8 A. No, you are not. You are using separators to
9 separate the cuttings and possibly using them again in
10 another location. Some of -- The drilling muds, all of
11 those things, are re-used.

12 That's what the closed-loop system includes, is a
13 separating system that takes the water separated, takes any
14 of the hydrocarbons that come out, and possibly to have a
15 pipeline to take any of the gas that comes out of the well
16 during the drilling time. And then you also are able to
17 re-use some of the drilling muds.

18 Q. All right, you're able to re-use some of the
19 drilling muds. Are you able to use some of the drill
20 cuttings so you don't have haul all that off?

21 A. You can -- There is a market for the drilling
22 cuttings.

23 Q. All right, and what market is that?

24 A. That is a market that's used -- they are using it
25 for corral base, for livestock, and they're using it for

1 berm preparation around the outside of tanks.

2 Q. Okay, berm construction around tanks on oil and
3 gas locations?

4 A. That's right.

5 Q. Are you familiar with the New Mexico oil and gas
6 surface waste management rule?

7 A. I am not.

8 Q. All right. So length of time will also be a
9 factor in drilling a well that would be deeper than the
10 7200-foot well?

11 A. That is correct.

12 Q. All right. And that will increase your costs in
13 terms of a rig and increase the waste volume, et cetera?

14 A. Yes.

15 Q. Okay. Are you familiar with the costs necessary
16 to change a rig for closed-loop drilling systems?

17 A. I am not, not off the top of my head.

18 Q. Okay. Are you familiar with the equipment that
19 needs to be used for a closed-loop system?

20 A. I am.

21 Q. All right. And what would the -- for example,
22 what would the cost in your example for closed-loop
23 drilling be for a de-shaler, for example?

24 A. Okay, I am talking about using the rental of a
25 company that's already established. I am not talking about

1 buying the equipment yourself to do the de-shaling.

2 Q. Okay, so let me make sure I understand that.
3 You're saying you have an operator who is going to rent the
4 equipment?

5 A. That is going to rent -- hire the company -- and
6 this is your daily rate, to have the equipment attached
7 that does all of the work, including the personnel to
8 oversee that equipment to do it.

9 Q. All right, so --

10 A. They don't have to provide the de-shaler, they
11 don't have to provide the extra separator, the four-phase
12 -- they don't have to do those things because they're
13 renting them.

14 Q. Okay, so they're going out to a third party to
15 rent all the equipment for a closed-loop system?

16 A. That is correct.

17 Q. All right. And what about the availability of
18 that equipment? Do you know anything about availability of
19 equipment for closed-loop systems?

20 A. I am not familiar with the availability. There
21 are a number of companies that do this, though.

22 Q. All right, in New Mexico?

23 A. Yes.

24 Q. Do you know how many of those companies?

25 A. I do not know how many, I couldn't tell you off

1 the top of my head how many there is.

2 Q. Now, I believe that you stated that the typical
3 gas well that you're referring to produces 1 billion cubic
4 feet --

5 A. Yes.

6 Q. -- typical well? But that is not the case in San
7 Juan?

8 A. I have not looked at the typical. Unfortunately,
9 the OCD website that I needed to use last week for that
10 statistic was not up and running, so I apologize, I don't
11 have the totals --

12 Q. Yeah --

13 A. -- by basin.

14 Q. Yeah, their system was down last week.

15 A. I'm usually pretty thorough with those kinds of
16 things, but I don't have it, I don't.

17 I do know that one of the exhibits that you
18 presented showed a well in the San Juan Basin that produced
19 a half a billion, but the costs were half of this also.

20 Q. The costs were half?

21 A. Uh-huh, it was at \$800,000.

22 Q. Oh, drilling?

23 A. Right. Your exhibit, I believe it's 35 or 37,
24 one of those -- I think it's 35.

25 Q. For the cost of drilling in New Mexico?

1 A. Yes.

2 Q. Okay. Are you familiar with the fact that
3 closed-loop drilling happens quite often in the State of
4 Louisiana?

5 A. I am not. I don't -- I don't have a working
6 interest owner in Louisiana, so I don't -- I do not know
7 that.

8 Q. All right. Would it surprise you that the cost
9 of a well or closed-loop system in Louisiana costs \$4.7
10 million?

11 A. The system itself?

12 Q. To drill a well and use the closed-loop system?

13 A. It would not surprise me because the depths in
14 Louisiana are much deeper than they are in the San Juan
15 Basin.

16 Q. Now for the State of New Mexico there is a
17 possibility when you drill and you make this investment
18 here, which you stated in your document of several million
19 dollars, of ending up with a dry hole, correct?

20 A. Absolutely.

21 Q. All right, that is one of the risks that needs to
22 be considered?

23 A. That's right.

24 Q. Right?

25 A. And that's why companies have a tendency to drill

1 in areas that are already developed --

2 Q. Right.

3 A. -- because they want to reduce that wildcat risk.

4 Q. And are you aware that as of 2003 the number of
5 dry holes in New Mexico was 14,500?

6 A. Is that cumulative?

7 Q. That's with 80,000 wells drilled.

8 A. That's cumulative.

9 Q. Yes.

10 A. Since when? Since 1900?

11 Q. With the number of wells that have been drilled,
12 which is approximately 80,000 wells --

13 A. Okay.

14 Q. -- we came up with 14,500 --

15 CHAIRMAN FESMIRE: Ms. Foster, do you intend to
16 present evidence?

17 MS. FOSTER: Well, this is OGAP's exhibit, so I'm
18 expecting, since she did say that she was familiar with
19 it --

20 MR. JANTZ: Which exhibit?

21 MS. FOSTER: It's Exhibit 4.

22 MR. JANTZ: Specifically, Mr. Chairman, we did
23 not offer Exhibit 4 as an exhibit upon which Ms. Denomy
24 relied. She did review that but found that the data was
25 out of date, so we only are offering Exhibits 5 through 11.

1 CHAIRMAN FESMIRE: Okay, Ms. Fos- -- Do you
2 intend to offer Exhibit 4?

3 MR. JANTZ: No, sir.

4 CHAIRMAN FESMIRE: Okay. Ms. Foster, would now
5 be a good time to break?

6 MS. FOSTER: It should be fine.

7 CHAIRMAN FESMIRE: Okay. As we do -- as we try
8 to do every day before we break for lunch, I'm going to ask
9 if there's anybody in the audience who would like to make a
10 statement for the record. We have -- Well, is there
11 anybody who would like to do that? Could I see a show of
12 hands? Okay, it looks like we may have a late lunch.

13 We're going to -- we have two kinds of
14 statements. You can make a statement of position, or you
15 can come up, be sworn, and make a statement that provides
16 evidence but that also subjects you to cross-examination
17 from the attorneys. We'll just go ahead and start.

18 Is there anybody who can't be back this afternoon
19 and around until later in the afternoon and would like to
20 make their statement now?

21 Okay, Ms. Blancett, why don't we start with you,
22 and then we'll take the two that can't be back this
23 afternoon and then get as many as we can from the people
24 who will be here this afternoon.

25 MS. BLANCETT: I think your check person has my

1 information.

2 CHAIRMAN FESMIRE: Your check person?

3 MS. BLANCETT: He set everything up earlier.

4 Yeah, the guy who set it up. I don't want to mess with his
5 equipment. He was here -- He's not here.

6 CHAIRMAN FESMIRE: Carl, can you --

7 FROM THE FLOOR: Glenn's coming.

8 MR. CHAVEZ: I'm going to fill in.

9 CHAIRMAN FESMIRE: Okay.

10 MS. BLANCETT: This is -- It's only six only
11 minutes, it won't take very long.

12 I'm Tweetie Blancett. I am described as a well-
13 intentioned rancher that's unemployed. So I just want to
14 let you know ahead of time that the information you're
15 going to get is considered by some people to be important
16 information.

17 I'm going to show you the clip --

18 CHAIRMAN FESMIRE: Oh, Ms. Blancett, do you want
19 to be sworn, or do you just want to make this a statement
20 of position?

21 MS. BLANCETT: Oh, I'll be sworn or I'll make a
22 statement, whatever you want to do.

23 CHAIRMAN FESMIRE: That's up to you.

24 MS. BLANCETT: I'll be sworn.

25 CHAIRMAN FESMIRE: Okay.

1 (Thereupon, the witness was sworn.)

2 TWEETIE BLANCETT,

3 the witness herein, after having been first duly sworn upon
4 her oath, testified as follows:

5 DIRECT TESTIMONY

6 BY MS. BLANCETT:

7 MS. BLANCETT: A little bit of background on
8 this. This is a CD that was done by Sierra Club, and it's
9 about 26 minutes long if anyone wants to listen to the
10 whole, but you're only going to have to listen to the last
11 six minutes of it.

12 MR. CHAVEZ: Ms. Blancett, I have two files up
13 here --

14 THE WITNESS: Okay, the two files.

15 FROM THE FLOOR: Just whichever one worked with
16 your software.

17 THE WITNESS: Whichever one works with your
18 software, he said.

19 This is filmed on our ranch, on the headquarters,
20 on the Animas River. It's the only place in San Juan
21 County that has no wells, no pipelines and no roads, and
22 the adjacent 600-acre bench is in the fairway of the
23 largest-producing natural gas field in North America, and
24 our ranch -- fortunately or unfortunately, whether you're
25 Mr. Carr representing Conoco or you're Tweetie Blancett

1 representing Blancett Ranches, you're pleased with the fact
2 of the impacts to the surface.

3 What I think that this is going to show you is
4 something about what we're talking about today, and that's
5 the pits, the impact of the pits on the land and the water.

6 And maybe it's going to work and maybe it's not.

7 (Off the record)

8 THE WITNESS: That isn't it, boys.

9 (Laughter)

10 CHAIRMAN FESMIRE: It is, we just can't read it.
11 Carl, is there any other computer with a media player on
12 it?

13 MR. CHAVEZ: Not that I'm aware of, not with our
14 state government computers, Mr. Chairman.

15 CHAIRMAN FESMIRE: What about the other file?
16 Can you play that in the media player?

17 MR. CHAVEZ: I tried that one, but I'll try it
18 again. We'll select a program, because the previous
19 program did not work.

20 I do have an image viewer.

21 CHAIRMAN FESMIRE: No, that's a still image
22 viewer.

23 MR. JANTZ: Mr. Chairman, if I can offer, Ms.
24 Lachelt from OGAP has a computer that she knows will play
25 this particular video.

1 CHAIRMAN FESMIRE: Okay, why don't we go ahead
2 and start changing that, and we'll go to the next person.

3 Ma'am, I believe you had decided --

4 MS. TREMPER: I don't want to be sworn in --

5 CHAIRMAN FESMIRE: Okay.

6 MS. TREMPER: My name is Amy Tremper. I work on
7 a ranch in the Galisteo Basin. I am very concerned about
8 what's possibly going to happen in the Galisteo Basin, so
9 the pit hearings do affect me and what will happen when I'm
10 out on the ranch riding and seeing what could happen to the
11 migratory birds in the Galisteo Basin, which are
12 incredible, to the wildlife which I love dearly and which
13 are already impacted greatly.

14 I support greatly the work that's being done here
15 and the regulation that you're trying to put in place.

16 I also just want to say something about -- I
17 don't know your name, sir, in the white, but it really kind
18 of got to me when you were talking about the industry when
19 they have leases and then they wouldn't be able to use
20 their leases.

21 We have to buy brood mares, we have to buy mama
22 cows to produce the babies that are our industry, and often
23 they don't have babies. And we don't go around wanting the
24 state to look after us for that. We don't do that.

25 And I can't believe that you brought up Louisiana

1 to make me feel badly for \$4.7 million. You know, we're
2 talking about New Mexico. I feel like you guys are kind of
3 trying to -- the industry is trying to, I don't know, make
4 us feel guilty or something, or make the OCD feel guilty
5 about the money that you all are going to be spending or
6 making, and I think that needs to be, you know, fairly
7 looked at. People go into business, and they lose money on
8 speculative things. And we do it, you know, in our field,
9 in our industry, and so I think that's just a common thing
10 to happen for oil and industry.

11 But again, I support the attempt to make these
12 new regulations and I hope they go through, and I thank you
13 so very much. Thank you.

14 CHAIRMAN FESMIRE: Thank you, Ms. Tremper.

15 (Applause)

16 CHAIRMAN FESMIRE: We've probably got time for
17 another one. Does anybody else want to make a statement on
18 the record before lunch?

19 Ma'am, why don't you come forward, please? Do
20 you want to be sworn, or do you just want to make a --

21 MS. MURRAY: May I Come through here?

22 CHAIRMAN FESMIRE: Yes, ma'am.

23 MS. MURRAY: I don't want to be sworn.

24 CHAIRMAN FESMIRE: Okay, would you start with
25 your name, please?

1 MS. MURRAY: My name is Ann Murray. I'm from the
2 village of Cerrillos. I'm putting my comments on the
3 records because the need for strictly enforced pit
4 regulation has been highlighted by recent activities of
5 Tecton Energy in the Santa Fe area. However, anywhere in
6 New Mexico where drilling permits occur, strict regulation
7 must be present to protect human and environmental health.

8 I'm grateful to the OCD for the opportunity for
9 public comment.

10 On-site disposal of pit waste must be prohibited
11 completely. State-regulated hazardous waste sites must be
12 established in conjunction with oil production permits. No
13 exemption from certified waste disposal due to mileage from
14 drill site to disposal facility can be justified.

15 The long history of contamination from oil
16 production in New Mexico teaches us that if drilling is to
17 continue here, it must be strictly regulated by the state
18 and county governments. If the resource is not plentiful
19 enough at a particular site to cover the cost of clean
20 exploration, then it should not be considered viable.
21 Boom-and-bust cycles are part of the extracted [*sic*]
22 industries and cannot be the excuse for inadequate
23 regulation.

24 I would like to thank the OCD for fighting to
25 protect the citizens and land of New Mexico. You have our

1 support. Thank you.

2 CHAIRMAN FESMIRE: Thank you, Ms. Murray.

3 (Applause)

4 CHAIRMAN FESMIRE: Are you ready, Carl, or --

5 MR. CHAVEZ: Are we ready?

6 MS. BLANCETT: Well --

7 CHAIRMAN FESMIRE: Why don't we go to the next
8 one? Is there anybody else who'd like to make a statement?
9 Come on forward.

10 MR. SUGARMAN: My name is Steve Sugarman, I'm a
11 resident of Santa Fe County.

12 I would also like to go on record as being very
13 appreciative of the work that OCD and OCC are doing in
14 enacting this rule.

15 In connection with what's happening with Tecton's
16 foray into Santa Fe County, I've been looking over some of
17 what's been happening in past years with local regulation
18 of oil and gas.

19 And what I've found is that invariably, industry
20 and NMOGA will always say, Local government, you don't have
21 the authority, don't do this, leave it to the state; the
22 state knows how to regulate, the state is regulating, the
23 state is taking care of us.

24 Well, ironically, here we are at the state before
25 the regulator that industry wants, and industry is telling

1 the state that it can't regulate either.

2 So I put two and two together, and what I come up
3 with is that the industry would just rather not be
4 regulated at all. Well, that would be really convenient
5 for the industry, but it doesn't protect the health, the
6 safety and the welfare of the citizens of the state.

7 I think that what's happening right now, the fact
8 that we're even here, is that we're on the cusp of paradigm
9 shift where this industry is going to have to be held
10 accountable to the public. No longer are we going to have
11 to suffer at the hands of this dominant estate. And I
12 think that it's the work of bodies like OCC and OCD that
13 are going to bring us forward into the new millennium where
14 oil and gas is just going to be yet another corporate
15 industry that's going to have to abide by regulatory
16 layers, just like anybody else.

17 So again, thank you very much to the regulators
18 here at the state level and to the county level for
19 standing up to this 2000-pound gorilla, who are looking the
20 gorilla in the eye, and who aren't blinking and standing up
21 and saying it's time for the oil and gas industry to take
22 its place as just another corporate citizen, no more
23 special treatment.

24 So thank you very much.

25 (Applause)

1 CHAIRMAN FESMIRE: Thank you, Mr. Sugarman.

2 Carl, are you ready?

3 MR. CHAVEZ: Mr. Chairman, she's going to try.

4 Let's see.

5 MS. BLANCETT: Okay.

6 CHAIRMAN FESMIRE: Do you have sound?

7 (Thereupon, a CD-ROM was played. Transcript of
8 various voices in sound track follows:)

9

10 ...and they haven't shown up yet.

11 When they won't go and look at their problems,
12 it's really infuriating to me.

13 If you've ever dealt with ranchers, they're
14 dealing with some rugged individual alpha folks there
15 too, so once you get them riled up it's kind of tough
16 to get them cooled down.

17 When we find problems, we take the BLM out there
18 and show them, take the oil companies, and I'm so sick
19 and tired of doing that over and over and over, the
20 same issue.

21 Once they get their blood up, it's tough.

22 I've got to where I just boil over when it
23 starts. And you saw Tweetie, she's getting the same
24 way.

25 Tomorrow what we're going to see is, the Bureau

1 of Land Management will be up here to do what they
2 call a scoping.

3 They're being paid to be there, that's their job.
4 But we point out the problems, they agree it shouldn't
5 be happening, and they will go so far as to say, Well,
6 it's not happening now, and nothing makes you happy.
7 And they insinuate that you might be lying. Then I
8 get real angry.

9 You know, that's the one thing that a rancher's
10 word has always been his bond, and if you want to
11 fight with me, why [unintelligible] my kids or my wife
12 or my dog, or call me a liar.

13 And this is why we need to get this straightened
14 out, because it's happening all over.

15 It's not just happening right here in this area,
16 it's happening to me and this is why all my cattle are
17 testing positive for the hormone, because they're
18 drinking some of that stuff that's up there, and we
19 want to correct it. We don't want them to keep on
20 doing it every day and calling you guys and call the
21 oil companies. We need to [unintelligible]. We don't
22 want to do it. I want to run my business and let them
23 do their business, but I want my business to be also
24 protected.

25 I agree with you, I just don't have the people to

1 be able to handle it all. And so the best thing I can
2 do is react to complaints.

3 They're sick right now, I know that, because I
4 got a lab test, and that's what really pisses me off,
5 that Steve tells me that there's nothing wrong, and
6 damn if there isn't. It's the same old BS, different
7 date. That's the only thing that's changed, is the
8 date.

9 I do get it, I do get it.

10 It's no secret what we want. We want the nets
11 cleaned up, and we want to be able to ranch and farm.
12 I mean, if we're doing what they're doing -- and you
13 need to go look at it, because you saw it before, you
14 saw the well location. And it's right on the edge of
15 the arroyo. It's not a hundred yards from the Animas
16 River.

17 It's ridiculous. If I had done to my grazing
18 permit what oil and gas has done, I would have been
19 pulled off of it. If I had created the surface
20 disturbance, the erosion, the pollution of the water,
21 the noxious weeds, by my bad actions I would not have
22 a grazing permit. Am I wrong?

23 Why don't you show me this torn pit liner?

24 Okay, sure. Be glad to. Yesterday there was
25 lining in here, buster. Today they've pulled off the

1 plastic, and now they're stirring everything up. Do
2 you recognize what's going on here?

3 Boy, they're making a heck of a mess. They're
4 supposed to take all that liquid out before they do
5 this, but they've got all that liquid in there and
6 they're just mixing it up with the dirt.

7 Well, do you see that -- I mean, we're standing
8 right here looking at it, and that stuff goes right
9 into that arroyo and right into --

10 -- right into the Animas River.

11 You tell me, Ray. When the pit and the liner's
12 there, it's supposed to be folded in --

13 Yes.

14 -- and buried. It's not supposed to be stirred
15 like this, right?

16 Correct.

17 [unintelligible] we allow them to stir it in, and
18 [unintelligible]

19 This is on private land, it's not a BLM site. We
20 don't have any legal power to do anything.

21 The United States needs the oil and gas. That's
22 a prime example of what they're trying to do in this
23 [unintelligible] just the beginning, I think, with
24 that new energy bill that they just passed, that's
25 just the beginning of it.

1 As a citizen, I'm concerned. I am absolutely
2 concerned, because I see the water running, I do, and
3 I understand the municipalities that are getting their
4 water out of [unintelligible] I do.

5 Really clear, here is -- this is on private land,
6 and we don't have any authority here, so as long as
7 you know that.

8 We're in the courts -- the fight has gone to the
9 courts, and the fight is in the media and the fight is
10 in grassroots organizations from border to border.
11 And the more people that join and understand what's
12 happening are going to be more people that we can
13 count on to step up to the plate and say no, enough is
14 enough.

15 This is how close -- This is the Bureau of Land
16 Management land, right here. All of this, this way.
17 This right there is private. And the arroyo is on
18 BLM, and this is the source of the warm-water spring
19 that never freezes up.

20 And the oil and gas company made a big mistake
21 with us because they took everything. And when you
22 take everything that a person has worked their life
23 for, you make them dangerous.

24
25 CHAIRMAN FESMIRE: Ms. Blancett, do you have

1 anything else?

2 TWEETIE BLANCETT (Resumed),
3 the witness herein, having been previously duly sworn upon
4 her oath, testified as follows:

5 DIRECT TESTIMONY

6 BY MS. BLANCETT:

7 MS. BLANCETT: All I have to say is, you can see
8 the full video if you'd like, and I'll leave a copy for
9 here.

10 CHAIRMAN FESMIRE: Is that the one where cuss me?

11 THE WITNESS: Huh?

12 (Laughter)

13 CHAIRMAN FESMIRE: Is that the one where cuss me?

14 (Laughter)

15 THE WITNESS: And I stand for questions.

16 CHAIRMAN FESMIRE: Are there any questions of
17 this witness?

18 COMMISSIONER BAILEY: Sure.

19 CHAIRMAN FESMIRE: Commissioner Bailey.

20 EXAMINATION

21 BY COMMISSIONER BAILEY:

22 Q. I didn't see any OCD people on site.

23 A. I'm very glad you asked that.

24 CHAIRMAN FESMIRE: I'm not.

25 (Laughter)

1 THE WITNESS: You don't want to be asked that.

2 They were called, they didn't show up until after
3 the pit was covered. They took samples of the water, they
4 took samples of the pit and they took samples of the soil.
5 It all had to be dug up, reclaimed, and the samples are on
6 file with OCD, everything is contaminated. But it wasn't
7 stopped when we asked for it to be stopped.

8 COMMISSIONER BAILEY: That's all I have.

9 CHAIRMAN FESMIRE: Any other questions?

10 COMMISSIONER OLSON: Just a follow-up on that,
11 Ms. Blancett.

12 THE WITNESS: Sure.

13 EXAMINATION

14 BY COMMISSIONER OLSON:

15 Q. Were you saying that the groundwater is
16 contaminated at that site as well, or is that --

17 A. That -- the fluids in it, yes, were contaminated.

18 The soil that was mixed with the fluids in the pit was
19 contaminated, and the freshwater spring that was flowing at
20 that time was contaminated. And you have on file in the
21 Aztec office the results of all those tests. And
22 everything was contaminated, yes.

23 They didn't take water samples at the river's
24 edge. This freshwater spring that had never, ever frozen
25 up or ran the year round no longer flows.

1 CHAIRMAN FESMIRE: Thank you, Ms. Blancett.

2 Anything else? Okay.

3 Anyone else want to make a statement for the
4 record before lunch?

5 Come forward, sir. Would you like to be sworn,
6 or would just like to make a statement?

7 MR. BACON: I'll just make a statement.

8 CHAIRMAN FESMIRE: Okay. Could you start with
9 your name, please sir?

10 MR. BACON: My name is David Bacon. I appreciate
11 these hearings.

12 I daresay you haven't had this type of citizen
13 turnout for quite some time, maybe ever, and it does
14 indicate, as Steve said, that there's a tremendous interest
15 in what's going on by the citizens of Santa Fe.

16 The country, this country, was started with a
17 simple phrase, We the people. It goes much deeper and is
18 much more important than any legal terminology. It's not
19 legal, it's a deeply held position. And it was created to
20 wrest this country from a tyranny that was being enacted at
21 the time, and it was all about protection from tyranny.
22 That was the basis of this country.

23 And if I were to find someone pouring something
24 down my well, I'd find out what it was. And if it were
25 toxic, I would make them stop. If he refused to stop, I

1 would hurt him, I would -- I would hurt him. I would hurt
2 him badly enough to where he couldn't do it anymore and the
3 sheriff came and took care of it. If the sheriff then
4 couldn't take care of it for some reason, I would continue
5 to take care of it.

6 You guys are our representatives to protect us
7 from that type of tyranny. We're depending on you to do
8 that.

9 We've seen pretty good evidence that there is a
10 rather long and deep history of irresponsibility in the
11 industry.

12 And it's an industry that knew from the first
13 gusher in Pennsylvania that they were done. They knew as
14 soon as it hit that they were done, that they were going to
15 hit depletion and they were going to bring everything they
16 could out of the ground.

17 And now the industry is going into unconventional
18 areas, and it's going to hit a lot of, lot of opposition.
19 So what you're doing is very important to articulate the
20 feelings of citizens of this state for protection.

21 So I thank you, and I wish you the best.

22 CHAIRMAN FESMIRE: Thank you, Mr. Bacon.

23 (Applause)

24 CHAIRMAN FESMIRE: Anybody else before we break
25 for lunch?

1 Okay, with that we'll break for lunch and
2 reconvene in this room at 1:30.

3 (Thereupon, a recess was taken at 12:09 p.m.)

4 (The following proceedings had at 1:31 p.m.)

5 CHAIRMAN FESMIRE: Let's finish lunch and go back
6 on the record.

7 Let the record reflect that it is 1:30 on
8 Tuesday, November 13th, 2007, that this is a continuation
9 of Case Number 14,015 before the New Mexico Oil
10 Conservation Commission.

11 Let the record also reflect that Commissioners
12 Bailey, Olson and Fesmire are all present, we therefore
13 have a quorum.

14 And I believe when we broke to take public
15 comment we were in the middle of Ms. Foster's cross-
16 examination of Ms. -- Demony?

17 MS. DENOMY: Denomy.

18 CHAIRMAN FESMIRE: Denomy.

19 MS. DENOMY: Yes, sir.

20 CHAIRMAN FESMIRE: And I guess that's where we'll
21 start.

22 Mr. Jantz, is there any problem continuing with
23 the cross-examination of your witness?

24 MR. JANTZ: I have no problem, Mr. Chairman.

25 CHAIRMAN FESMIRE: Okay. Ms. Foster, go ahead.

1 MS. FOSTER: Thank you.

2 MARY ELLEN DENOMY (Continued),

3 the witness herein, having been previously duly sworn upon
4 her oath, was examined and testified as follows:

5 CROSS-EXAMINATION (Resumed)

6 BY MS. FOSTER:

7 Q. Okay Ms. Denomy, I think where we left off was
8 discussing the use of the drill cuttings.

9 A. Yes.

10 Q. Do you remember that line of questioning that we
11 had? And I believe that you reviewed Exhibits -- let's
12 see, the Cimarex presentation, which was 9 --

13 A. Uh-huh.

14 Q. -- I think it was, and you also reviewed Exhibit
15 7, correct, in your preparation for this testimony?

16 A. Yes.

17 Q. All right. And the case studies that are in
18 Exhibits 9 and 7 spread drill cuttings on the ground, on
19 those case studies; is that not correct?

20 A. I believe the one that is from Prima Energy talks
21 about the use of the drill cuttings to be used for corral
22 purposes as well as tank purposes, so it would be on the
23 ground --

24 Q. Okay.

25 A. -- yes.

1 Q. And what about produced water that comes up after
2 you're done with the closed-loop systems, the excess water
3 that you have?

4 A. The excess water has been cleaned and re-used.

5 Q. Cleaned and re-used for drilling purposes --

6 A. Yes.

7 Q. -- or agricultural purposes?

8 A. Drilling purposes.

9 Q. Drilling purposes. And is it possible to clean
10 and re-use water for every location?

11 A. In Colorado, yes.

12 Q. Okay, but in New Mexico you don't know?

13 A. I'm not sure.

14 Q. And cleaning and re-using the water, is there a
15 cost associated with that?

16 A. It is part of the closed-loop system of the
17 cleaning.

18 Q. Okay, but if I understand you correctly, the cost
19 of the closed-loop system you had put down as \$2500 a day.

20 A. To rent.

21 Q. To rent, and does that include the cost of
22 cleaning the water --

23 A. Yes, it does.

24 Q. It does. Okay, so the \$2500 a day is the cost of
25 a subcontractor to come on location to run the closed-loop

1 system?

2 A. That is correct.

3 Q. And does that include all the extra hardware that
4 is necessary to run a closed-loop system?

5 A. I cannot tell you for sure.

6 Q. All right. And with the closed-loop system,
7 since you don't have an open pit, where does the excess
8 water need to be put in?

9 A. Tanks, frac tanks.

10 Q. Frac tanks. And do those frac tanks come under
11 the cost of your closed-loop system analysis?

12 A. Absolutely, and frac tanks are always a part of
13 the drilling process anyways.

14 Q. The same number of frac tanks, or does the number
15 of frac tanks that you need to use for a closed-loop system
16 increase?

17 A. Decrease.

18 Q. It decreases?

19 A. That's right.

20 Q. All right, how -- But you have more water that
21 you need to put into a tank. How is it that the frac --
22 number of frac tanks would decrease?

23 A. During the course of frac'ing, they have to have
24 so many frac tanks available to get the frac job done
25 immediately. So there will be a minimum of 23 frac tanks

1 that are there for a frac job. If you are re-using the
2 water and you're capable of getting it cleaned and back in
3 for frac'ing, there is a possibility that you could have
4 less frac tanks that you need for the frac'ing part of it.

5 Q. Okay, but you're making the assumption that the
6 water will be able to be re-used?

7 A. Yes.

8 Q. All right. And re-using the water is dependent
9 on the geology of the location and the unique
10 characteristics of each well; is that not correct? The
11 weight of the water, et cetera?

12 A. Well, most water all weighs eight pounds per
13 gallon, so...

14 Q. Okay. Well, wouldn't it weigh more depending on
15 the salinity of the water?

16 A. It shouldn't.

17 Q. It shouldn't weigh more --

18 A. No.

19 Q. -- if it's more saline?

20 A. I cannot answer that question. I'm not a
21 geologist or a hydrologist.

22 Q. All right. Now who prepares -- I believe I asked
23 you this question before, but who prepares an AFE again?

24 A. It is the operator.

25 Q. And an AFE stands for what?

1 A. Authorization for expenditure.

2 Q. And that is an estimate of costs up front,
3 correct?

4 A. That is a budget for the costs.

5 Q. All right. And do operators generally stay
6 within the parameters of an AFE?

7 A. They do, and they usually are a little bit less
8 than the AFE's.

9 Q. Okay, but those are calculations made by an
10 operator, not an accountant?

11 A. They're made by the accountant for the operator.

12 Q. In every instance?

13 A. Not necessarily. It can be done by a petroleum
14 engineer.

15 Q. And the petroleum engineer, as part of doing the
16 AFE would have to calculate the costs of how much waste
17 volume there is and the cost of hauling it to a landfill --

18 A. Yes.

19 Q. -- a hundred miles away?

20 A. Yes.

21 Q. All right? Okay, all right. And when you're
22 drilling a deeper well, is there an escalation in costs?

23 A. There is.

24 Q. Is it a linear escalation in costs?

25 A. It's actually a decrease in costs, because there

1 are some things that are equivalent. Like I mentioned
2 earlier, your separator, your roads in are still going to
3 be the same maintenance costs, the same excavation costs.
4 So you are going to have some costs that are going to be
5 the same, whether it's a 4800-foot well or a 14,000-foot
6 well. So you will have an increase of cost, but not
7 greater --

8 Q. Well, wouldn't you --

9 A. -- than twice.

10 Q. -- wouldn't you have an increase in costs in
11 terms of the tanks that you need on location for the excess
12 volume --

13 A. Yes.

14 Q. -- of waste?

15 A. Yes.

16 Q. Okay, so you'd have more hardware on this -- on a
17 location if you have --

18 A. Yes.

19 Q. -- another well?

20 A. Yes.

21 Q. Right? Or you'd have to arrange for more
22 trucking on and off location to move the wastes off --

23 A. Yes.

24 Q. -- assuming you would have -- right?

25 A. Yes.

1 Q. Okay. Now in terms of your investment analysis
2 for companies, did you account for the discount rate of
3 future cash flows?

4 A. I did not. This is a question of whether or
5 not -- what the costs are for this well. This is a
6 decision that is made by a working interest owner, based on
7 the documentation that has been given to you.

8 Q. All right, but -- So even though you're saying
9 that the well has a life of -- I believe you said 20-plus
10 years --

11 A. Right.

12 Q. -- there is no discussion of the devaluation of
13 the cash?

14 A. There is no discussion for the present value,
15 unlike the IPANMS [*sic*], which used a 16.9-percent present
16 value, which is really extremely large in today's
17 accounting world.

18 Q. Okay.

19 A. We do not use 16.9-percent present values.

20 Q. Unlike -- Unlike the IPANM document?

21 A. Yeah, the exhibit shows a 16.9-percent present
22 value.

23 Q. Now did you factor any increase in regulatory
24 costs in the overall cost to an operator?

25 A. I did not.

1 Q. And are you aware that for a company with less
2 than 20 employees, the regulatory cost per employee is
3 about \$3300?

4 A. That is from a -- Yes, I am aware of that.

5 Q. Okay, and -- but that factor was not taken in --
6 In other words, there's no accounting for a large company
7 versus a small company when you're doing the AFE investment
8 analysis?

9 A. No.

10 Q. Okay. Well, because for a larger company the
11 regulatory cost per employee is less?

12 A. True.

13 Q. All right. Now I believe that you stated that
14 there was an instance where the re-use of drilling water in
15 Colorado was used on four locations, there was an instance
16 where there were four --

17 A. Oh, yes, the frac- -- the fracturing --

18 Q. The frac fluid, yes. Now even in that instance
19 you still have to truck from location to location, correct?

20 A. No.

21 Q. No?

22 A. No, they are simply using water pipelines that
23 are running from wellsite to wellsite. They are -- no
24 trucking involved.

25 Q. All right, but the pipelines have to be laid down

1 at some point?

2 A. That is true, and they're re-usable.

3 Q. And that was a cost to somebody.

4 A. That is re-usable, though.

5 Q. All right. And those pipelines are between just
6 those four wells?

7 A. That is correct, at this point.

8 Q. All right. Now are you familiar with the New
9 Mexico rule that requires 80-acres spacing between
10 locations?

11 A. I will take it that that's the facts, then.

12 Q. Okay, so if you have 80-acre spacing between
13 locations, you will have to truck between wells to move
14 your water around?

15 A. I am not sure if water through a pipeline falls
16 into the 80-acre distance.

17 Q. All right, but you're assuming, then, that
18 there's a pipeline there?

19 A. But -- This is a temporary water line above
20 ground that is being used for the purpose of frac'ing
21 distant well sites.

22 Q. Okay, and how big is that temporary water line,
23 then?

24 A. I couldn't tell you. This is something new that
25 one of the companies in Garfield County just, just admitted

1 that they were doing to try to eliminate the truck traffic
2 between the wells.

3 Q. All right. Are you aware of the volumes of the
4 water that actually comes off of a well that we need to
5 keep wet?

6 A. Yes.

7 Q. How many --

8 A. At least a million gallons.

9 Q. A million gallons going between locations, and
10 you're making the assumption that the water could be re-
11 used at a secondary or third locations?

12 A. It's a fact, it is being re-used. You can pull
13 up the *Post Independent* from three days ago, and Williams
14 Production -- last Sunday, actually -- Williams Production
15 has it on the front page of the paper on how they are going
16 to be doing this. I mean, I am not the accountant for
17 Williams Production, so this is something that's been
18 publicly disclosed by Williams Production as to what
19 they're doing.

20 Q. And do you know what type of wells those were?
21 Are they --

22 A. Those are Mesaverde wells.

23 Q. They're -- Okay, Mesaverde wells, so --

24 A. Yes.

25 Q. -- and do you know how deep those wells are?

1 A. Those wells are somewhere between 7200 and 8500
2 feet deep.

3 Q. And do you know --

4 A. And there are 16 per pad, so they're all
5 directionally drilled. Each of those pads will have at
6 least 16. Some of them are going to have 22.

7 Q. Okay, but those are in Colorado?

8 A. Yes.

9 Q. So they are under Colorado permits in terms of
10 spacing and -- spacing requirements, et cetera, et cetera?
11 The spacing --

12 A. Yes, yes.

13 Q. Okay. The spacing requirements that you just
14 mentioned --

15 A. Yes.

16 Q. -- were not New Mexico --

17 A. There's -- There's spacing, and then there's
18 infills. There's two different things to spacing.

19 Q. Uh-huh.

20 A. One is the way you pay the money or invest in a
21 well. And the other well -- the other one is the distance
22 that you have to be between wells --

23 Q. Right.

24 A. -- and I think it's called infill here.

25 Q. Okay. Now on your analysis for the central water

1 facility --

2 A. Uh-huh.

3 Q. -- that you had, I believe the cost analysis that
4 you have for that was actually the lowest for -- of the
5 scenarios that you --

6 A. No, it was the largest, it was 9.5 percent of the
7 total cost.

8 Q. 9.5 percent of the total cost?

9 A. Uh-huh.

10 Q. Okay, as opposed to 6.5 --

11 A. 6.5 for the earthen pits and 3.5 for the closed-
12 loop.

13 Q. Okay, and when you say that this is a centralized
14 waste --

15 CHAIRMAN FESMIRE: Mr. Jantz, we didn't get a
16 copy of this document that was handed out.

17 MR. JANTZ: Oh, this is simply a hard copy of the
18 PowerPoint presentation.

19 CHAIRMAN FESMIRE: That's what I mean, can we --

20 MR. JANTZ: Okay --

21 CHAIRMAN FESMIRE: -- get a copy?

22 MR. JANTZ: -- absolutely, we will get you a
23 copy. We're using it as a demonstrative exhibit only, we
24 aren't going to be offering it into evidence. But we can
25 certainly have these copied. I don't have --

1 THE WITNESS: We can leave the CD with them if
2 they would like.

3 MR. JANTZ: Sure. I can have that by the -- at a
4 convenient time, as soon as possible.

5 MR. BROOKS: Mr. von Gonten has volunteered to
6 make copies.

7 MS. FOSTER: Okay, would you like me to withhold
8 questions --

9 CHAIRMAN FESMIRE: No, I just -- Continue, he'll
10 be down in a minute.

11 Q. (By Ms. Foster) All right. Now the centralized
12 waste pit costs, this is for disposal of liquid as well as
13 solid wastes?

14 A. Yes.

15 Q. All right. And do you have any sort of
16 discussion on the concentration in those wastes in terms of
17 chlorides?

18 A. Do not. I don't have the technical breakdown of
19 any of the chemicals.

20 Q. All right. And would this waste include disposal
21 of, say, cement --

22 A. I don't know.

23 Q. -- to these locations?

24 Now, are you familiar with the concept of
25 workover pits?

1 A. Yes.

2 Q. And that also incur- -- the operators also incur
3 a cost on workover pits, correct?

4 A. They do, but they don't do workovers on every
5 well.

6 Q. Okay. Now what exactly is a workover, just for
7 clarification of the record?

8 A. At some point in the life of a well it starts to
9 decrease so that it becomes uneconomic. During the course
10 of the drilling of a well there are so many places in the
11 formation that the company chooses to develop, and they
12 will develop only a certain number of places. When the
13 well starts to decline some companies will look at the
14 geology in the area and decide that we could do some more
15 development of different places in that formation,
16 therefore we will bring in another rig, we will do workover
17 on that section to rejuvenate the well, because we believe
18 it's economically possible to rejuvenate that well and make
19 it produce more than it did as it was declining.

20 Q. Okay. And do you know if you can do workover
21 operations on a closed-loop drilling system?

22 A. Certainly you can.

23 Q. Okay. Is it -- Part of a workover is cleaning
24 out the rods, particularly in an oil operation; is that
25 correct?

1 A. Yes.

2 Q. And cleaning off the paraffin on the rods?

3 A. Yes.

4 Q. All right. And how would you suggest cleaning
5 off paraffin on rods and basically refurbishing the
6 hardware on a well if you're intending to do it on a
7 closed-loop system without a pit?

8 A. I am not technically capable of knowing that. I
9 do know that they use hot oil to reduce the amount of
10 paraffin. Workovers are not always done because there's
11 paraffin on a rod. Okay. So I mean, I am not technically
12 capable of giving you that answer.

13 Q. Okay, but a workover in a very general sense is
14 just kind of refurbishing a well to increase production?

15 A. That is correct. It doesn't always work either.

16 Q. Right. And in order to increase production on a
17 well that is not producing as well, companies do use
18 compressors?

19 A. They -- Compressors are basically used to
20 increase the flow of gas for transportation, for post-
21 production costs, for marketing the gas. They don't
22 necessarily use what -- Okay, maybe you should define what
23 you're talking about as compressor. Is it quasi-generator,
24 or is it a compressor that they're using to compress the
25 gas, to get it through the pipeline?

1 Q. No, it's a compressor to assist with getting the
2 gas out of the ground, or the oil out.

3 A. Okay, they normally don't put a compressor at the
4 well site. They will use a plunger lift on occasion, but
5 compressors are usually done -- not necessarily at a well
6 site, but maybe at a lease end. So because it's too costly
7 to put in a compressor to do it at one well, one for each
8 well.

9 Q. Okay, so in your experience you don't have
10 compressors at each well or each location?

11 A. That is right. That is very correct. I can tell
12 you one well that has a compressor in Colorado that it's
13 right -- for one well.

14 Q. Okay. Now when you did your review, I believe
15 that you said that you didn't really look at the --
16 Withdrawn, I'll start the question over.

17 When you did your analysis, did you -- and
18 reviewed the IPANM analysis, did you do any sort of special
19 analysis for small operators in small companies?

20 A. What do you define as a small company?

21 Q. Okay, under -- are you familiar with the Small
22 Business Regulatory Relief Act in New Mexico?

23 A. I am --

24 Q. Okay, and --

25 A. -- and it's less than 20 employees.

1 Q. It's less than 50.

2 A. Okay, less than 50 employees. The company that
3 you are getting the statistics for, right now is at less
4 than 50 employees.

5 Q. Which statistics?

6 A. The numbers that I have used here.

7 Q. Okay, but that is a Colorado-based company?

8 A. That is correct.

9 Q. And that is a dry gas well?

10 A. That is correct.

11 Q. And it's not an oil well?

12 A. No, it is not, it is --

13 Q. It's not in --

14 A. -- a gas well.

15 Q. southeast New Mexico?

16 A. Right.

17 Q. Okay, I just wanted to make sure that we know
18 where those numbers are coming from.

19 And you mentioned in your direct examination that
20 the joint-interest issue is something that is of concern to
21 small operators?

22 A. Yes.

23 Q. It's a financial issue that they have to deal
24 with, small operators?

25 A. Yes.

1 Q. Do large operators have to be concerned with
2 joint-interest issues?

3 A. Certainly. You can have BP, XTO and Yates, and
4 they'll bear it invested all in one well, and they all are
5 at different ends of the spectrum, you know.

6 Q. All right. Now do small operators have to be
7 concerned with other factors, such as availability of
8 equipment?

9 A. If they are the operator, yes.

10 Q. All right, and --

11 A. So do the large, though.

12 Q. Yes.

13 A. Yeah, all companies do.

14 Q. Availability of --

15 A. -- of equipment, available -- we've been in a rig
16 drought for several years here, and it took a very long
17 time to get the number of rigs built to manage the number
18 of requests for drilling rigs right now.

19 Q. All right. And are you familiar with what the
20 rig count is in New Mexico right now?

21 A. I am not at this -- as of this date, I don't know
22 the amount.

23 Q. All right. Now do you have any information as to
24 whether the rig count is up or down from last year?

25 A. It is down from last year.

1 Q. Okay, and how about in Colorado? Is the rig
2 count up or down?

3 A. It is up, tremendously.

4 Q. Okay, and what about Texas?

5 A. Texas, I think, is a little bit up.

6 Q. Okay, so -- And Utah, do you know?

7 A. Utah, I do not know. Utah has their own set of
8 problems, though.

9 Q. All right. But Colo- -- but New Mexico is down
10 on the rig count?

11 A. That is correct.

12 Q. And based on your economic analysis, could you
13 tell us why, if gas is selling at \$6 an MCF?

14 A. And \$98 a barrel for oil. Well, you know, there
15 are a number of reasons. If the rig count is down this
16 year, there could be -- one of the things that sticks out
17 in my mind right now is that companies at the beginning of
18 the year budget their capital expenses. At the beginning
19 of the year they decide, We're going to spend \$300 million
20 on drilling a well.

21 Well, during the course of the year of 2007 those
22 costs have escalated greatly. So when you get to October,
23 November and December, you have to make a decision. Either
24 you have to go back to your board and say, We need to
25 increase our capital budget, or you need to go back to your

1 bank because you have to borrow more money, or you decide
2 to pull back until next year's budget is set and you can go
3 back to the bank.

4 So at the end of the year it's not uncommon for
5 many producers -- and I've seen that happen even in
6 Garfield County, in Colorado, where they pull back, they
7 lay off employees, and they pull back on their rig count
8 because they've reached their capital expense budget for
9 the year.

10 With the price of gasoline and the price of
11 equipment, and the price of all of the kinds of things that
12 are used for oil and gas today escalating because there's
13 so much competition going on to get those equipment and
14 rigs, the prices have escalated. You know, it's the supply
15 and demand, that it's very easy to say, Those operators in
16 New Mexico have reached their budget and cannot spend any
17 more money this year.

18 It doesn't mean that it isn't going to turn
19 around at the beginning of the year, because they will have
20 to readjust their budgets again.

21 Q. Okay, and do you have any sort of feel of the net
22 income of independent producers being up or down
23 nationally?

24 A. Nationally?

25 Q. Uh-huh.

1 A. What do you mean by independents? There are some
2 independents there that are very large, and their income is
3 up excessively.

4 Q. Well, and the independent company would be one
5 that -- basically that would have shareholders?

6 A. Independents are usually defined by whether or
7 not they're an integrated company with the availability to
8 sell it commercially. Usually that's the definition of
9 independent.

10 Q. Okay --

11 A. So if you want to define it as no shareholders --
12 I would assume with the prices that have been set for this
13 year -- gas prices are lower than they were last year, but
14 oil prices are tremendously higher, and New Mexico being
15 the oil-producing state that it is, they probably are
16 higher this year than they were last year. Now a barrel of
17 oil last year was at \$60, this year it's at \$98 at the end
18 of the year. I mean, that's a lot more money for --

19 Q. So would it surprise you that the Energy
20 Information Administration for the FY '07 numbers have
21 reported that independent producers' earnings have dropped
22 by 10 percent since this time last year?

23 A. And I would have to know how they arrived at
24 their statistics.

25 Q. Okay. Well, they stated that there is an

1 increase in servicing costs for oil and gas production, and
2 while there's an increase in the worldwide rig count, the
3 availability of rigs in -- to use in the Southwest is not
4 available, is not there, that --

5 A. There are no rigs to drill any more gas out
6 there. So it's again, if you're not producing, you're not
7 making any money.

8 Q. Okay, I don't believe I have any further
9 questions. Thank you.

10 Oh, no, I'm sorry, I do. I'm sorry, I forgot
11 about --

12 Looking, Ms. Denomy, at Exhibit 7, which is the
13 OGAP exhibit pertaining to the cost-effective alternative
14 to pits as closed-loop drilling systems, did you review
15 this article?

16 A. I did.

17 Q. All right. And addressing the Matagorda, Texas,
18 well, which is case number one, do you know -- this is two
19 wells that were drilled next to each other or close to each
20 other. Do you know which well was drilled first?

21 A. I do not.

22 Q. And this had a traditional well and a closed-loop
23 well on it, in this instance?

24 A. In this exhibit, yes.

25 Q. And in this instance, the cost savings seemed to

1 be because the wells are very close together, correct?

2 A. I don't -- I think the test was done to have them
3 close together to show what the difference would be as a
4 better sample, rather than taking a well in east Texas and
5 a well in west Texas because they have different -- So I'm
6 not sure if it's a bigger savings because they are closer
7 together, or because they have the same sampling to compare
8 to --

9 Q. Okay --

10 A. -- so...

11 Q. -- and because the waters could be re-used --

12 A. Yes.

13 Q. -- and drilling fluids could be re-used?

14 A. Yes.

15 Q. Because it's the same lithography?

16 A. Yes.

17 Q. Now case number three, which is the Oklahoma DEQ
18 study --

19 A. All right.

20 Q. -- the savings and benefits on this was a cost
21 savings of over \$12,000 on case number three, correct?

22 A. If you say so. I don't have it memorized.

23 Q. All right. And do you know, on that location,
24 how the drill cuttings were being -- fluids were being used
25 on that location?

1 A. I do not.

2 Q. Okay. They weren't actually left on location?

3 A. I do not know.

4 Q. All right, in case number two -- case number two
5 I will skip.

6 Now is it possible in your Pima [sic] well
7 example that the cost savings could have been due to mud
8 motors or diamond bits in place of traditional drilling
9 methods?

10 A. Diamond bits were not common in 1993. They're a
11 very expensive bit that hasn't really, in the State of
12 Colorado, been introduced until 2002, 2001, something along
13 those lines. So it's unlikely that diamond bits were the
14 reason why there was a cost savings. I can't tell you for
15 sure, but the cost of a diamond bit is not something that a
16 smaller company like Prima Energy would probably invest in.

17 Q. Now in a closed-loop system, don't additional
18 additives need to be used in a closed-loop system to ensure
19 that you don't have sticking and stuff inside your tanks
20 and your pipes?

21 A. As opposed to what?

22 Q. As opposed to additives that are put in drilling
23 fluids that would go to a reserve pit?

24 A. I can't tell you, I don't know the technology.

25 Q. Okay, would that be an increase in cost --

1 A. It would be.

2 Q. -- the additional additives?

3 A. It would be.

4 Q. Okay. And if you have additional additives in
5 the closed-loop system and you're leaving them to build
6 your berms, then you would have those additives left in
7 your drill cuttings?

8 A. Yes.

9 Q. Okay. Now are you familiar with the drying pad
10 as it pertains to closed-loop systems?

11 A. I am not.

12 Q. You're not, okay. So you don't know how large
13 that is, the area is, or whether it has berms or it's a
14 pit?

15 A. I do not. Haven't been on a well site to see it.

16 Q. Oh, you have not been on a closed-loop drilling
17 well site?

18 A. I have, but not one where I've seen a drying pad.
19 That was pointed out to me, so...

20 Q. Now looking at the Cimarex study, do you know
21 what part of the state the Cimarex wells were drilled in?

22 A. I believe it was in the Permian Basin.

23 Q. Which would be southeast New Mexico?

24 A. That is correct. I think.

25 Q. All right. And on this location the cuttings

1 were left on location; is that not correct?

2 A. I believe so.

3 Q. They were buried on location?

4 A. I believe so.

5 Q. So if it's economic to leave cuttings on location
6 -- Okay? I mean, that's basically what you're saying, that
7 how closed-loop systems become economic, correct?

8 A. That is correct.

9 MS. FOSTER: Okay, I have no further questions.
10 Thank you.

11 CHAIRMAN FESMIRE: No further questions from the
12 attorneys? Is Dr. Neeper here?

13 DR. NEEPER: Yes.

14 CHAIRMAN FESMIRE: Doctor, did you have any
15 questions of this witness?

16 DR. NEEPER: One question.

17 EXAMINATION

18 BY DR. NEEPER:

19 Q. The question will focus just on the costs related
20 to waste, ignoring all the other costs that might enter
21 into the decision to drill or not to drill.

22 Let us hypothesize, for instance, that I am a
23 producer and that in some way I might have a choice. I
24 wish to drill with a conventional pit, and I have a choice
25 of either closing the pit with cuttings in place, or I can

1 remove the cuttings to an improved depository.

2 Are all of the cost differences between those two
3 cases represented by the cost, one, of trucking the waste
4 to the depository and, two, the fee the depository charges
5 for disposal of those wastes? Are there other costs in
6 there of which I'm unaware?

7 A. I am not aware of any additional costs. In the
8 cases where I have looked at and reviewed trucking costs,
9 based in their cost they have -- When you hire a trucking
10 company, a third-party independent person to come and truck
11 your -- other than yourself, they build into their costs
12 the cost of the disposal, because they become responsible.
13 Once they've taken the water from -- or the disposal
14 amounts from your wellsite, they become the responsible
15 party.

16 As a subcontractor, when they go to the disposal
17 place they have to pay those fees. The operator is usually
18 not billed those fees. And when those contracts are made,
19 usually you make a contract with a trucker and say, Okay,
20 what is it going to cost me to remove my waste water and my
21 waste?

22 And they will come back with a bid that says it will
23 cost you \$368 a load to do this.

24 And you will come back and say, Well, is that
25 all-inclusive?

1 have commenced doing directional drilling, at least in the
2 Permian Basin. And today what we've got is a very large
3 footprint, because we have 16 wells being drilled in one
4 location. But there's only one instead of 16. And so that
5 footprint is huge.

6 When you add the pit on, that pit has to
7 accommodate 16 wells' worth of water and waste, so it
8 becomes even larger.

9 With a closed-loop system, you could do one well,
10 put it in the tanks and then re-use it, move your rig along
11 its conveyor, move it to the next location and re-use the
12 same products that you had there. So you don't need that
13 additional huge pit to take the cumulative amount from 16
14 wells.

15 Q. Yes. But if you have one well, one pit?

16 A. In the examples that have been given for the
17 exhibits from Cimarex and Prima, I believe they were only
18 doing one well, one pit. And it does show in the Colorado
19 use of the 43 wells that it does provide a smaller
20 footprint with the closed-loop systems.

21 Q. Do you know anything about the ease of
22 restoration after the soil has been compacted so much under
23 these --

24 A. I do not, and I think it depends on what kind of
25 soils we're talking about. In Colorado, and I'm not sure

1 what you have in this region. It is tough to reclaim, and
2 it's not necessarily because of the compaction, but rather
3 the lack of water, to reclaim.

4 COMMISSIONER BAILEY: That's all I have.

5 CHAIRMAN FESMIRE: Commissioner Olson?

6 COMMISSIONER OLSON: I don't have any questions.

7 CHAIRMAN FESMIRE: Pronounce your last name for
8 me one more time.

9 MR. SIMPSON: Could I request that the thermostat
10 be turned down? It seems to be kind of warm in here.

11 THE WITNESS: I'm just full of hot air, that's
12 why.

13 (Laughter)

14 CHAIRMAN FESMIRE: Oscar, the best we can do is
15 open the doors.

16 Would you pronounce your last name for me --

17 THE WITNESS: Denom- -- Denom, like in jeans,
18 with a Y. Denomy.

19 CHAIRMAN FESMIRE: Denomy, okay.

20 EXAMINATION

21 BY CHAIRMAN FESMIRE:

22 Q. You introduced a concept here, IDC's. Could you
23 tell us what that means?

24 A. Oh, intangible drilling costs. Those are all the
25 costs, like I talked about here, that involve not having an

1 asset at the end of sale. Intangible, you can't touch it.

2 And actually one of the items that are not listed
3 here are the things that are common with all the wells, and
4 that's the day work to have the drillers come in and do
5 that, the cost of the equipment. Most of those things are
6 tangible. The separator is tangible, the pipe is tangible.

7 Intangible drilling costs are the costs of hiring
8 the driller, because you don't have anything when you're
9 done.

10 Q. Okay, how are IDC's treated for tax purposes?

11 A. They're usually -- You can make the choice to not
12 do it, but most companies write them off the minute they're
13 imposed. They expense them --

14 Q. Okay.

15 A. -- because they're allowed by IRS tax code.

16 Q. Okay. And so the additional expense we're
17 looking at through the use of a closed-loop system or
18 through the use -- or the use of -- the costs that are
19 going to be incurred by hauling the waste rather than
20 disposing it, will those be IDC's?

21 A. They will be IDC's.

22 Q. So the effective cost to the oil company is going
23 to be reduced by their effective --

24 A. -- tax rate.

25 Q. -- tax rate; is that correct?

1 A. That is correct.

2 Q. So if the -- say in your centralized waste pit
3 deal where the increased costs were -- How much?

4 A. \$42,000, according to the Cimarex report.

5 Q. Well, if we assume an effective tax rate so the
6 costs to the oil company would really be significantly less
7 than that \$42,000, right?

8 A. It would be.

9 Q. So if you did an after-tax economic analysis of
10 this -- granted, you'd have to after-tax your income, but
11 it would be significantly better than a pre-tax analysis,
12 wouldn't it?

13 A. Oh, absolutely.

14 Q. Now in one of your systems you talked about 16
15 days to drill versus four days, and I was -- I was
16 daydreaming when you said that, or I didn't hear exactly
17 what it was talking about. Could you go over that again
18 for me, please?

19 A. Well, there are new what they call flex-rigs in
20 the State of Colorado that are being used right now, and
21 they're for directional drilling. They are -- Well, the
22 companies are calling state of the art. And if you've ever
23 been one, they're very large. They're much larger than our
24 conventional rigs. And they use technology to get to total
25 depth in four days. Some of the wells have actually been

1 done in less than four days.

2 That's barring any problems. I mean, because
3 when you get underground you're never really sure what's
4 under there, no matter how much work a geologist does or a
5 seismic does, you're never sure exactly what's under there.
6 So there are instances where if the hit some solid rock you
7 may have a problem with the bit break and having to go in
8 and fish it out. But for the most part now, they're
9 running about four days.

10 And these rigs are extremely expensive. They
11 cost a lot more per day for the day work rates. But if
12 you're done in four days, your costs are really being
13 saved.

14 And in Colorado most of the companies are
15 starting to use those because they don't produce as much
16 pollution, they don't produce as much noise, and they're
17 done faster, and you're in and out and you can do 16 wells
18 in one location away from a lot of the citizenry. And
19 right now a lot of the companies are going out and actually
20 buying some of the surface so they can place their well
21 placement on their own surface so they don't have to, you
22 know, harm anybody else's personal property anymore.

23 So the traditional wells run -- you know, 16 days
24 is kind of short in our traditional wells. They usually
25 were running 28 days, you know. Five years ago it was 28

1 days to do a well. But then again, it was only \$3500 or
2 \$5000 a day for renting that equipment and the personnel
3 with it.

4 But now, you know, it's -- you know, technology
5 has moved up.

6 Q. Okay. So I don't understand. What does that
7 have to do with the closed-loop system?

8 A. It wasn't part of -- Can we go back to -- where I
9 talked about 16 days. Keep going. Back. Okay.

10 The closed-loop system would have to be on-site
11 during the drilling days. And so if you -- the cost of
12 \$2500 a day to rent the closed-loop system, if it takes
13 four days it will be there four days and then the days that
14 you need it for fracturing if you're going to use that kind
15 of system as well. But that's the come-up with the cost
16 per day.

17 Q. Okay, so -- But you're not telling us that you
18 have to have a closed-loop system to run a flex-rig, are
19 you?

20 A. No, they don't have to have a closed-loop system
21 for any of the rigs.

22 Q. Okay.

23 A. It's a choice that you can make.

24 Q. Now the Pima Energy study back in 1993, you made
25 some extrapolations from that. Did you include the effect

1 of the increased costs, you know, the significantly greater
2 percentage costs?

3 A. What I did is, I applied their percentages. As
4 an accountant, the best you could do is take the
5 percentages that were used then and apply it to the numbers
6 of today.

7 Q. Okay.

8 A. And so what I did is took that year's percentages
9 of savings and applied it to the 2006 costs. And it's kind
10 of why I did the percentage amounts when it came to
11 trucking and all those kinds of things, because this well
12 was done for 7200 total depth.

13 If you want to know what is the usual cost for
14 fracturing water you can say, Well, if the well costs \$3
15 million and 3 percent of the total is usually your water
16 cost, you can say, Well, it's going to cost \$90,000. And
17 it's just an easy benchmark, instead of trying to get in
18 all the details.

19 Q. So your analysis did include the fact that the
20 costs in 2007 are significantly greater --

21 A. Yes, than they were in 1993 --

22 Q. Okay.

23 A. -- yeah.

24 Q. Now I believe you were asked a couple of
25 questions by -- I think by Ms. Foster, on the time-value of

1 money, and your analysis did not include the time-value of
2 money?

3 A. It did not, I did not do the present-value tables
4 of the time-value of money --

5 Q. Okay.

6 A. -- just for simplicity's sake.

7 Q. And most of your clients, they do do
8 discounted --

9 A. They do --

10 Q. -- economic analysis?

11 A. Yes.

12 Q. What kind of hurdle rate do they use?

13 A. They are now fluctuating between 7 and 8 percent.

14 Q. 7 and 8 percent.

15 A. Yeah. Some want 8, some want 7, depending on how
16 conservative they want to be.

17 Q. So if one of your clients were to do an economic
18 analysis of a prospect that showed, say, an 11-percent rate
19 of return, they would choose to do that prospect even if it
20 meant coming from Colorado to New Mexico if they had enough
21 money, wouldn't they?

22 A. Again, it depends on if they have the right to
23 drill there. Leases in the Piceance Basin right now are
24 coming at a premium, so let's say XTO, who doesn't have a
25 lease in the Piceance Basin, would find that, yeah, wells

1 are very economic in the Piceance Basin, but there's
2 absolutely no way we can get in there, because there's no
3 leases available. So there's more than one facet that is
4 looked at. Are there federal lands up for lease? The can
5 make the choices because their lease costs are less, or
6 their lease bonuses are less. There's a number of items
7 that you'd look at --

8 Q. Okay --

9 A. -- to make the choice.

10 Q. -- let me simplify and re-ask the question then.

11 If their hurdle rate is -- you said 7.5, 8
12 percent? --

13 A. Uh-huh.

14 Q. -- and they could make 11 percent on their money,
15 would most economically prudent operators choose to do that
16 project?

17 A. Yes, as long as the other project wasn't 15
18 percent --

19 Q. I've got you.

20 A. -- that they were making the choice.

21 Q. But if they could go out and borrow money at,
22 say, the prime rate of 4.5 percent, would it make sense for
23 them to follow this prospect at 10.5, 11 percent?

24 A. Yes.

25 Q. Let me give you a scenario. Do you know what the

1 gas price out of New Mexico was, say, at the beginning or
2 end of 2005?

3 A. I don't think I know that number. Do you know
4 that?

5 Q. Yeah, but I'd probably better not give it to you.
6 (Laughter)

7 Q. Is it a fair statement to say that gas prices for
8 the last year -- last three years have been relatively
9 flat?

10 A. In the San Juan Basin they have been.

11 Q. Okay, and what has happened to the price of oil?

12 A. It's gone up tremendously --

13 Q. Okay.

14 A. -- probably 30, 40, 50 percent higher than it
15 was. Yes.

16 Q. Okay. Now are you familiar with the concept of
17 BTU parity in oil and gas prices?

18 A. BTU parity.

19 Q. Right.

20 A. Gas is sold on its heating value, which is BTU.
21 Gas is actually measured on volumes. And so when you have
22 a well that is high or, as most people would call, wet
23 wells, ones that have high condensate, you would have a
24 higher BTU factor, so therefore you have more heat value,
25 and you will get more per dollar.

1 Q. Okay. Do you know what the relative heat value
2 is between, say, an average MCF of gas and an average
3 barrel of oil?

4 A. What is an average? It depends on where you are.

5 Q. Okay --

6 A. The average in Colorado is about 1.1 for gas. I
7 don't think I have off the top of my head the heat value
8 for oil.

9 Q. Okay.

10 A. They go by gravity, mostly, in oil.

11 Q. I'm trying to get at a real complicated concept
12 here --

13 A. Okay, I'll try to -- Let me see if I can follow
14 you.

15 Q. Okay. COPAS has a 6000-to-1 ratio between oil
16 and gas, does it not?

17 A. Yes, 6-to-1, yes.

18 Q. Six --

19 A. -- MCF's --

20 Q. -- MCF per barrel.

21 A. -- per barrel.

22 Q. Okay. In New Mexico, New Mexico is a gas state.
23 We produce on a BTU value about 81 percent of our energy as
24 gas and about 19 percent as oil.

25 A. Okay.

1 Q. On a value basis at today's prices, about 40
2 percent of the value is oil and about 60 percent is gas.
3 So that discrepancy --

4 MS. FOSTER: Mr. Fesmire, I'm sorry, I have to
5 file an objection here.

6 CHAIRMAN FESMIRE: It's noted.

7 MS. FOSTER: It sounds like you're testifying --

8 CHAIRMAN FESMIRE: Okay --

9 MS. FOSTER: -- so I just --

10 CHAIRMAN FESMIRE: -- your objection is noted.

11 MS. FOSTER: Okay, thank you.

12 Q. (By Chairman Fesmire) Okay. So I guess what I'm
13 saying is, New Mexico is a gas state, is it not?

14 A. Let me see, the statistics show that they are
15 number -- Bear with me for a minute.

16 Q. Let me ask it a different way.

17 A. Okay.

18 Q. If, you know, we were correct, and if 60 percent
19 of the value is gas, would most of the prospects in New
20 Mexico be gas prospects?

21 A. Okay, maybe.

22 Q. Okay.

23 A. As an operator I would look at the fact that we
24 are not at the equivalent of 6-to-1 right now. Gas being
25 at \$6 means that a barrel of oil would go for \$36. It is

1 almost three times that amount.

2 Q. Okay, you're getting to the point I'm trying to
3 make here. Are most of our rigs going to be drilling for
4 oil, or are they going to be drilling for gas?

5 A. Okay, now, I'm going to throw something else in
6 here. We have a refinery problem in the United States,
7 especially in the western end. I have a client that's in
8 Utah that is sitting there with a half a million barrels of
9 oil and no refinery space to put it in. So there is a
10 point right now where oil is not being developed as highly
11 as it could be, because there's no place to take it. So
12 gas has become the champion.

13 Q. In Utah?

14 A. In Utah, in Colorado, in New Mexico, in the west.
15 We have a refinery-capacity problem in our United States,
16 especially in the western end, right now.

17 Q. And some of your clients in the west have a
18 pipeline-capacity problem in gas, you mentioned, didn't
19 you?

20 A. Yes, they do.

21 Q. Okay. So I guess the point I'm trying to make
22 is, are most of the rigs in the United States now chasing
23 oil or gas?

24 A. I believe gas.

25 Q. Okay. Have you had a chance to look at the --

1 Are you familiar with the Wyoming rig count?

2 A. I do not have that off the top of my head. I
3 think it's in one of the exhibits someplace. But I don't
4 have that information off the top of my head.

5 Q. Now one of the things that was talked about was
6 that the income -- I believe Ms. Foster mentioned this --
7 that the income of independent operators had dropped by 10
8 percent since last year.

9 A. Okay.

10 Q. Are you familiar with that?

11 A. I did not know that, I did not see that study.

12 Q. Okay. And you mentioned that the price of the
13 rigs available has to do with the cost of the rigs. If New
14 Mexico's rig count drops, what happens to the cost of
15 drilling wells?

16 A. If the rig count drops?

17 Q. What happens to the cost of acquiring a rig to
18 drill a well?

19 A. It goes up.

20 Q. The cost of drilling goes up if the rig count
21 drops?

22 A. If the rig count -- Okay, if there are more rigs
23 available, the price should drop. If it goes down and
24 there are idle rigs, then the price -- there's more
25 competition.

1 Q. Okay.

2 A. Okay. If there are no idle rigs and that's the
3 reason why it went down, then it doesn't necessarily -- I
4 mean, you may be competing with some other location for
5 those same rigs.

6 Q. Okay. So to the extent -- and limited by the
7 fact that some rigs can cross state borders, but if the rig
8 count in New Mexico goes down, what happens to the cost of
9 drilling wells in New Mexico?

10 A. It should go down.

11 Q. Okay. And --

12 A. That doesn't necessarily mean it will, but it
13 should.

14 CHAIRMAN FESMIRE: Okay. I don't think I have
15 any more questions.

16 Mr. Jantz, do you have any redirect?

17 MR. JANTZ: I do, Mr. Chairman, members of the
18 Commission.

19 REDIRECT EXAMINATION

20 BY MR. JANTZ:

21 Q. Ms. Denomy, recall back before lunch when Mr.
22 Carr was asking you to consider a hypothetical situation,
23 two operators on each side of the New Mexico state line,
24 one in New Mexico, one in Colorado, all things being equal.
25 Assume that same scenario, one operator in Colorado, one in

1 New Mexico, all things being equal, except that one state
2 requires closed-loop drilling systems. Where would you
3 advise your client to locate, based on economic
4 considerations?

5 A. Okay, I'm not sure I understand your question --

6 Q. Based on --

7 A. -- because it sounds like the same question that
8 Mr. Carr asked.

9 Q. Right, right. Based on your analysis of the
10 costs of waste disposal that we saw up here --

11 A. Uh-huh.

12 Q. -- as a percentage of the revenue -- total costs,
13 which -- all things being equal, what would you advise your
14 client to do if given the choice between a closed-loop
15 system and a traditional system? From an economic
16 standpoint?

17 A. From an economic standpoint it would save money
18 using a closed-loop system, so it wouldn't necessarily
19 factor into the decision.

20 Q. Okay. Let's get away from hypotheticals for a
21 second. What's the reality of the situation? Your clients
22 in Texas, your clients in Colorado, your clients in
23 Wyoming, the use closed-loop drilling systems; is that
24 correct?

25 A. They do, but not all of them. They do.

1 Q. Not all of them?

2 A. Right.

3 Q. The ones that do?

4 A. They save money.

5 Q. They save money.

6 A. Like I said, the cost of trucking has gone
7 astronomically high. Gasoline prices have hit oil and gas
8 as hard as they've hit the actual consumer. So the fact
9 remains, the accountants will sit here and say, Okay, we
10 need to cut some costs here, so what can we do to do that?
11 So they have been trying to come up with means of spending
12 less money for trucking, less money for gasoline, and right
13 now they're even investigating trying to use electric lines
14 to be used to run the drilling equipment, as opposed to
15 using gasoline-operated generators, because of the cost of
16 gasoline, so...

17 Q. Okay, thank you. Mr. Carr also talked about
18 royalty expenses.

19 A. Uh-huh.

20 Q. Would those royalty expenses affect your
21 calculations here significantly?

22 A. If your royalties are based at the average 1/8,
23 yeah, it would take 1/8 off the income.

24 Q. Okay. But 1/8 is it?

25 A. That's right.

1 Q. Right. Okay, going to Ms. Foster's cross-
2 examination, she mentioned the cost of drilling in
3 Louisiana. In your estimation, is that cost associated
4 with closed-loop drilling systems?

5 A. I couldn't -- I couldn't tell you. I couldn't
6 tell you.

7 Q. Or could it be other factors such as depth of the
8 well?

9 A. It could be other factors such as depth of the
10 well. Any number of reasons. Availability of rigs, you
11 know. I don't know where Louisiana stands in the line
12 today, I don't have that memorized, but if most of the rigs
13 are in Colorado, Wyoming, Oklahoma and Texas, that means
14 Louisiana is fighting to get those rigs as well. So to get
15 one to come there may be expensive as well.

16 Q. Okay. Ms. Foster also talked about the
17 calculation of waste costs by the operator, the increased
18 costs of tanks, increased trucking, things like that. Are
19 there other costs associated with cleanups?

20 A. Oh, yes. I have had -- and actually, I've only
21 had one client, and it actually was a private individual
22 that was a private mineral owner, and it was in Weld
23 County, Colorado, and the company -- and this has already
24 been 12 years ago. The company had -- that he had owned
25 the minerals on and he also owned the surface -- had a

1 spill and had contaminated the soils on his ranch.

2 So instead of -- He fought with the company
3 several times, so he decided to clean it up himself. Now
4 this was 12 years ago. It cost him \$250,000 to clean up
5 that spill. And he actually got an award from the Colorado
6 Oil and Gas Commission for stepping forward to spend that
7 kind of money.

8 But if you're looking at the costs of cleanup in
9 the future, in the event that it needs to be done, if 12
10 years ago it cost \$250,000, you can probably expect it to
11 cost a lot more today. And I can't speculate what it would
12 be, but I'm just saying that that's what this one gentleman
13 had to spend, to have everything cleaned up afterwards.

14 Q. So could that cost have been avoided,
15 potentially, with a closed-loop system?

16 A. It would have been taken to a centralized waste
17 pit. It doesn't necessarily mean that the waste pit
18 doesn't need to be cleaned up at some time, but it's all in
19 one location, and all of that cost would be concentration
20 in that one location.

21 Q. All right. One last thing. Ms. Foster talked
22 about a drop in the income of independent producers.
23 Quoting from an Energy Information Administration report --
24 Let me read you the entire paragraph -- it's very short --
25 to give you some context to see if that helps you with your

1 analysis of that:

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Does that help your analysis of that figure at all?

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A. Oh, Hurricane Rita has been absolute devastation for many of the independent producers. It has cost them a lot of money to put things back to the way it was. And so it does put more of a reason as to why the costs have increased.

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Hurricane Rita, Hurricane Katrina -- our first meeting, after both of those hurricanes happened, at COPAS was very interesting because we had a whole -- half room of accountants going, We really don't have any place to work, we don't have any -- So everything had to be rebuilt, redone and redrilled, re-established. Those costs were astronomical. And they're still going on.

1 MR. JANTZ: Thank you. I have nothing further.

2 CHAIRMAN FESMIRE: Are there any other recross on
3 the subject?

4 MR. HISER: Actually, I do.

5 CHAIRMAN FESMIRE: Mr. Hiser?

6 RECROSS-EXAMINATION

7 BY MR. HISER:

8 Q. Mr. Jantz asked you a question about the cost of
9 cleanup --

10 A. Uh-huh.

11 Q. -- of a pit, and you had mentioned that there was
12 also a cost of perhaps having to clean up the centralized
13 pit; is that correct? Where you send all that waste from
14 all those different pits?

15 A. Eventually it will have to be cleaned up, just
16 like central -- the individual locations.

17 Q. Is there a difference to the company, as to the
18 transaction cost of cleaning up the pit where it's the sole
19 source, versus the one where there may be 30 or 40 or 50
20 companies that have contributed to that cleanup? It is
21 cheaper in terms of your lawyer, accountant and
22 consultants, to clean up a pit where you are the only
23 person that put something in, or where there are 50 or 60
24 companies that put something in?

25 A. I would assume that as a good manager of your pit

1 you would take ownership of the products that are coming to
2 you and treat them so that as the sole person responsible
3 for the cleanup, that you make it least amount in the
4 future that it would be.

5 So if you have 60 people coming there, they do
6 not just get to come and dump -- even in our local
7 landfills, you don't really necessarily get to come and
8 dump whatever you want. You are monitored and regulated by
9 the person that's in charge of that landfill. It is the
10 same with the waste pits.

11 Q. Yeah. That still doesn't answer my question
12 about on the transaction costs of trying to sort out the
13 cleanup costs, which is lower: a sole-person pit or one
14 with 50 or 60 parties that contributed to it? And by
15 transaction --

16 A. You're talking about partnership in a centralized
17 waste pit?

18 Q. No, ma'am, transaction cost in terms of, for
19 example, a Superfund site. You may be familiar with those.

20 A. Yes.

21 Q. That same type of situation conceivably could
22 exist at a centralized waste disposal pit, could it not?

23 A. It could.

24 Q. And is the cost of -- the transaction cost, the
25 cost of sorting out who's going to pay how much of that, is

1 that a high cost or a low cost?

2 A. I will tell you that the first person that the
3 Superfund would look at to clean up would be the person
4 that is owning and operating that pit. And they can name
5 other people that have contributed to that.

6 A good small independent company would make sure
7 that they're indemnified to the best. And that's you
8 guys's job, to write those kind of indemnifications.

9 So I don't -- The cost of cleanup would be the
10 same, regardless if it's one person or 60 people that are
11 responsible for it.

12 MR. HISER: That's all.

13 CHAIRMAN FESMIRE: Ms. Foster, do you have any
14 re- --

15 MS. FOSTER: Yes, one question.

16 RE-CROSS-EXAMINATION

17 BY MS. FOSTER:

18 Q. I need clarification on this statement. If the
19 rig count drops, then the price of drilling a well will
20 also decrease?

21 A. If there is available rigs, there is less --
22 there's more competition. It is based on the economic
23 demand and supply. I'm not saying that our world works
24 perfectly, but you would assume that if there are rigs idle
25 and available to work, they don't want to take on the

1 expense of having that rig sit there. So they will go to a
2 company and say, We'll drill you a well for less than the
3 next guy.

4 Q. Okay. But you're assuming that there is -- there
5 are idle rigs?

6 A. That was the assumption that I made clear in that
7 statement. It has to be idle rigs.

8 Q. Okay, but I thought in your testimony you stated
9 there actually is a rig shortage that we're just
10 overcoming?

11 A. Ten months ago there was a rig shortage.

12 Q. Okay.

13 A. I'm not sure where we are in New Mexico. Having
14 read the local newspapers here, it looks like you have rigs
15 that are sitting idle. So I would assume that your costs
16 would go down.

17 MS. FOSTER: Okay, thank you. No further
18 questions.

19 CHAIRMAN FESMIRE: Any other re-cross from this
20 witness?

21 Ms. Denomy, thank you very much.

22 THE WITNESS: Thank you, sir.

23 MR. JANTZ: I'm sorry, Mr. Chairman, at this
24 point I'd like to move OGAP Exhibits 5 through 12 into
25 evidence.

1 CHAIRMAN FESMIRE: Is there any objection?

2 MS. FOSTER: I would object.

3 CHAIRMAN FESMIRE: To which exhibit?

4 MS. FOSTER: I would object to Exhibit Number --

5 CHAIRMAN FESMIRE: While you're figuring that
6 out, Mr. Jantz, you're not moving to admit Exhibit 4; is
7 that correct?

8 MR. JANTZ: That is correct.

9 MS. FOSTER: I would object to Exhibit Number 5,
10 Exhibit Number 6, Number 7, Number 8, Number 9, Number 10
11 and Number 11 --

12 CHAIRMAN FESMIRE: Okay, and --

13 MS. FOSTER: -- as well as Number 12.

14 CHAIRMAN FESMIRE: -- and the basis for your
15 objection?

16 MS. FOSTER: The basis would be that this witness
17 stated that she reviewed them for her testimony, but she is
18 not the author of any of these exhibits, and frankly on her
19 direct testimony she did not even address Exhibits 7
20 through 12 on her direct testimony. The Cimarex study, as
21 well as the specifics of the Pima study only came up in
22 cross-examination. I don't -- Whoops.

23 CHAIRMAN FESMIRE: Okay. Mr. Brooks?

24 MR. BROOKS: Mr. Chairman, I believe under modern
25 practice that published materials are admissible without

1 the necessity of the author identifying them if they're
2 relevant, so I would submit that the only question for the
3 Commission to address is whether or not these materials are
4 relevant.

5 MS. FOSTER: Okay, and I would counter, Mr.
6 Commissioner, that, you know, while I commend the oil and
7 gas conserva- -- the Oil Conservation Division on its well-
8 written piece in the annual report, I don't know -- I don't
9 understand the relevance of having the OCD Annual Report as
10 Exhibit Number 6.

11 And the Cimarex documentation, you know, again,
12 that is -- the relevance would be as to the viability of
13 those closed-loop systems, how they actually did it, and I
14 would encourage OGAP to call the Cimarex witnesses if they
15 would like to have them talk about the Cimarex locations.

16 CHAIRMAN FESMIRE: Well, I think this witness
17 used them in her testimony, and I think she verified the
18 information and her belief that the information, at least
19 in the Cimarex report, was valid.

20 So I'm going to overrule your objection at this
21 point and admit those documents into evidence.

22 MS. FOSTER: Okay.

23 CHAIRMAN FESMIRE: Thank you, ma'am.

24 Mr. Jantz, do you have another witness?

25 MR. JANTZ: That concludes OGAP's testimony, Mr.

1 Chairman.

2 CHAIRMAN FESMIRE: Okay. So by my remembrance,
3 we will go back -- when we get back from the break we're
4 about to take, we'll go back to Mr. Jones's cross-
5 examination; is that correct?

6 MR. BROOKS: Mr. Chairman, there is the issue of
7 recalling Mr. von Gonten to testify as to changes in his
8 exhibits. I don't know if counsel is prepared to do that
9 at this time.

10 CHAIRMAN FESMIRE: I think you meant Mr. Hansen,
11 didn't you?

12 MR. BROOKS: Oh, which one of the two witnesses
13 was --

14 MR. HISER: We're not proposing to call Mr. von
15 Gonten at all. And on Mr. Hansen I guess my understanding
16 is, we're going to Mr. Rogers, and so I don't actually have
17 my stuff for Mr. Hansen with me physically.

18 CHAIRMAN FESMIRE: Mr. Rogers?

19 MS. FOSTER: Mr. --

20 MR. HISER: I'm sorry --

21 MS. FOSTER: -- Jones.

22 MR. HISER: -- Jones.

23 (Laughter)

24 MR. HISER: Sorry, Mr. Jones.

25 CHAIRMAN FESMIRE: Welcome to the neighborhood,

1 Mr. Jones.

2 (Laughter)

3 MR. HISER: So anyway, I don't have my stuff for
4 Mr. Hansen with me, because I thought we were moving on
5 with Mr. Jones.

6 CHAIRMAN FESMIRE: Okay.

7 MR. BROOKS: Very good. That's fine, I just
8 wanted to -- We have Mr. Hansen available, and we would
9 like to get him concluded whenever it's feasible to do so,
10 but Mr. Jones is also ready to resume his cross-
11 examination.

12 CHAIRMAN FESMIRE: Okay, when we get back from
13 the break we'll go ahead with Mr. Jones's cross-
14 examination, and tomorrow morning consider Mr. Hansen's; is
15 that correct?

16 Okay, before we break, let's go over a little bit
17 of the schedule. I intend to break, come back at a quarter
18 to 3:00, and then go to 5:30. That's going to make for a
19 long stretch. If Commissioner Bailey hits me upside of the
20 head we may take a short break, but I'm not intending to,
21 and -- unless she asks, or Commissioner Olson asks.

22 We will start at nine o'clock in the morning and
23 go until 5:30 tomorrow.

24 Thursday we'll start at nine o'clock in the
25 morning and go until 11:30 or twelve o'clock, and we'll

1 take Thursday afternoon.

2 Then Friday morning we'll start back at nine
3 o'clock and go till 5:30. Friday if -- when we have a
4 better idea how long this is going to take -- notice I
5 didn't say, if we're not done -- Friday afternoon when we
6 have a better idea how long this is going to take, the last
7 thing we'll do is a conference on scheduling.

8 So with that, why don't we go ahead and take a
9 break and reconvene at a quarter until -- a quarter to
10 3:00.

11 (Thereupon, a recess was taken at 2:35 p.m.)

12 (The following proceedings had at 2:53 p.m.)

13 CHAIRMAN FESMIRE: Let's go back on the record.

14 For the record, this is a continuation of Case Number
15 14,015. Also for the record, Commissioners Bailey, Olson
16 and Fesmire are all present, we therefore have a quorum and
17 we'll continue.

18 Due to a scheduling agreement between the
19 attorneys we now find ourselves completing the cross-
20 examination, I hope, of Mr. Brad Jones.

21 Mr. Brooks, I can't remember which attorney was
22 crossing Mr. Jones when we left.

23 MR. BROOKS: We had just passed him, and the
24 cross-examination had not begun --

25 CHAIRMAN FESMIRE: Okay.

1 MR. BROOKS: -- if I recall correctly.

2 CHAIRMAN FESMIRE: So Mr. Hiser, you're prepared
3 to begin the cross-examination?

4 MR. HISER: Well, we are communing over here as
5 to who's going to go first.

6 CHAIRMAN FESMIRE: Okay.

7 MS. FOSTER: Mr. Chairman, I guess I'll be the
8 sacrificial lamb. You're not -- You didn't think that was
9 funny?

10 CHAIRMAN FESMIRE: Oh, I thought it was funny,
11 I'm just being very careful how I respond.

12 Ms. Foster -- Mr. Jones, you remember that you've
13 been sworn; is that correct?

14 MR. JONES: Yes.

15 CHAIRMAN FESMIRE: Okay. Ms. Foster, you may
16 begin.

17 MS. FOSTER: Thank you, Commissioner.

18 BRAD JONES (Resumed),
19 the witness herein, having been previously duly sworn upon
20 his oath, was examined and testified as follows:

21 CROSS-EXAMINATION

22 BY MS. FOSTER:

23 Q. Well, let's dive right into the rule. I wanted
24 to first start off with your understanding of what a sump
25 is.

1 A. Is that the question, what is my understanding --

2 Q. What is your understanding of a sump, and if you
3 can explain what you understand it's used for.

4 A. Well, I'd like to start with the definition,
5 which is kind of a modified version of what's in --
6 currently in Rule 50, the existing rule. It means an
7 impermeable vessel or collection device incorporated within
8 a secondary containment system with a capacity less than
9 500 gallons, which remains predominantly empty, serves as a
10 drain or receptacle for *de minimis* releases on an
11 intermittent basis and is not used to store, treat, dispose
12 or evaporate products or waste.

13 I feel like the definition itself pretty much
14 describes what a sump is.

15 Q. Okay. Are you familiar -- Have you been out on
16 location, particularly in an oil-drilling location?

17 A. Yes.

18 Q. All right, are you familiar with the yellow
19 buckets that -- you would come off the pipe, and then
20 there's the yellow bucket and that's, you know, the contact
21 location where the trucks come in to remove the oil from
22 the location?

23 A. Yes.

24 Q. What is that yellow bucket called?

25 A. It can be considered a sump by this definition.

1 Q. Okay. And is that something that you could
2 actually put within a secondary containment system?

3 A. You could, yes.

4 Q. Okay, how is it possible that you could put that
5 yellow bucket in a secondary containment system?

6 A. You could put a liner down and permeable surface
7 below it --

8 Q. And that would --

9 A. -- slightly bermed, yes.

10 Q. Okay, so a liner underneath the yellow bucket
11 would be considered a secondary containment system?

12 A. Yes, that's one way of doing it.

13 Q. Okay. All right. Now talking about the
14 hydrologic reports that you are requiring as part of a
15 permit application --

16 A. Yes.

17 Q. -- what exactly will need to be used in a
18 hydrologic report that is different from section (e)
19 through (n), in that part of the rule? And for the
20 Commission -- for the Commission's information, I am
21 referring to section 19.15.17.9.B.(1)

22 A. Could you ask -- I'm not understanding the
23 question. You're asking about the difference between the
24 hydrologic report for the permanent pits and the
25 requirements of (e) through (n), you're --

1 Q. Right --

2 A. -- asking what the difference is?

3 Q. -- which also pertain to permanent pits, correct?

4 A. Yes.

5 Q. Okay. So the hydrologic report is a report in
6 addition to the detailed information on dike protection,
7 the emergency response plan, list of climatological
8 factors, et cetera, et cetera?

9 A. And the question is -- ?

10 Q. And what other information will a hydrologic
11 report include?

12 A. Well, if you look there, it actually talks about
13 it's going to provide the topography, the soils, the
14 geology, the surface hydrology, the groundwater hydrology
15 and also the potential effects on the soil, surface water
16 and groundwater.

17 Q. Okay. And do you know how much one of those
18 reports would cost?

19 A. No.

20 Q. And is any of that information readily available
21 on public websites?

22 A. I think when I went through the siting criteria I
23 gave examples of sources that would provide the information
24 that would create the hydrogeologic report.

25 Q. Okay, but does this need to be prepared by a

1 hydrological engineer?

2 A. Actually, this -- for the permanent pit, the
3 engineering design plans has to be certified by a
4 professional or registered engineer, only for the permanent
5 pit.

6 Q. Okay, but for -- okay, for a temporary -- We're
7 talking about hydrological reports, let me try to make this
8 as quick as possible. For the temporary -- for the
9 temporary pits, do you need a hydrologic report?

10 A. Yes.

11 Q. And again, is that information that an operator
12 himself can compile, or does he need to hire someone to do
13 that for him?

14 A. Like I said, I think the examples I gave for the
15 siting criteria, which discusses the information required
16 to create that report and the sources would not necessarily
17 indicate that you would need a hydrologist to put that
18 together. It would be advisable, but it's not necessary.

19 Q. It's not necessary?

20 A. If they provide the appropriate information.

21 Q. Okay.

22 A. If they have an understanding of it.

23 Q. All right. And particularly with the small
24 operators, how many, you know, small operators would
25 understand enough about the surface hydrology and

1 groundwater hydrology, et cetera, et cetera, to
2 understand --

3 A. I can't speak on behalf of their knowledge.

4 Q. Well, based on your experience in receiving
5 applications, would it be a fair statement to say that the
6 smaller companies generally don't have a hydrologist on
7 staff?

8 A. I personally can't say. I think there was a
9 gentleman the other day for an independent, one of your
10 parties that you're representing, that stated that he did
11 hire an EHS person on his --

12 Q. An EHS person, but not a hydrologist per se?

13 A. Not *per se*.

14 Q. And what does EHS stand for?

15 A. Environmental health and safety.

16 Q. Okay, let's talk about below-grade tanks. I'm
17 very confused. So a below-grade tank, we're pulling in the
18 definition which is not in this particular rule, but it is
19 in subsection -- the definition section, which is
20 19.15.1.7. Let me read it to you: Below-grade tank means
21 a vessel excluding sumps and pressurized pipeline, drip
22 traps, where a portion of the tank's sidewalls is below the
23 surrounding ground surface elevation.

24 A. Yes.

25 Q. Okay? Now does that mean -- a tank battery, for

1 example, that is, you know, in a hole -- in a hole one foot
2 deep, that does not have secondary containment? Does that
3 mean that that needs to be retro-fitted within five years?

4 A. Yes.

5 Q. All right. And what about a location where you
6 have a tank that might be lower than the pit because of
7 elevation concerns, because where you're drilling can --

8 A. What do you mean, lower than the pit?

9 Q. It's -- it's at a -- at the -- the pad, for
10 example, would be a step where -- because -- It's my
11 understanding that tanks, some tanks, in order to assist
12 with the separation, will be lower.

13 A. Yeah, but a pit is defined as a depression. So
14 are you saying it's below that depression?

15 Q. No, no, no. Did I say pit? I'm sorry --

16 A. Yes, you said pit.

17 Q. -- it's below -- below the hole, the wellhead.
18 Okay? Below the hole, and --

19 A. Is it below-grade, I guess, is the question?

20 Q. And that is my question. Where are you
21 considering the elevation that's around that tank?

22 A. If that tank, any part of it is below the ground
23 surface, as it states in the definition, that would be a
24 below-grade tank.

25 Q. All right, and what are you saying is below the

1 ground surface?

2 A. Well, if this is the ground surface, if it was
3 below this elevation here, it would be a below-grade tank.

4 Q. All right. Now you do have some operators who
5 have put tanks in vaults --

6 A. Yes.

7 Q. -- right?

8 A. Yes.

9 Q. Is a vault considered secondary containment?

10 A. No. Well, it's -- You could say yes and no. It
11 is a form of secondary containment, but in the form that
12 we're using secondary containment leak detection, because
13 that is the requirement, it must perform both.

14 Those vaults, my understanding is that they have
15 gravel at the bottom, so they collect nothing. So
16 therefore they wouldn't provide secondary containment.

17 Containment would mean that you would be able to
18 contain a leak, so that's what we're talking about with
19 secondary containment. So no, those vaults wouldn't serve
20 that purpose.

21 Q. Okay. Now when you're saying below the
22 surrounding ground's elevation, how far out from the tank
23 are you going to qualify for surrounding ground's
24 elevation?

25 A. Well, you've got your ground elevation. Any

1 portion of it being below that would be below that ground
2 elevation. It wouldn't matter how far you went down.

3 Q. Okay, so say, for example, your -- it doesn't
4 matter how far -- how far you go out. So are you talking
5 about a whole section that might have different elevations,
6 or are you talking about just a wellpad that might have
7 different elevations?

8 A. Well, once again we're talking about a depression
9 or something that has been constructed. My understanding
10 is that these below-grade tanks were to replace permanent
11 pits that previously existed. So basically these tanks are
12 in question or are used as a replacement to the permanent
13 pits that were once -- or actually were supposed to either
14 be permitted under Rule 50.

15 Q. Okay. But is the surrounding ground elevation
16 concept that is not as clear as the previous definition,
17 which was just, you know, dirt on the sidewalls, type
18 thing?

19 A. It wasn't -- There was no dirt on the sidewalls
20 in the original definition. I believe it stated that it
21 was not visible. The current definition for below-grade
22 tank.

23 Q. The current definition is, Below-grade tank shall
24 mean a vessel excluding sumps and pressurized pipeline drip
25 traps, where a portion of the tank's sidewalls is below the

1 ground surface and not visible.

2 A. Yes, it says nothing about soil being on the
3 side.

4 Q. Okay, below the ground surface and not visible.
5 If you have a tank with -- that has dirt halfway up, it
6 would be considered a below-grade tank?

7 A. Based upon the current rule, yes.

8 Q. Okay, and what about the new rule, the new
9 definition?

10 A. If it's below grade and it has dirt along the
11 side, that would be considered a below-grade tank as well.

12 Q. All right, but if it's below grade does that mean
13 that the bottom of the tank, then, is at a lower elevation
14 than the surrounding --

15 A. It says the sidewall. So any portion of the
16 sidewall is below the surface.

17 Q. Now, how about a tank battery that might not
18 necessarily be very close to a wellhead and that -- that
19 could technically, based on geography or -- be -- be
20 technically lower than the surrounding ground's elevation.
21 It could be what you might consider a depression. Is that
22 considered a below-grade tank?

23 A. It -- it -- Well, it would depend on which
24 definition you're asking about. You haven't clarified.

25 Q. Okay, I'm asking under the proposed definition.

1 A. Under the proposed definition, if it's below
2 existing grade it would have to be in proximity of the
3 tank, meaning that if I have a formation that's five miles
4 away that's higher than the existing elevation, that
5 elevation five miles away wouldn't apply, but the existing
6 elevation would.

7 Q. Okay, but if -- very, very briefly, do you have
8 areas that are just completely flat as a pancake? You do
9 have some degrees of elevation along the way, okay?

10 A. Yes.

11 Q. Now -- so if you have a -- I guess my question
12 is, I need to compare -- is there a comparison of where the
13 tank stands, the bottom of the tank stands, to something
14 else on that location to determine whether you're above or
15 below-grade?

16 A. There would have to be an existing grade at the
17 site of the tank. It would have to be -- That would be the
18 determination for that.

19 Q. Existing grade at the site of the tank?

20 A. Yes.

21 Q. Okay. All right. And moving on, in terms of
22 closure plans am I correct in understanding that an
23 existing location that is open will have to submit a
24 closure plan?

25 A. Yes.

1 Q. Now when -- currently when operators submit a
2 closure plan or an abatement plan, where do they send it
3 to?

4 A. Well, if you read the current Rule 50 they're not
5 required unless it's requested by the Division, so I'd like
6 to clarify that first.

7 Q. Okay, isn't closure requirements -- isn't that
8 supposed to be on the C-144 currently?

9 A. Is it required to be on the C- -- I think it can
10 be submitted on the C-144, the sundry notice, and there's
11 another form. The 101 and the 103.

12 Q. Okay. So what you're saying is that they don't
13 currently have to notify you that they're closing a pit,
14 and you would prefer to know when they're closing a
15 location?

16 A. They don't have to notify us, they don't have to
17 submit a closure plan, so we have no knowledge in what
18 method they're using to close those. So yeah, there could
19 be an absence.

20 Q. All right.

21 A. They just have to -- Once they submit the form,
22 after it's been done, it would indicate that was closed.

23 Q. All right. Now if an operator submits a closure
24 plan under the new proposed rule, does the operator need to
25 wait until that closure plan is approved?

1 A. It would depend -- Well, yes. And I'd like to
2 clarify that if you're seeking a permit application, part
3 of your permit is the approval of the closure plan. If you
4 have an existing operation as identified -- I believe it
5 was 1 through 4 of 13.A, section 13, subsection A -- then
6 those would just be existing operations that would be
7 required to submit a closure plan, because they're
8 currently -- they're existing and currently operating. So
9 they would be different.

10 Now there are some other provisions for existing
11 operations that were permitted under this part if this goes
12 into effect in their timeline, so most likely they will not
13 either have a closure plan approved either, so they'll need
14 that in order to implement their closure, because the
15 transitional provisions in section 17 identify that they
16 have to meet the operational and closure requirements of
17 this part.

18 Q. Okay, so an operator needs to submit an
19 engineering design plan, and that is different from a
20 closure plan? Or a closure plan is part of the engineering
21 design plan?

22 A. No, the closure plan -- well, it depends --
23 well -- It depends if you're seeking a permit or not,
24 meaning that if you were submitting -- if you were seeking
25 a permit under this proposed rule, yes, it would be for

1 your engineering design plan. It's identified as one of
2 the items with the hydrogeologic report in op- --
3 maintenance and operations. So yes, it would be.

4 Now if you had an existing operation prior to
5 this rule going into effect, then you would only have to
6 submit a closure plan.

7 Q. Okay. And where does the request for a workover
8 pit fall?

9 A. Well, a workover pit is a temporary pit, so my
10 question to you would be, are you talking about seeking a
11 permit or existing operation? I need clarification to
12 answer.

13 Q. Okay, let's take the first question -- instance,
14 first. A current operation, currently operating, needs to
15 go out and do a workover, and it --

16 A. Okay.

17 Q. -- would they -- they would need to make a
18 request for a temporary pit under the new rule?

19 A. Yes.

20 Q. Correct. And what about an operation in the
21 future?

22 A. In the future? Well, they -- In order to have
23 the workover pit, they have to get a permit for a temporary
24 pit, and that permit application it's required that you
25 also get a closure plan approved. It's just like a

1 drilling operation.

2 Q. All right. And for closure of a temporary pit,
3 you can close back to background, correct?

4 A. If you sample to background. And it's not really
5 closure, it's testing underneath the pit. I don't quite
6 understand what you were proposing. But if you're talking
7 about closure standards, background has nothing to do with
8 closure standards. It only has to do with delineation
9 underneath the pit after it's used.

10 Q. All right, if you have a temporary workover pit,
11 you need a temporary pit for purposes of doing the
12 workover, which is not a very long process so that pit is
13 not open very long, you would need to follow the
14 delineation standards proposed under this rule for a
15 temporary pit, correct?

16 A. Yes.

17 Q. Okay. Could you define a watercourse for me?

18 A. A watercourse?

19 Q. Yes.

20 A. Actually, watercourse is defined in part 1,
21 section 7, but I believe there is comments provided from
22 XTO that has that definition available, because a
23 watercourse -- this is from that section, it's 19.15.1.7,
24 subsection W, paragraph (8) of part 1, and the current
25 language, which is -- I believe it's used statewide through

1 all environmental agencies, is, a watercourse shall mean a
2 river, creek, arroyo, canyon, draw or wash or other channel
3 having definite banks and bed with visible evidence of
4 occasional flow of water.

5 Q. Okay, so does that mean that a three-foot
6 crosswash would fall under the definition of watercourse?

7 A. If it has defined banks and a bed.

8 Q. And what about a low area with natural salt
9 buildup and no plants that's 10 feet across?

10 A. I don't understand the question? You said well
11 area?

12 Q. No, I'm sorry, a low area --

13 A. A low area?

14 Q. -- with natural salt buildup but no plants on
15 that area.

16 A. We'd probably have to use a topographic map to
17 make that determination. It's -- Based on your
18 description, it would be difficult to make an assessment.

19 Q. And therefore it would be difficult for an
20 operator to make an assessment as well?

21 A. Possibly, possibly. If you notice, for the
22 siting criteria for this, we do allow the district office
23 to make a separate determination if the operator has any
24 question. So they can use the district office for that
25 assistance.

1 Q. Okay, but that would be a subjective
2 determination by the district office, correct?

3 A. Well, if it's the district's office opinion, I
4 assume it would be somewhat subjective by the district
5 office.

6 Q. All right. Now on direct examination, pursuant
7 to the section where -- I believe it was in response to the
8 industry comments, the industry committee comments, asking
9 for a 100-foot setback. I believe it was from the
10 continuously flowing watercourse. And you stated that that
11 proposal was rejected because -- I'm sorry, the --
12 additionally, the proposal from the industry committee was
13 that it would be safely above the water line?

14 A. Yes.

15 Q. You rejected that proposal.

16 A. Yes because, you know, when you get to a
17 watercourse, when you start looking at the defined banks
18 and you look at the -- I believe our -- Let me clarify.
19 Our language states that it will be measured, the 200 feet
20 or 300 feet will be measured from the ordinary high water
21 mark.

22 Theirs said it would just be 100 feet from a
23 watercourse, lakebed, sinkhole, and that it would be safely
24 above the water mark.

25 The difference is, is that it wouldn't be set

1 back from the water mark. That's the difference.

2 Q. So it wouldn't be set back from the water mark?

3 A. Which means they could take -- and the way the --
4 I guess the biggest argument that's come out of this is
5 that if you -- Where do you take your setback measurement?
6 Do you take it from the center of the river? Do you take
7 it from the center of the watercourse?

8 And then let's say the watercourse is 200 feet
9 wide. Well, if you have a 100-foot setback from the center
10 of the watercourse, then you're at the edge of the
11 watercourse. We're saying that the high water mark, which
12 could be out towards that edge, and then you go from there.
13 So saying that you're safely above the high water mark
14 could mean that you would fall within five feet of what we
15 would consider our setback.

16 Q. Okay, all right. Okay, below-grade tanks again.
17 Was this a consensus item?

18 A. What was a consensus item?

19 Q. The below-grade-tank issue and permitting
20 requirements.

21 A. Well, I could go to the task force documents.
22 And as for permitting, from the July 10th summary report
23 all of that is green for permit required, and it includes
24 below-grade tank.

25 Q. And when you had the consensus report, did you

1 discuss the new definition of below-grade tank with the
2 task force?

3 A. No, because it was decided at that time that we
4 wouldn't propose that. They asked that it be modified.

5 Q. Okay, they asked that what would be modified?
6 The definition?

7 A. The definition would be modified.

8 Q. Okay, and did you run the final -- your -- what
9 you determined to be your final definition before you
10 determined what was consensus and what was not as it
11 pertains to below-grade tanks?

12 A. No, we were not asked to do that. Let me
13 clarify. The task force -- my involvement in the task
14 force was as a task member. OCD was not supposed to
15 respond during the task force. We were not asked during
16 the task force to make that recommendation, we were asked
17 to address it after the task force had convened. That was
18 the consensus decision at that time.

19 Q. Okay, but I just want to make sure that the
20 record is clear in terms of what was consensus and what was
21 not.

22 Would it be a fair statement to say that the
23 definition of below-grade tank was not run -- the new
24 definition, was not run by the task force members?

25 A. I would say yes, it was, because if I'm not

1 mistaken, the new definition was prepared and presented to
2 them in the draft version that they received three weeks
3 after the task force had convened. So they did have prior
4 knowledge of what we were proposing. And that definition
5 did not change.

6 Q. Okay, so your -- so the definition of below-grade
7 tank was presented to the task force at some point, after
8 the meetings --

9 A. Yes, after the meetings. So they did have an
10 opportunity to comment during that time.

11 Q. And below-grade tanks, I believe there was a
12 discussion about open top of below-grade tank. Where is
13 it? I believe it's under the fencing requirements. I'm
14 sorry, it's under the netting requirement, under E --

15 A. Okay.

16 Q. -- of 19.15.17.11. The operator shall ensure
17 that the permanent pit or a permanent open top tank is
18 screened, netted or otherwise rendered non-hazardous.

19 A. Yes, and the question would be -- ?

20 Q. You also require under these -- these facilities,
21 that you have to remove the top layer of oil --

22 A. Yes, I think we clarified that. Mr. Price
23 brought that to our attention. For an underground, one
24 that is completely below ground, covered up, that would not
25 be feasible. And I think we haven't quite made that

1 clarification yet.

2 Q. Okay. But as to the netting requirement, you
3 still would require a netting over an open tank, but would
4 also require the oil removal?

5 A. Yes, and actually under the current Rule 50 --
6 that's required under the current Rule 50 for the netting.
7 So it's currently a regulation that exists.

8 Q. Okay. And the fencing requirement, I want to
9 make sure that I got this right. For the section 3, which
10 would pertain to the four strands of barbed wire, one -- at
11 an interval between one foot and five foot above ground
12 level. In order to put up that barbed-wire fence, you need
13 to put staking up, correct? Stakes in the ground?

14 A. Something to hold it up, yes.

15 Q. All right, and are you familiar with the stakes
16 that you -- that operators currently use?

17 A. I've seen stakes that they've used.

18 Q. All right, and how long are those stakes,
19 generally?

20 A. I have no idea. I've seen them in the ground, so
21 I can't really say the total length of them. I assume
22 there's a good portion of them in the ground.

23 Q. Okay, there's a foot of them in the ground, so
24 putting a -- five feet above the ground level with current
25 staking procedures is not possible?

1 A. I don't know what the length is. Like I said,
2 when I saw it, it was in the ground.

3 Q. Okay.

4 A. And this -- And I'd like to preface that. This
5 was a consensus item by the task force, operators were
6 present. They did not have any opposition to this or any
7 comment that this would be an issue.

8 Q. All right. And I believe that you stated for the
9 thousand feet from a permanent residence that a perimeter
10 fence would not be enough, however for the closure of the
11 pit and below-grade tank, to prevent access, that a
12 permanent fence would be enough. Is that accurate?

13 A. Can you restate that? I'm not clear what you're
14 trying --

15 Q. Okay.

16 A. -- trying to say.

17 Q. I have -- I have notes here that indicate that a
18 perimeter fence is enough for -- to prevent unauthorized
19 access to a location, perimeter fencing.

20 A. Well, it's required to be within 1000 feet of a
21 residence, home. I guess the idea here is that we're
22 looking at the -- I'm trying to find the reference. I
23 believe it's D.(2), we're talking about permanent
24 residence, school, hospital, institution or a church, and
25 it also has to be locked, if I'm not mistaken, with some

1 two strands of barbed wire at the top. So yes, we did feel
2 like that was adequate.

3 Q. But is perimeter fencing adequate for when you
4 have -- you're within 1000 feet of homes or --

5 A. Oh, I see what you're getting at, you're
6 referring to (1). If you read the rest of that section I
7 believe that it states that -- it says, fencing -- Fences
8 are not required if there is adequate surrounding perimeter
9 fence that prevents unauthorized access to the well site or
10 facility, including the pit or below-grade tank.

11 Now the determination on that would be if it was
12 within a thousand feet, that perimeter fencing would have
13 to meet the requirements of (2). And that's pretty
14 straightforward, it would have to be the same type of
15 fencing.

16 Q. The same type of fencing.

17 A. Yes.

18 Q. Okay. Now talking about the slopes, your
19 indication and review of the rule was that you wanted now
20 to have -- the slopes shall be no steeper than two
21 horizontal feet to one horizontal -- vertical foot on the
22 slopes.

23 A. I believe that was task force language, yes.

24 Q. Okay. And what was the rationale for that, the
25 change in slope size?

1 A. Well, from my personal -- I don't know what
2 generate the task force to come up with the language, but
3 they did propose this language. This was consensus
4 language from the task force, which included industry
5 members. There was no objection to that, it was all green.

6 Personally, my experience during the pit-sampling
7 events that OCD did, it was a safety issue. If someone did
8 gain access, especially if it was outside the thousand feet
9 and they only have barbed-wire fencing, it's very easy to
10 access those pits.

11 Just personally, getting out and trying to obtain
12 a sample and get out of the pit, if you increase that, if
13 you have a steeper slope, it will decrease the possibility
14 of someone getting out of that pit. I had -- You know, I
15 followed Mr. Price in, he was on the harness. I had to use
16 the rope to pull myself out, I could not crawl out. So
17 there's a safety factor.

18 Q. But generally, do you have workers in pits?

19 A. We're talking rural areas, so children could get
20 out there. Like I said, the fencing, you're talking four-
21 strand, so there is a potential for some wildlife to get
22 inside there. And if they do get into the pit, they may
23 not be able to get out.

24 Q. All right. Now the 2-to-1 sloping, does that
25 mean that the pit size has to be larger, to accommodate

1 volume?

2 A. Well, and that would depend on the depth. So it
3 depends on how deep you want to make the pit.

4 Q. But your surface disturbance area is going to be
5 larger?

6 A. Like I said, if you have a deeper pit -- even
7 with the slope, if you -- it's kind of making your
8 determination of what you need at the site. If you have a
9 deeper pit it may expand out, but -- compared to a
10 shallower pit, it may expand out a little bit further and
11 take up a larger area. So it really depends on your depth.

12 Q. All right. Now let's talk about workover pits
13 then. Do you know how large workover pits generally area?

14 A. Not on average, no.

15 Q. All right. Now -- But they're different sizes
16 from the southeast to the northwest, correct?

17 A. Yes, and sometimes your drilling pit is used as a
18 workover pit.

19 Q. Now a workover pit, you know, if it's one
20 bulldozer's width, if you -- if all of a sudden you have a
21 2-to-1 slope, doesn't that automatically mean that you're
22 taking up more surface area to make that 2-to-1 slope?

23 A. Well, I guess it would have to be determined by
24 OSHA standards if it's actually a trench, which means it
25 would be deeper than it is wider. And then it would fall

1 under OSHA, their regulations. And the question would be,
2 are they in compliance with the other regulations, state
3 regulations or federal regulations?

4 Q. Okay, so you're saying that a workover pit that
5 is only one bulldozer's width is actually not a pit, it's a
6 trench --

7 A. It could -- it could be. And the question would
8 be, would they be in compliance with those regulations?
9 That's why they have regulations of tiering those types of
10 trenches, so they won't collapse and if someone get in it.

11 Q. Right. But assuming that you're an operator and
12 you need to dig a workover pit, all right, you have a
13 bulldozer width. I mean, you can't get narrower than a
14 bulldozer width to make it more of a V to accommodate the
15 same type of volume, correct?

16 A. You could get deeper than that.

17 Q. You could get deeper, that's --

18 A. Yes --

19 Q. Thank you. But then --

20 A. -- and then it might be at that point considered
21 a trench.

22 Q. But if you're getting deeper, then you're getting
23 closer to groundwater?

24 A. I don't know what groundwater is at this
25 hypothetical site that you're referring to, so I don't

1 know. Possibly. The deeper you go, the close you would
2 get, yes.

3 Q. Okay. And in all these -- the temporary and
4 permanent pits, you're requiring now that the seams be
5 welded, right?

6 A. Yes, and that was task force consensus language.

7 Q. All right. You know, the -- Let's talk about the
8 task force consensus language. When you say something was
9 task force consensus, was that based on just the vote that
10 was given at the very end?

11 A. Yes.

12 Q. Not pursuant to discussions throughout the task
13 force process?

14 A. It was the final meeting to determine what
15 everyone agreed upon or did not agree upon.

16 Q. All right, and was everyone present at the last
17 meeting?

18 A. I'm unsure.

19 Q. Well, wouldn't consensus mean that it had to be a
20 unanimous decision?

21 A. It was unanimous of the parties present.

22 Q. And I believe that when we reviewed this -- the
23 change in the rule, there were some questions specifically
24 by task force member John Byrom, and he didn't recall
25 certain things being consensus items.

1 A. Yes.

2 Q. All right, and if he voted on the last -- on the
3 last day -- how did it -- How did it work on the last day
4 that you actually achieved consensus? I wasn't there,
5 so...

6 A. Well, at the last day what we did, we all sat and
7 we went through, I guess, previous meetings. There was --
8 The summary report was already somewhat formatted before my
9 involvement. I was involved in a subgroup. I don't know
10 how the subgroup was determined, but they were supposed to
11 discuss things and then come back to the task force and see
12 if everyone in the task force agreed.

13 During that time we actually came up with new
14 language in that final task force. I believe it was with
15 netting and fencing. If I'm not mistaken, the fencing went
16 from 300 to 1000, and some other stuff went back, shortened
17 up. For temporary pits, for siting requirements to
18 permanent residence it went from 1000 to 300 in that case.
19 So there was a lot of things --

20 Q. What about -- what about the on-site burial
21 discussion as it related to consensus?

22 A. It was determined that it would be a nonconsensus
23 item.

24 Q. Okay. In fact, the Citizens for Clean Air and
25 Water pulled out of the consensus of that one, correct?

1 A. I saw -- they stated that they didn't believe
2 that any on-site burial -- and then industry came back and
3 said everything in the matrix they would not agree to,
4 which included on-site burial.

5 So it wasn't one party or the other, it was all.

6 Q. And when the industry committee came back and
7 said, Pull certain things off the table as a consensus,
8 would you remove those items from your report as --

9 A. We --

10 Q. -- being --

11 A. -- we actually -- We discussed that, and they
12 chose not to in the summary report. They only chose to
13 turn the matrix completely red. That was brought up in the
14 final task force meeting.

15 Q. And who did you have that discussion with?

16 A. Actually, I brought it to the attention of the
17 task force. We show drafts of things in the summary
18 report, and there was consensus not to.

19 Q. There was consensus not to?

20 A. Yes.

21 Q. Question about section F of sub (7). The
22 operator shall anchor edges of all liners to the bottom of
23 a compacted earth-filled trench. The anchor trench shall
24 be at least 18 inches deep.

25 The anchor trench shall be 18 inches deep was not

1 a consensus item, correct?

2 A. Yes, that was not. I think I indicted on my
3 presentation -- Can you pull that up, Mr. von Gonten?

4 MR. VON GONTEN: You want it on the screen?

5 THE WITNESS: Yes, please.

6 MR. BROOKS: F.(7) of what section, Ms. Foster?

7 MS. FOSTER: I'm -- F --

8 THE WITNESS: I think it's 11.

9 MS. FOSTER: Yeah, it's 11.

10 THE WITNESS: Yes, if you look at number (7) up
11 there at the very top, you'll see that the anchor trench
12 depth is in black.

13 Q. (By Ms. Foster) Now so that I understand,
14 everything that was in black was specifically rejected by
15 the task force? In other words, it was discussed but
16 rejected or --

17 A. No.

18 Q. -- does that mean it was added by the OCD?

19 A. No, I think I clarified that a couple times
20 during my presentation. Everything in green was consensus
21 language. Everything in red was nonconsensus. Anything in
22 black either OCD proposed or it was something that came
23 from the current rule or guideline.

24 Q. Now when you anchor the edges of the liner, how
25 is it that an operator, should he get a fine for, for

1 example, windwhip, how is he going to prove that his anchor
2 trenches were at least 18 inches deep?

3 A. Well, for him not to be able to prove it would
4 mean all his edges of his liner would have to be in the
5 pit. A pit usually has four sides, which would indicate
6 that there would have to be some that wouldn't be
7 windwhipped. So I guess the ones that weren't, you could
8 dig up the trench itself and see it buried. If they were
9 all in the pit, his anchor trench failed.

10 Q. Okay, but if an operator is experiencing what
11 you're calling -- what OCD has been calling windwhip, isn't
12 that an automatic fine for lack of an adequate anchor
13 trench?

14 A. I would say -- I wouldn't necessarily state it
15 would require a fine, but it could be corrected.

16 Q. But in your mind, as the rule creator, windwhip
17 would mean that there was a lack of an anchor -- adequate
18 anchor trench?

19 A. Yes.

20 Q. Now you also maintain that fluid removal had to
21 be done immediately -- or within 15 days, I believe it was.
22 Thirty days for a permanent pit and 15 days for a workover
23 pit?

24 A. So you're referring to operations, section 12,
25 and you're talking only about temporary pits; is that where

1 you're referring to?

2 Q. No, I'm sorry, I'm actually referring to the
3 change that you made on October -- November 7th, where you
4 added the language that the operator should not allow free-
5 standing fluids to remain on an unlined pit or a --

6 A. Oh.

7 Q. -- temporary pit used to vent or flare gas.

8 A. Yes, that's only for those -- venting and
9 flaring, yes.

10 Q. Okay. I believe that the Independent Petroleum
11 Association asked for evaporation time.

12 A. Yes.

13 Q. Yes, and I believe that you stated that it was
14 too slow to expect evaporation times?

15 A. No, I think you're mixing apples with oranges.
16 We're talking -- your first part of that was only about
17 flaring, areas for flaring and venting.

18 What -- my response to, on your recommendation, I
19 believe, is about the removal time of -- I think was the --
20 and I'll have to look at your comments, but I believe it
21 has to do with the removal time of fluids, which is the
22 operational standard of 15, 30 days.

23 Q. Okay. Well, are there technologies out there or
24 being developed that could speed up evaporation of fluids?

25 A. There are. I guess what we're trying to do --

1 and this was discussed in task force, is that -- I think --
2 I heard it several times, especially from industry members.
3 They realized the importance of immediate removal of fluids
4 off the pits when the pits were no longer in use, because
5 it removes the hydraulic head, which reduces the potential
6 for release. That's why we have the 15- -- well, the 30-
7 day for drilling pits, and the 15-day requirement for
8 workover pits.

9 I think I also clarified my testimony that you
10 have up to six months to close the pit after the free
11 liquids are removed from it, which also allows at least
12 four months for evaporation to occur to the solids within
13 that pit. So indirectly evaporation is allowed, it's not
14 restricted.

15 Q. Okay. But with the level that you are requiring
16 us to put in the pits now, that the level of the fluids in
17 the pit will go down due to evaporation, not necessarily
18 because there's a tear in the liner?

19 A. I'd like to clarify that the level is there, and
20 it's required for all pits, including permanent pits, that
21 -- we're looking for drastic changes, and I believe I used
22 that wording. That's what this indicator is going to --
23 you know, yes, the evaporation rate is going to be 50
24 inches per year or something. That is not drastic. You're
25 not going to see a four-foot drop in fluid levels overnight

1 because of that. So it's used differently than what you're
2 stating.

3 Q. Okay. Now are you familiar with technology
4 that's kind of like a grid that you can put underneath a
5 pit to detect leaks, using monitors?

6 A. I believe I've heard of such technology.

7 Q. Okay, and is that something, you know, that the
8 OCD could consider as an exception to allow for on-site
9 burial, if there's monitoring underneath the pit?

10 A. Well, once again, that requirement is open to
11 exception. So if it -- if the operator can demonstrate
12 that that provides equivalent protection, then it could be
13 considered for approval.

14 Q. For on-site burial, all right.

15 A. And that's for operation, that requirement for
16 measuring.

17 Q. For operation?

18 A. Yes.

19 Q. Right. Now I believe that when you're talking
20 about the on-site deep-trench burial for closure section,
21 which is new, Section J, that you demonstrated that
22 currently what operators do, or what you expect operators
23 to do, is to create a burrito.

24 A. Well, which section are you referring to?

25 Q. Section J.

1 A. Of which section?

2 Q. 11.

3 A. Of 11?

4 Q. The rule -- yeah, design and construction part of
5 the rule.

6 A. Okay. Yes.

7 Q. Conceptually what you want operators to do is to
8 create a burrito and then put a liner on top of it, and
9 then four foot of topsoil?

10 A. Yes.

11 Q. Right? Now are you aware that there is
12 hydrological evidence out there that -- Well, actually, are
13 you aware of the BLM rules pertaining to on-site closure or
14 deep-trench burial?

15 A. Not specifically. I've heard some of the things
16 they are doing, though.

17 Q. All right. And are you aware that they don't
18 require that top liner over the on-site burial, because it
19 -- the top liner impedes re-vegetation?

20 A. Well, I'm kind of confused on that. The thing
21 I've heard is that they do backfill them in, and then they
22 keep a depression which collects water so they can create
23 vegetation, that's what I've heard.

24 Q. But there's no additional top layer of plastic --

25 A. Yeah, I --

1 Q. -- pulling it over --

2 A. I don't know -- I don't know anything about that,
3 so I can't comment on it.

4 Q. All right. Are you aware that current BLM
5 guidelines dictate that when you're on BLM land you must do
6 deep-trench burial or on-site burial?

7 A. I've seen correspondence from BLM that they --
8 they follow our regulations, that's what I've seen. And I
9 don't see anywhere in our regulations that we require that.

10 Q. All right. So have you received indication from
11 the BLM that they will follow your new pit rule when it's
12 passed?

13 A. I have not seen any comments from the BLM.

14 Q. Have you received any correspondence or had any
15 conversation?

16 A. Personally -- We have had conversations, but we
17 have not -- I have not received any correspondence.

18 Q. So potentially this new rule could be in conflict
19 with the existing BLM guidelines?

20 A. If they -- if they follow our regulations -- I
21 wouldn't say a conflict because if their policy is to
22 follow our regulations, then our regulations become theirs,
23 so I don't see what the conflict would be.

24 Q. Okay, but their policy is to follow your -- Do
25 you know if that's the basis of an MOU or --

1 A. I don't --

2 Q. -- that's just practice?

3 A. -- I -- like I said, it's something that I have
4 heard. I don't know how true that is.

5 Q. Okay. Reporting of spills. Operators must
6 report within 48 hours of a spill. This is under your
7 operational requirements.

8 A. Are you referring to the tear in the liner, not a
9 spill?

10 Q. If the integrity of the pit liner is compromised,
11 or any penetration of the liner occurs above the liquid's
12 surface, the operator shall notify the appropriate district
13 office within 48 hours.

14 A. Yes, that doesn't really necessarily indicate
15 that there's been a release.

16 Q. Okay, because you don't want to have a conflict
17 with the current spill rule, correct?

18 A. I don't understand the question.

19 Q. Well, the current -- Are you familiar with the
20 current spill rule?

21 A. Yes.

22 Q. All right, and the current spill rule, basically,
23 is -- the notification to the OCD is based on the amount
24 that the operator assumes the spill -- the spill was --

25 A. Yes, it's based on five barrels.

1 Q. Right, right. So are you -- The way that this
2 section was drafted, the notification within 48 hours is
3 not necessarily to report a spill, it's just to report an
4 impairment of the integrity of the liner above the liquid's
5 surface?

6 A. Well, I would have to clarify first which one
7 you're referring to. Are you referring to the -- paragraph
8 (4) or paragraph (5)? Because we have two requirements,
9 based on two separate, different -- separate conditions.

10 Q. Well, paragraph (5) seems to -- that just -- does
11 talk about leaks?

12 A. It does talk about leaks, it also talks about the
13 repair of the liner, which is more crucial than the release
14 itself.

15 Q. All right. So if the pit liner develops a leak,
16 define -- I mean, how is an operator supposed to determine
17 if there's a leak?

18 A. Well, it doesn't state that. It states that if
19 there's any penetration of the liner below the liquid
20 surface, then the operator shall remove all liquids above
21 the damage or leak line from the pit within 48 hours and
22 repair the damage or replace the liner.

23 So I guess the question is, I don't understand
24 your question, because it doesn't require notification, it
25 requires them to take action to actually remove the fluids

1 to prevent further liquids -- and this is paragraph (5) --

2 Q. Yes, okay --

3 A. -- and --

4 Q. -- and para- -- so --

5 A. -- to --

6 Q. -- just --

7 A. -- repair --

8 Q. -- not --

9 CHAIRMAN FESMIRE: Ms. Fos- --

10 MS. FOSTER: Okay.

11 CHAIRMAN FESMIRE: -- let him finish answering
12 the questions.

13 THE WITNESS: And it also requires them to repair
14 the liner.

15 Q. (By Ms. Foster) Right. Paragraph (5) talks
16 about a leak below the water line that you want operators
17 to fix within 48 hours but do not report --

18 A. I'd like to --

19 Q. -- and paragraph (4) -- paragraph (4) talks about
20 a penetration of the liner above the liquid surface, but
21 you want the operator to report within 48 hours?

22 A. I guess there's two things. Paragraph (5) reads,
23 If a lined pit develops a leak, or -- or, if any
24 penetration occurs, then they're to remove the fluids
25 within 48 hours and repair the leak. So it's one or the

1 other. And the idea is that the pit is currently in use,
2 it's being operated. This is an operational requirement.

3 We realize that they're not going to be able to
4 -- to assess the leak would mean the removal of the pit.
5 So we're not requiring that, we're requiring them to repair
6 -- continue use, instead of dig up another area, disturb
7 another area, create a whole new pit and then deal with
8 this release or determine, based on the other specified
9 requirements of the five barrels if a release has actually
10 occurred -- we're not requiring that.

11 Now paragraph (4) is, If the integrity of the pit
12 liner is compromised, or if any penetration of the liner
13 occurs above the liquid's surface, then the operator shall
14 notify the appropriate division office within 48 hours of
15 discovery and repair the damage or replace the liner. This
16 right here is more of a preventative-type thing, as in, if
17 there is damage above the liquid's surface, it notifies the
18 operator that they've got to correct this, so they don't
19 continue use and actually let free liquids get above that
20 compromised portion or that penetration of the liner and
21 cause a release.

22 Q. Okay but again, so -- so it's clear for the
23 operators, if there's penetration above the liquid line,
24 then they have to notify you within 48 hours. If there's
25 penetration below the liquid line, they just have to fix it

1 within 48 hours?

2 A. Yes. They have to remove the liquids and fix it
3 within 48 hours. They should not continue keeping liquids
4 above that penetrated liner.

5 Q. Okay. On section B, temporary pits, on your
6 direct examination you talked about a recommendation that
7 was made by the industry committee to -- that -- where the
8 operator shall remove any visible and measurable layer of
9 oil from the surface.

10 And I believe that you stated that there was --
11 that you wouldn't -- that you would -- don't necessarily
12 want it to be a quantifiable amount of oil, you just want
13 it to be a visible amount?

14 A. Well, what I was talking about was, if that
15 language was accepted it would be a quantile -- quantiful
16 amount of water, because it would have to be measurable.

17 With the current language being visible or
18 measurable layer, it wouldn't be quantable, meaning that it
19 wouldn't have to be measurable in order to have to remove
20 it.

21 Q. So you're maintaining that as long as it's
22 visible it needs to be removed?

23 A. Yes.

24 Q. All right. But it can be in such a small amount
25 that it's not quantifiable at all?

1 A. Well, it's -- that's subjective.

2 Q. That is subjective.

3 A. It is.

4 Q. Okay.

5 A. So to state that if it's visible it should be
6 removed makes it very clear.

7 Q. There are quite a few sections in the rule where
8 notification of the Division [sic] office or the Santa Fe
9 office is required, and I want to make sure that I
10 understand that if an operator notifies you of something,
11 the -- for example, the pit -- breaching the integrity of
12 the liner above the liquids, the liquid line, for example
13 -- do they actually have to wait for a response from you
14 prior to moving ahead?

15 A. It doesn't state that in the requirement, so no.

16 Q. Okay, I believe also that Mr. Wayne Price
17 testified repeatedly that you guys are often short of staff
18 and that you -- he has quite a few cases that he personally
19 has to review.

20 A. Yes. And for clarification purposes, usually the
21 operator will contact the party based upon the permitted
22 activity. So for someone to contact the Santa Fe office,
23 they would be operating a permanent pit. Any type of
24 temporary pit, below-grade tank or a closed-loop system,
25 they will contact the district office, because the permit

1 would be issued under that office.

2 Q. Okay, so for the more temporary facilities it's
3 going to be issued through the district office, as opposed
4 to the permanent facility is going to be --

5 A. Yes.

6 Q. Now what about permitting of closed-loop systems?

7 A. I thought I just stated that they would be
8 permitted by the district office.

9 Q. Okay, did you? I didn't hear.

10 A. Yes.

11 Q. Now is -- Did you have any science or any cases
12 where you have leakage of below-grade tanks, or issues with
13 below-grade tanks?

14 A. Personal knowledge?

15 Q. (Nods)

16 A. No.

17 Q. All right. And -- but the below-grade -- under
18 this new proposed rule, below-grade tank has additional
19 leak-detection requirements and secondary containment?

20 A. Yes. I'd like to clarify that -- Two things.
21 I've only been with the Oil Conservation for about 15
22 months, and my primary job duties are the permitting of
23 surface waste management facilities, not these types of
24 facilities. Not that I haven't gone out and seen these
25 types of facilities, but -- so I personally have not -- I

1 don't deal with the releases that occur at these
2 facilities.

3 The other clarification is, is there's been no
4 testing below-grade -- below the -- or beneath the below-
5 grade tanks. So if there's no testing, there would be no
6 confirmation that there has been a release, if it has
7 occurred. So if you don't know -- because testing is not
8 required, then you don't know if one has actually occurred.

9 The other thing I'd like to clarify is, in Rule
10 50 --

11 Q. Oh -- Okay.

12 A. -- Rule 50 requires below-grade tanks to have
13 secondary containment and leak detection, and that's been
14 in place since 2003, I believe.

15 Q. Okay. So because you don't know, because you
16 can't see under below-grade tanks, you're assuming that
17 there might be some degradation of the bottom of a below-
18 grade tank?

19 A. We don't know. It's hard to comment on, if
20 there's nothing beneath it to confirm it or deny it.

21 Q. All right. And what material are these below-
22 grade tanks made out of?

23 A. It could vary.

24 Q. Is it plastic --

25 A. It could be steel, fiberglass --

1 Q. Okay, generally it's steel or fiberglass --

2 A. Yes.

3 Q. -- correct? All right. Now what -- But you
4 don't use that same rationale when it comes to landfills,
5 do you? I mean, landfills -- some of them are unlined, but
6 some of them are lined, correct?

7 A. Under the current rule, part 36, they're required
8 to be lined.

9 Q. Okay, but there are existing landfills out there
10 that are not lined?

11 A. Yes.

12 Q. All right, but let's -- just for --
13 hypothetically, let's just take the lined situation for a
14 landfill. You're not making the same assumption to a
15 landfill that because you can't see the bottom of the liner
16 that there is any leakage?

17 A. Well, the current ones that are lined have
18 secondary containment. They're double-lined with leak
19 detection, so they basically have secondary containment and
20 leak detection.

21 Q. Okay, but when you say secondary containment for
22 a landfill, you're talking about an additional layer of
23 plastic?

24 A. Yes.

25 Q. You're not talking about steel, like you are in

1 the bottom of a below-grade tank?

2 A. No, but that -- you're -- I guess the difference
3 would be, a primary tank or a primary liner, compared to a
4 secondary tank and the secondary liner. So it doesn't
5 matter what the material is, it's primary and secondary.

6 Q. Okay, but primary and secondary in a below-grade
7 tank is generally not plastic, is it?

8 A. It could be. It could be lined. Actually, we
9 have provisions for a liner to be used beneath the tank.

10 Q. Okay. So in terms of environmental safety issue,
11 you feel better putting a layer of plastic underneath a
12 steel tank?

13 A. Actually, if you look at the requirements,
14 there's a lot more to it than just doing that --

15 Q. Okay.

16 A. -- and it's spelled out, there's -- I think
17 there's seven additional requirements for that. And it's
18 step-by-step of what's unless required in order to place
19 that liner down, prep of the subgrade, the thickness of the
20 liner, the material used underneath to collect liquids, and
21 I think the sand or gravel that's required on top of that
22 before you place the tank down. So the tank is not placed
23 directly onto the liner.

24 Q. Now have you been present for all the testimony?

25 A. Yes.

1 Q. And have you heard any testimony from any other
2 OCD folks concerning the lack of integrity of below-grade
3 tanks?

4 A. I don't think any questions have been asked
5 except towards me about those.

6 Q. Well, on direct examination, part of the OCD's
7 case, as that issue come up? It hasn't, has it?

8 A. I -- To my recollection, no, I don't recollect.

9 Q. Now let's talk about the delineation standards,
10 so that I'm clear. An operator, if they guess that there
11 is a leak or potential breach of the liner, they will be
12 required to delineate, correct?

13 A. Can you restate that?

14 Q. If an operator thinks that there might be some
15 sort of a breach of the integrity of the liner and they're
16 closing the location, they will be required to delineate?

17 A. No, that's incorrect.

18 Q. Okay.

19 A. The testing beneath the liner is required
20 regardless.

21 Q. The testing beneath the liner, okay. And is that
22 just sampling, or is that actually delineation?

23 A. It -- Well, in order to delineate you must obtain
24 samples. And I believe it states the criteria is that --
25 and I've got to find it here -- I believe it's a composite

1 sample, if I'm not mistaken. It's a minimum five-point
2 composite sample. And then if there's any observed hot
3 spots then you would collect an individual grab sample of
4 those hot spots

5 Q. Okay, so you sample the hot spots when you're
6 closing a pit?

7 A. And obtain the composite.

8 Q. And obtain the deposit. And then when is it that
9 you will delineate to go down to your 250 milligrams per
10 kilogram?

11 A. Well, you have to determine what the results are.
12 And like I said, it is a delineation. You can use methods
13 like a geoprobe, I think I mentioned, which means you don't
14 have to actually dig it, you can obtain samples in
15 different fashions, you can use a backhoe or trackhoe to
16 dig down beneath to see if that level is still present.

17 Q. All right, and they have to dig down until they
18 reach below the standards -- the 250 --

19 A. Well, they don't have to dig down, they can use a
20 geoprobe --

21 Q. Okay.

22 A. -- which means not disturbing any of the other
23 soils.

24 Q. But they have to go down into the vadose zone
25 until they no longer -- until they achieve levels that are

1 below the 250.

2 A. Well, I think I also stated that certain
3 operators are being prudent and they're actually testing
4 before they put the pits in, and they're obtaining the
5 background, the unimpacted background of the -- figuring
6 out what the background concentrations are in the soil
7 before the pit is placed and installed and any waste is put
8 there.

9 So if they actually go to that extent, then it
10 would either be background of the original soils or the
11 stipulated concentrations, whichever is greater.

12 Q. Okay. Now under this rule, wouldn't it be
13 possible if you had a capability of testing under a pit,
14 for example in the northwest, that -- and you achieve the
15 sample levels of the 250 milligrams per kilogram delineated
16 here, that it would be okay to close on-site?

17 A. I don't understand the question.

18 Q. Well --

19 A. Can you rephrase it?

20 Q. -- if the OCD's concern is with migration to
21 groundwater, of chlorides in particular, and other
22 contaminants, if an operator could achieve these standards
23 by testing under the pit and still leaving it in location
24 -- I guess you'd have to do horizontal drilling of some
25 sort -- could you -- would it make sense to ask for on-site

1 burial?

2 A. I would say no, because we still don't know
3 what's in the pit. That would probably indicate that the
4 pit did not have a release. It has nothing to do with the
5 contents of the pit and the concentrations of that waste
6 material in that pit. Those are two different things.

7 Q. Okay, so it's the concentration of materials that
8 are in the pit, plus the testing underneath the pit?

9 A. We're testing beneath the pit to determine if
10 there was a release from the pit and if that needs to be
11 addressed.

12 Q. All right.

13 A. That's one thing. The contents in the waste
14 material in the pit is something totally different.

15 Q. All right, but if you're -- you're in a closure
16 situation, which means that you have hauled off your
17 liquids and you're down to semi-wet material that's left in
18 your plastic liner, okay? If you could test underneath
19 that plastic liner without -- without imputing the
20 integrity of the liner, wouldn't it make sense to allow for
21 on-site burial?

22 A. Well, there's a bigger problem here. The pit
23 contents still have to pass the paint-filter test, which
24 means that all the pits I've seen, regardless of the time
25 allowed to evaporate, were like soup. I never saw one that

1 was completely dried out at all.

2 So there's going to have to be some mixing
3 involved in that. I think Mr. Hansen talked about the
4 mixing process. And in that process there's a potential
5 for the integrity of the liner to be disrupted or
6 compromised, which could indirectly cause a release.

7 So if you test it before mixing the contents of
8 the pit, you may not even -- you may miss your opportunity,
9 because you may, by just treating the material in the pit
10 to make it pass the paint-filter test, compromise it and
11 cause a release.

12 Q. Okay, you may compromise it?

13 A. May, yes. We -- we -- I personally heard
14 operators state that they utilize the -- they actually mix
15 clean soil in, and they -- there's no way they can't do it
16 without compromising the liner, and that's their statement.

17 Q. All right. I believe that in the testimony of
18 Mr. van Gonten, that he talked about that there's
19 difference in chloride standards and levels between the
20 northwest and the southeast?

21 A. Yes.

22 Q. All right. Did the Division ever consider doing
23 two different rules, based on the geography?

24 A. No, because if I'm not mistaken, still in the
25 northwest there was a pit that had over 100,000 milligrams

1 per kilogram of chlorides that is similar, if not the same,
2 as some of the concentrations in the southeast.

3 Q. Okay, and what pit was that?

4 A. I personally don't know. I saw it up on the
5 slide presentation. Actually, I believe Commissioner
6 Bailey pointed that out and took an average of those, and
7 there was only one, and the average ended up being
8 something like 37 --

9 COMMISSIONER BAILEY: 3710.

10 THE WITNESS: Yes, and that was based --
11 including that 100,000.

12 Q. (By Ms. Foster) Okay. But in the southeast the
13 chloride levels, in terms of background, are a lot higher?

14 A. They're anywhere from 100 to 200, I believe.

15 Q. 200 milligrams per kilogram?

16 A. 100 to 200. So they are still in that hundred
17 range.

18 Q. So the -- even though, you know, the northwest is
19 primarily gas and it's coalbed methane production, and the
20 southeast is generally oil production, there was not a
21 discussion, and even though they use the term "its" in both
22 types of drilling operations, there was no discussion about
23 the OCD to have two separate rules?

24 A. No, because the concentrations that exist in the
25 southeast have been demonstrated to exist in the northwest.

1 Q. Okay. I'd like to talk about the surface owner
2 requirements that are new to the OCD, or new to this rule,
3 as it relates to pits. Okay? It is my understanding that
4 an operator shall obtain surface owner written consent when
5 looking for on-site closure, correct?

6 A. Yes.

7 Q. As well as -- This is assuming that they're
8 within the 100-mile radius, correct?

9 A. Yes.

10 Q. All right. And if they're outside of the 100-
11 mile radius, do they still need a surface owner written
12 consent?

13 A. Yes.

14 Q. And surface owners -- There is no distinction or
15 definition of surface owner in this regulation, is there?

16 A. There might be some clarification, if I'm not
17 mistaken, under closure notice, and it's actually I --
18 subsection I, paragraph (1). It identifies how you make
19 that determination of who the surface owner is. And this
20 is for closure notice, so it talks about the method and how
21 you make that determination.

22 Q. Okay, that's subsection I under which rule?

23 A. Of the proposed rule, under section 13 as
24 I.(1) --

25 Q. Section 13 --

1 A. -- under the title, Closure notice.

2 Q. I'm actually looking at section -- rule 13,
3 section F, on-site closure methods?

4 A. Yes, and this is in the closure requirements.
5 This is further past that under I, subsection I.

6 Q. G, H, I. Okay.

7 A. And if you look at paragraph (1).

8 Q. All right, but this -- the definition -- or the
9 requirements that an operator must meet as it pertains to
10 the surface owner, this does not exclude having to make
11 notification to the federal government or the State Land
12 Office?

13 A. Well, if they are the surface owner shown on the
14 county tax record, then -- and what I found is, usually
15 that's -- they are listed, State Land Office or BLM are
16 identified under the assessor's office as property owners.
17 They pay taxes on those lands.

18 Q. Right, but --

19 A. So they wouldn't be included.

20 Q. That's -- this is for the tax -- this is just for
21 the closure notice --

22 A. If you notice, the notice requirement says, The
23 operator shall notify the surface owner by certified mail.
24 And then further on it says, Evidence of the mailing of the
25 notice to address the surface owner -- to address of the

1 surface owner shown in the county tax records is
2 sufficient --

3 Q. Right.

4 A. -- so that's how that determination would be
5 made.

6 Q. That's just for the closure notice provision,
7 when you're trying to do alternate closure methods?

8 A. No, that's for any closure notice.

9 Q. That's for any closure notice --

10 A. It's under --

11 Q. -- back with the provision that requires written
12 consent?

13 A. Well, I would -- it would be assumed that the
14 same surface owner would be the one on the tax record.

15 Q. Okay. Now, are you familiar at all with the new
16 Surface Owners Protection Act?

17 A. Slightly. I think I have a copy of it here.

18 Q. All right. And the Surface Owners Protection Act
19 excludes governmental entities; are you aware of that?

20 A. That's an act -- it's separate from our proposed
21 rule.

22 Q. All right, but -- so then, the definition of
23 surface owner under this proposed rule potentially could
24 conflict with the new statute, in terms of a definition of
25 surface owner --

1 A. We're not trying to implement the Surface Owners
2 Protection Act, so I would say no, it would not. And the
3 reason I state that is because different agencies sometimes
4 will identify operator, such as solid-waste regulations by
5 the Environment Department. They have a definition for
6 operator. They also have it for their tire and recycling
7 regulations, a different definition for operator. I think
8 we have a different definition for operator than they have,
9 so I don't see where there's a conflict.

10 Q. All right, well --

11 A. It's a common practice in rulemaking.

12 Q. The surface owner's -- In order to obtain the
13 surface owner's written consent, you need to assume that
14 the surface owner has the opportunity to respond to a
15 request, correct?

16 A. State that again.

17 Q. If an operator makes a request of a surface owner
18 in writing, you must give the surface owner an opportunity
19 to actually respond, correct?

20 A. Well, we're just asking that the operator provide
21 the written consent.

22 Q. Okay, but -- Okay, but in order for an operator
23 to provide the written consent document to the OCD, there
24 has to be communication, period, between the operator and
25 the surface owner, correct?

1 A. One would assume.

2 Q. And the surface -- the Surface Owners Protection
3 Act delineates that there must be compensation offered to a
4 surface owner, correct?

5 A. I don't think it actually states, it just says
6 there has to be an agreement between both parties.

7 Q. Okay, and part of the agreement is an offer of
8 compensation?

9 A. It could be, I don't know.

10 Q. All right.

11 A. I don't think it stipulates that it has to be.

12 Q. And in order to receive -- to get written
13 consent, it is possible that there would need to be an
14 exchange of moneys, correct?

15 A. I don't know. If -- My reading of the Surface
16 Owners Protection Act doesn't require that that take place.

17 Q. Doesn't require that what take place?

18 A. That there's an exchange of money.

19 Q. Okay, but are you saying that there does not need
20 to be an offer of compensation made?

21 A. I think it's clear in its intent, because there's
22 also a bond that has to be placed. And as long as they
23 meet the requirements to re-establish the area, there may
24 not have to be any exchange of money.

25 MR. BROOKS: Mr. Chairman, I realize we have put

1 on testimony from lay witnesses construing some legal
2 provisions, but I don't believe we've put on any concerning
3 the Surface Owner Protection Act, so I would object to
4 these questions being outside the expertise of this witness
5 and beyond the scope of direct.

6 CHAIRMAN FESMIRE: Okay, I'll sustain that
7 objection.

8 Ms. Foster, go on to the next subject, please.

9 Q. (By Ms. Foster) Moving on to the next section,
10 on-site deep-trench burial, I believe -- and I want to give
11 you the opportunity to clarify this statement -- you stated
12 that you want to prevent an endless source of contamination
13 from deep-trench burials.

14 However, when you were asked about landfills, you
15 stated that you don't -- that the OCD does not have that
16 concern, that it's not physically possible. Would you like
17 to clarify that statement, please?

18 A. Yes, I guess based upon previous testimony and
19 the numbers -- If I'm not mistaken, I think the number was
20 10,000 pits at some time over -- that's been documented or
21 number that has been closed at one time on-site. That
22 would be what I was referring to as an endless source of
23 those deep-trench, because they weren't closed by our
24 proposed method. They could have been mixed, they could
25 have been unlined, they could have been -- they could have

1 just been backfilled and covered, as far as we know. So
2 those are the endless sources I'm talking about, because
3 they're not being removed, they are currently present and
4 -- still present.

5 Q. Okay. But correct me if I'm wrong. You have
6 your wastes that are in the burrito, in the deep trench,
7 correct? With the cover on it?

8 A. It's not being currently practiced now, but
9 that's what we're proposing, yes.

10 Q. Oh, okay, I thought you had stated that this is
11 commonly practiced in the southeast currently?

12 A. Well, deep-trench is a variation of that. I
13 think I clarified that we modified -- we took what is
14 currently practiced, and we modified it to make it more
15 protective.

16 Q. All right. Now --

17 A. And can I clarify -- I'd like to clarify, because
18 the current practice, is our understanding, is that some
19 parties -- they dig out a trench -- and they call this
20 deep-trench, they dig out a trench, they move the waste
21 material -- they stabilize it, they move it into the pit,
22 and they may put a geomembrane cover on top of it, but they
23 do not line the trench. And that's been expressed and
24 termed as deep-trench. Neither do they test the pit
25 contents, so there's no knowledge of the concentrations of

1 the contaminants in that.

2 Q. All right. How is it possible that a small
3 trench or pit that's on location would provide an endless
4 source of contaminants to groundwater?

5 A. Well, it --

6 Q. Is it physically possible?

7 A. I guess the question is, is how is it buried,
8 number one? If it's buried as I've just described it, it
9 would be a source of contamination, since we don't know
10 what concentrations were, and there's no indication from
11 testing or from the method applied if it actually did
12 reduce any of the contaminants present.

13 The other is the volume. It's more than just
14 one. We're talking 10,000, so --

15 Q. 10,000 -- ?

16 A. Possible pit closures that has occurred since
17 industry has been operating in New Mexico that we have
18 documentation or some number tracking --

19 Q. And those 10,000 pit closures that have occurred,
20 occurred pursuant to OCD regulations at the time, correct?

21 A. I wouldn't say pursuant to the regulations,
22 because the regulations didn't specify closure standards.
23 So there wasn't a rule in place that said you're supposed
24 to do this. So I wouldn't make that statement.

25 And that's what we're trying to clarify with our

1 new rule. We're trying to define what those standards are,
2 have some type of treatment standard that would reduce that
3 pit-content concentration and reduce the --

4 Q. Now at a landfill they are continually receiving
5 wastes from operators, correct?

6 A. Yes.

7 Q. And until the period in which they decide to
8 close, they will be receiving contaminants or waste?

9 A. Waste material, yes.

10 Q. All right. So you couldn't -- but you couldn't
11 even say, just physically, that even a landfill would
12 provide an endless source of contaminants to the
13 groundwater?

14 A. I think the difference is, is the way a landfill
15 is designed, constructed, monitored with the secondary
16 containment and leak detection as our current Rule 36
17 requires. It adds a level of protection. Same with
18 municipal landfills and their construction. It's actually
19 more stringent than a municipal landfill. So when you
20 count the number of municipal solid waste landfills within
21 the state, these are few and far between.

22 The other thing is a comparison of the current
23 and past practices of operators and the way they close
24 those pits. They have no liners, no testing, no
25 monitoring. So --

1 Q. But when you say current practices, that -- what
2 you just said does not apply to every operator?

3 A. No.

4 Q. There are operators who have monitoring and
5 liners --

6 A. I haven't heard of monitoring of any closed-pit
7 site. I have heard use of liners. But there are operators
8 who do not use those lines, so it is a current practice,
9 that would be a true statement.

10 Q. All right, but you have a different standard for
11 testing under a drying pad and temporary pit, correct?

12 A. Yes.

13 Q. Could you describe the drying pad for me?

14 A. A drying pad -- we had a photo, I think it was
15 in Mr. Price's presentation. A drying pad -- most common
16 drying pads are at grade, they're flat. They do have an
17 area -- They are lined, they do have an area where you can
18 gain access to get out onto them. With the drying pads,
19 the liquids or fluids have been removed from the solids, so
20 the consistency of the material that's placed on it is more
21 consolidated and solid than what you would find in a pit
22 that's had the free liquids removed.

23 With that there's also usually a slight sump
24 built into it to capture -- if there is anything that does
25 seep out, it captures that. They remove the liquids from

1 that. And usually, the ones I've seen, they use anchor
2 trenches, and they have built a berm around it.

3 Q. Okay, and the sump is how large?

4 A. The sumps I've seen are maybe a foot by two feet
5 deep.

6 Q. Okay, and how large are the drying pads?

7 A. The drying pads -- the drying pad I saw was --
8 I'm guessing here -- is maybe 20 by 30.

9 Q. Okay. But you're not advocating, like some of
10 the other witnesses that we heard today, to use the
11 material from the drying pad to build berms?

12 A. No, no.

13 Q. Then what would happen if you have a major rain
14 event on a drying pad?

15 A. If you had a major -- I guess the -- If you had a
16 major rain event, they would need to monitor the area. I
17 think we have operational provisions that they have to
18 monitor the sump area.

19 Q. All right.

20 A. So we have regulations that address that.

21 Q. Okay, but if you have a major rain event, the dry
22 cuttings that are sitting on your drying pad will get wet?

23 A. They will get wet. The difference is, in a
24 temporary pit there would be liquids on top of those. They
25 would not be saturated or more pliable than those in a pit,

1 meaning that in a pit, even if you pulled the free liquids
2 off and it rained, it's going to collect the water, the
3 water is going to continue to set on it. At least on the
4 drying pad it's raised up, there's going to be less
5 saturation that occurs through those materials, because
6 they have less water around to begin with.

7 Q. Okay, and you said it's raised up from the
8 ground?

9 A. Or -- They were at grade, the ones I saw were at
10 grade.

11 Q. So they're at grade. So it's a liner that's put
12 on the ground, and then the drill cuttings are put on top
13 of that?

14 A. Yes.

15 Q. And it has to be on a strong enough surface that
16 you can have a bulldozer drive across that liner repeatedly
17 so that you can drop the drill cuttings on it?

18 A. Yes.

19 Q. Okay.

20 A. And usually they push some soils out there to
21 protect the liner material.

22 Q. Okay. And where have you seen these drying pads?

23 A. It was actually at one of the sampling sites, a
24 Cimarex site that we went to, and it's part of -- was part
25 of the sampling program. I actually obtained the sample

1 from the pile.

2 Q. Okay. Now for on-site deep-trench burial, the
3 chloride requirement is the 5000 milligrams per liter --

4 A. Yes.

5 Q. -- correct? And milligrams per liter will apply
6 to fluids, correct?

7 A. It would -- It's based upon the SPLP method, the
8 leaching -- the synthetic leaching procedure. That would
9 be the concentration that has to be demonstrated from the
10 solids.

11 Q. Okay, and why is it again that you just don't put
12 it in the same standard as everywhere else in the rule, the
13 milligrams per kilogram?

14 A. It's the result of the method. It's a liquid
15 extraction, the leaching. So when you test liquids, you're
16 -- the concentrations are measured in milligrams per liter.

17 Q. But if you're going to be burying something on-
18 site for deep trench, isn't that supposed to be reasonably
19 dry? I mean, the same type of materials that you're taking
20 off of the temporary --

21 A. Once again, we're looking at the leaching of
22 solid. And I think Mr. Hansen demonstrated that in order
23 for the material to pass the paint-filter test doesn't mean
24 that it's completely dry. It still has some -- quite a
25 quantity of water. If I'm not mistaken, it was over 20-

1 percent moisture as present. So it still has the potential
2 to create leachate.

3 So with that, we're looking at what would be
4 leachable from that solid.

5 Q. When an operator is seeking surface owner
6 consent, is there a mechanism that an operator can use if a
7 surface owner refuses to give consent?

8 A. I don't understand the question.

9 Q. Pursuant to the rule, there's a couple -- there's
10 instances where you're looking for surface owner consent,
11 right?

12 A. It's written consent from the surface owner.

13 Q. Right, written consent.

14 A. And it's only in one place, yes.

15 Q. What happens if they do not give written consent?
16 Does that automatically mean that the operator has to go to
17 plan B, which is to haul everything?

18 A. Yes, because there is no exception to that
19 provision. So you could not ask for exception to that. So
20 that would be required to be considered for on-site burial,
21 or on-site closure. It's not only for deep-trench burial,
22 it's for any on-site -- it's in the general provisions of
23 on-site closure.

24 Q. All right, and I would assume that there's been
25 discussions at the OCD and the difference in cost if that

1 should happen, if an operator is seeking to do on-site
2 burial and then because he can't get surface owner consent
3 he has to haul?

4 A. There was discussions, I believe. Mr. Price
5 discussed some numbers that we talked about in the cost
6 between the two different methods, yes.

7 Q. Okay, and what happens if you have a private
8 agreement between a surface owner and the operator that
9 does not specifically address deep-trench burial, but it's
10 an agreement between the operator -- a private agreement
11 between the operator and the surface owner, and the
12 operator can do what is reasonably practical or appropriate
13 under current OCD rules?

14 A. Can you be more specific? Because what's
15 currently -- would be available would be waste removal,
16 excavation and removal.

17 Q. Okay.

18 A. So are you stating that would be what they would
19 implement?

20 A. If there's a -- if there -- What I'm asking is,
21 do you believe that if there's a private contract between
22 the two parties, that this new rule would change the
23 requirements between that -- the contract?

24 MR. BROOKS: I believe the -- again, object to
25 asking the witness to testify to a question of law.

1 CHAIRMAN FESMIRE: Sustained.

2 Q. (By Ms. Foster) Okay, let's go to my favorite
3 section, the exception section.

4 A. Okay.

5 CHAIRMAN FESMIRE: In spite of what I said about
6 not taking a break --

7 (Laughter)

8 CHAIRMAN FESMIRE: -- and the fact that
9 Commissioner Bailey is grinning from ear to ear, why don't
10 we take a 10-minute break and reconvene at 4:30?

11 Before we leave, how many people are planning to
12 make a statement this evening before we quit?

13 Okay, so we'll probably go from 4:30 to 5:00, and
14 then at five o'clock we'll go to public statements. Okay?
15 Go ahead and take a break, and come back at 4:30.

16 (Thereupon, a recess was taken at 4:20 p.m.)

17 (The following proceedings had at 4:32 p.m.)

18 CHAIRMAN FESMIRE: Let's go back on the record.
19 Again, this is a reconvening of Case Number 14,015.

20 For the record, Commissioners Bailey, Olson and
21 Fesmire are present, we therefore have a quorum.

22 We were in the middle of the cross-examination of
23 Mr. Brad Jones by attorney Karin Foster. Ms. Foster, why
24 don't you go ahead and continue?

25 Q. (By Ms. Foster) Thank you.

1 Moving on to the transitional provisions of the
2 rule, I just wanted to understand. The permanent pit -- in
3 other words, locations that are already out there and
4 permanent pits -- they must comply with the construction
5 requirements of the new rule within two years; is that
6 correct?

7 A. Well, I guess there's two things with permanent
8 pits, if I'm not mistaken, and there's two separate
9 provisions, or two separate conditions. And it's under
10 subsection C.

11 You can have a permanent pit that's permitted,
12 and you can have a permanent pit that is not permitted.

13 Q. Okay.

14 A. So it's -- Which one are you referring to?

15 Q. Well, I was talking about a registered, lined
16 permanent pit that's out on location now.

17 A. Okay, and you're referring to what -- which
18 section?

19 Q. 19.15.17.17.C.

20 A. C, okay.

21 Q. Okay? So a location that's out there right now,
22 that is currently permitted by the OCD and it's operating
23 right now, would have to adhere to these construction
24 requirements within two years?

25 A. I guess we need to start with E first, and E

1 talks about, An operator of an existing pit or below-grade
2 tank permitted on the effective date may continue to
3 operate in accordance with such permit order or subject to
4 the following provisions.

5 And (1) of subsection E states, An operator of an
6 existing lined, permitted or registered permanent pit shall
7 comply with operational and closure requirements. This
8 kind of needs to be read first to explain C.

9 C states, An operator of an existing lined,
10 permitted or registered permanent pit shall comply with the
11 construction requirements of part 17 within two years. It
12 also continues and it states that, Prior to complying with
13 the construction requirements of part 17, an operator of an
14 existing lined permitted, permanent pit shall request a
15 modification, meaning that they're permitted, so they would
16 modify their existing permit.

17 The other part of this states, An operator of an
18 existing lined, registered permanent pit -- which means
19 it's not permitted -- would have to apply to the Division
20 for a permit, because they're -- under the current
21 regulations I believe they had until September 30th of 2004
22 to become permitted, and this would mean they're currently
23 out of compliance.

24 Q. Okay. Well, in the order that this is written,
25 with C coming before E, is this not confusing or

1 duplicative, because it states that, An operator of an
2 existing lined, permitted or registered permanent pit shall
3 comply with the operational and closure requirements, but
4 then another paragraph seems to say that you must also
5 comply within the construction requirements within two
6 years?

7 A. Well, the difference is, do you meet the
8 requirements of a permanent pit under this part 17,
9 proposed 17? Meaning are you single-lined or double-lined?
10 Are you permitted or registered? Because the current
11 regulations state that if you were not permitted under Rule
12 50, then you're to close. And they have a deadline in
13 order to seek a permit.

14 So that one that's registered is already out of
15 compliance, it's already in violation of Rule 50. And in
16 Rule 50 you're required to have a double-lined, leak-
17 detection design, as we propose in this one.

18 Q. For a permanent pit?

19 A. Yes.

20 Q. Okay. I believe that you stated in your
21 testimony that there was a location that the OCD sampled in
22 the northwest that had 100,000 milligrams per kilogram in
23 chloride?

24 A. Yes, and I had -- Mr. Hansen brought that to my
25 attention. It was incorrect. I just -- from the slide --

1 I saw it from a distance, I misread it. I believe the
2 maximum concentration is 15,000 for solids, 15,000
3 milligrams per kilogram.

4 Q. Okay. Well, Mr. Chairman, I could either give
5 this witness the page from Exhibit 16 to have him review
6 this material so that he knows what he's testifying about,
7 or I --

8 A. Well, I've looked at Mr. von Gonten's Excel
9 spreadsheet for that clarification.

10 Q. Okay. Well, the information I have here on page
11 25 of Mr. van Gonten's exhibit is that the highest chloride
12 concentration in the northwest, pursuant to the OCD
13 sampling of solid and sludge pit contents is 5290.

14 A. 5290.

15 Q. Right, and then for the liquid pit contents it's
16 7810.

17 A. I saw -- From the Excel spreadsheet it was a
18 different number. Can I ask for that to be brought up to
19 show the maximum concentrations for solids?

20 Q. Okay, well, the reason that I bring it back up
21 again is because, again, it was -- this was in the light of
22 questioning as to why the OCD didn't do two separate
23 rules --

24 A. Well, it's --

25 Q. -- and I think your reasoning was that because

1 the chloride concentration in the northwest was found to
2 have been high, it would have made sense for you to do one
3 rule for the whole state?

4 A. Yes, and I'd like to clarify. I was wrong in the
5 concentration, but I guess there would be no need to create
6 a separate standard because, based upon what you just
7 presented, they would meet the chloride standards for on-
8 site disposal if they could get the 100-mile radius and the
9 surface owner's written consent.

10 The issue that you didn't bring up was, what was
11 the TPH standards for that, and what were the 3103
12 constituent concentrations of that pit? Because there's
13 more than just chlorides. Chlorides are used as an
14 indicator of a release, but they are not the only
15 constituents that are in waste material, and that's why we
16 have other constituents listed for that determination.

17 Q. But isn't it in reality that -- the fact is that
18 the levels of concentration don't really matter, it's just
19 the fact that there's concentrations in the pits that could
20 ultimately migrate to groundwater? Is that the OCD's
21 position?

22 A. I don't understand your question. You're saying
23 that the concentrations don't matter? Is that what you're
24 stating?

25 Q. Isn't that the case in terms of this rule, and

1 that's why we're doing dig-and-haul?

2 A. Well, we're not just proposing dig-and-haul. We
3 do have a deep-trench or an on-site burial standard. And
4 based upon Mr. Hansen's modeling the difference is, if you
5 don't have those standards, and if you don't use the --
6 Let's say it's the deep-trench method, put the liner and do
7 it properly, the immediate impact -- in a short amount of
8 time you're going to have something that's going to exceed
9 the groundwater standard.

10 Q. Okay. But I believe you understand that the
11 industry committee and IPA has -- well, actually the
12 industry committee has agreed that liners in all pits would
13 be something that is -- that they could live with?

14 A. I -- Liners yes. But 20-mil, no. And also,
15 based upon their recommendations, they have a method called
16 closure in place. With that I believe Dr. Stephens --
17 didn't he model or consider that option? I believe
18 Chairman Fesmire kind of brought up the scenario, if you
19 have this pit, you cut off the edges, toss them on top and
20 you backfilled it or filled it in, what concerns you would
21 have, he asked Dr. Stephens. And he talked about the
22 buildup of liquids in that pit, and if there was a release
23 from that pit it would be quicker and maybe somewhat higher
24 concentrations of those contents, because it was sitting in
25 the waste material.

1 So there's a lot of things in your question that
2 aren't being represented by the parties.

3 Q. Well, I guess my question was in response to the
4 industry committee's position pertaining to on-site burial.

5 A. Well, for on-site burial once again I'll say,
6 they propose two different methods for on-site burial. The
7 closure in place, the testing underneath, which they didn't
8 quite pull that from their deep-trench burial proposal.

9 Q. Okay.

10 A. There was no liner --

11 Q. You know, I'll just -- In the interest of time I
12 will just ask you one more question. And that is, do you
13 agree with Mr. van Gonten's statement that it is the dosage
14 that makes --

15 A. Well, that's a basic principle of toxicology. I
16 took toxicology in college. You can kill someone with
17 water if you give them enough water. So that's --

18 MS. FOSTER: I have no further questions, thank
19 you.

20 CHAIRMAN FESMIRE: Mr. Jones, why don't you go
21 ahead and finish your answer?

22 THE WITNESS: Which one? Because I didn't get to
23 finish the last two.

24 (Laughter)

25 THE WITNESS: She cut me off on the one --

1 CHAIRMAN FESMIRE: The one that you were talking
2 about toxicology.

3 THE WITNESS: I would say Mr. von Gonten's
4 statement is correct, because it's a basic principle of
5 toxicology.

6 CHAIRMAN FESMIRE: Mr. Hiser, do you have any
7 questions of this witness?

8 MR. HISER: Oh, of course.

9 CROSS-EXAMINATION

10 BY MR. HISER:

11 Q. Mr. Jones, as I look at what the rule has
12 proposed, I want to start with theoretical questions for
13 you before I start talking about the actual mechanics of
14 the rule that you've done.

15 Now would you agree with me that OCD's goal in
16 part in this rulemaking has been to make it much more
17 prescriptive than the existing rule?

18 A. Yes.

19 Q. And at the same time OCD has also proposed to
20 require a permit for virtually everything?

21 A. I would like to clarify that. We didn't propose
22 that. That was a recommendation from the task force.

23 Q. Well, the task force can propose nothing, so
24 isn't it the Division that's proposing it?

25 A. As -- In the proposed rule, yes, we are

1 proposing, except for sumps.

2 Q. So you're not proposing a permit for sumps?

3 A. Yes, I thought I made that clear in my
4 testimony --

5 Q. Okay.

6 A. -- the other day.

7 Q. Now, isn't the idea behind the permit process
8 generally that you want to use site-specific information to
9 arrive at the best result for that particular site?

10 A. Yes, and I thought that was clear by requesting
11 or requiring the submittal of an engineering design plan
12 that specifies that information be provided.

13 Q. Now normally if one has a highly prescriptive
14 system, one then doesn't also require a highly
15 individualistic review procedure in a permitting approach.
16 What made OCD decide that they wanted to have both a very
17 prescriptive system, which is usually self-implementing,
18 and also a very detailed permitting system which is very
19 case-specific?

20 A. Can you restate that, because you made an
21 assumption in your question that you're presuming I made
22 that assumption. So I just wanted to clarify.

23 Q. Okay, as I said, sort of a regulatory-theory
24 question.

25 A. Okay.

1 Q. And the question -- and let me, with the
2 indulgence of the Chair, just to make this go a little bit
3 faster, the question I'm really getting at is that many
4 times when there's a very prescriptive system it becomes
5 self-implementing. An example might be the RCRA hazardous
6 waste generator requirements where as long as you fit, you
7 know, the appropriate things in a little box, you can do
8 ahead and do with your hazardous waste what you will, and
9 there's no permit or individual analysis that's really
10 required from the agency, you just sort of do it.

11 A. I would beg to differ. I've worked in solid
12 waste, I've worked with hazardous wastes, and there's
13 always testing that's required. There's also permitting
14 for storage and consideration if a permit is required.

15 Q. I'm just talking about the generator
16 requirements, and for that -- and I said that there's
17 testing. The testing is part of the prescriptive system,
18 is it not? You test the waste to determine whether it
19 meets the requirements under the TCLP to be characteristic
20 and then you handle it in certain ways, all of which is
21 laid out in the regulations?

22 A. To some extent, yes.

23 Q. Okay. And then you also have systems where you
24 don't have as much prescription but you have a case-by-case
25 permitting universe that you go through in order to develop

1 an appropriate permit for a major core facility?

2 A. I think that's considered if you're -- especially
3 if you're asking a waiver or exception.

4 Q. Okay. And my question to you is, why did the
5 Division as they were looking at this universe of pits --
6 and now I'm talking particularly about drilling pits, but
7 to some extent about the other equipment as well -- why did
8 you feel it was necessary to have both a very prescriptive
9 system and also require a permit for everything at the same
10 time?

11 A. Well, I don't quite understand because with
12 hazardous waste -- for a hazardous waste storage site, most
13 of those are permitted. It's based on the volume and the
14 number of days, if you need a permit or not, and those
15 things have to be considered and assessed to make that
16 determination by the agency.

17 For solid waste, all of it is permitted except
18 for maybe a convenient center based on the volume and the
19 time that it remains there, and if they exceed that then
20 they follow up under the permit requirements.

21 So I'm kind of confused in your question, because
22 most of the regulations that I have been involved in,
23 either implementation or enforcement or whatever, require
24 some form of a permit. I have yet to be involved in one
25 that -- I mean, even under the current rule it states you

1 need a permit for a below-grade tank or a pit, unless
2 otherwise specified, but it does require a permit.

3 So I don't quite understand your question, your
4 line of questioning, because they currently exist in the
5 current rule.

6 Q. Okay, and that's fair. Is it not true that
7 because of the very prescriptive nature of the regulations
8 that in addition to obtaining the permit from the district,
9 in many cases it will also be necessary to obtain a super
10 permit or exception from the Santa Fe bureau?

11 A. I don't know what you mean by super exception.

12 Q. In other words, in many cases you have stated
13 that these are the criteria that we plan to meet, but that
14 if you want to deviate from any of these many
15 prescriptions, you have to do that by an exception
16 procedure, exceptions are not handled at the district
17 office but have to be brought to the Environmental Bureau
18 in the Santa Fe office; is that --

19 A. I think what I made clear is that the rule is
20 written in a form that allows the district office to make
21 administrative approval without exception.

22 Q. Of about four things --

23 A. There are --

24 Q. -- that are specifically called out in the rule
25 itself.

1 A. I think there's more than four, because -- if you
2 pertain to siting requirements there may be four, but there
3 are some operational things --

4 Q. Okay --

5 A. -- that are included.

6 Q. -- but there's a set universe of things which
7 you're allowing the district offices to do?

8 A. Yes.

9 Q. And everything else, your intention is to
10 transfer that to the Santa Fe Environmental Bureau to make
11 those decisions?

12 A. Yes, and it was based upon comments from industry
13 about the Division not being consistent. So we felt like
14 by having one central office -- I testified about this last
15 week --

16 Q. Uh-huh.

17 A. -- that by having one central office such as the
18 Santa Fe office make those consideration, there should be
19 some consistency.

20 Q. And you talked before that in terms of
21 administration of the provision that we should look to the
22 office that issues the permit. So if an exception is
23 required, does that transfer everything, then, from the
24 district to the Bureau?

25 A. No, only the exception.

1 Q. Only the exceptions. So --

2 A. Yes.

3 Q. -- at that point, then, we would be going part of
4 the time to the district office and part of the time to the
5 Environmental Bureau in Santa Fe?

6 A. Well, if you were asking for exceptions, more
7 than likely it will be on one provision. The likelihood of
8 asking for multiple -- 20 exceptions to the rule, there
9 would have to be a lot of consideration to that. It would
10 be up to the operator to choose if they pursue those and
11 the difficulty with demonstrating those.

12 Q. Correct.

13 A. So it would be only the exception that would be
14 considered. They could be working with the district office
15 to get the rest of the permit application in place.

16 Q. So are you saying, then, that as a general rule
17 construction and -- I'm a compliance guy, and so what I'm
18 interested in mostly now is, with the rule as you've
19 proposed it, how do we comply with it on an ongoing basis?
20 So is what I'm hearing that you're telling me is that for a
21 temporary pit we would continue to look primarily at the
22 district office for --

23 A. Anything --

24 Q. -- all those approvals?

25 A. Anything not subject to exception.

1 Q. But for an exception we would come back to the
2 Santa Fe Bureau?

3 A. You could be applying -- it would depend on what
4 -- Well, let's put it this way. If you're looking at an
5 exception to the siting criteria --

6 Q. Okay.

7 A. -- and in that you're looking for two things,
8 placement of a temporary pit and the disposal of the waste
9 on site, and you want to challenge the siting criteria, the
10 50-foot-to-groundwater criteria, they may impact certain
11 aspects of your permit. But the design and construction of
12 your pit, it would not impact that. The operational
13 requirements would not impact that.

14 Your closure portions of that, it would, and it's
15 only siting. So the rest of it you can present to them, as
16 long as you meet the 100-mile radius and have a landowner
17 -- or surface owners are in consent. So there are things
18 you can move forward with while the exception is being
19 considered by Santa Fe.

20 Q. Okay, but we wouldn't be able to actually obtain
21 our permit until both the district and the Environmental
22 Bureau in Santa Fe had completed their consideration?

23 A. Yes, because if your proposal is on-site closure
24 and you want to place your temporary pit at a different
25 distance, if that is your only proposal, then if Santa Fe

1 -- if the exception was not considered, you say you want to
2 pit it 10 feet from groundwater and Santa Fe denied that,
3 if that was the basis of your permit then really all you
4 would need to do is modify that.

5 Q. Okay. And how are we to track who's on first --

6 A. Well, since --

7 Q. -- between the district and the Bureau?

8 A. I guess we're looking at the exceptions being
9 limited upon request so it would be easier to process while
10 the district office works on the rest of it. So...

11 Q. So we would be pursuing parallel tracks, then,
12 with you? Or we would apply separately to the Bureau and
13 separately to the district?

14 A. Well, the regulation clearly states if you're
15 pursuing an exception you file with Santa Fe.

16 Q. Okay. And by that -- that's actually a better
17 way of phrasing the question than I had come up with. So
18 the actual question is, if the permit includes an exception
19 then does the whole permit start in Santa Fe, or only
20 the --

21 A. It would be up to the operator to decide -- if
22 it's something like I said the siting criteria, you say you
23 want to be within 10 feet instead of 50 feet to
24 groundwater, it would probably be advisable to address
25 Santa Fe, because once you get that resolved you can

1 determine what you need to do with the rest of your
2 application. I mean, that would be an operator's call, but
3 it would be smart to resolve that issue up front.

4 Q. Okay. Now in a number of cases throughout these
5 regulations you made a comment that a condition was found,
6 for example, in the design and construction specifications,
7 that the Division has then also proposed a parallel
8 provision in, for example, the operational requirements.
9 Do you remember that discussion?

10 A. It's -- It's probably surface run-on, runoff --

11 Q. Things like surface water run-on --

12 A. -- berm water runoff

13 Q. -- and runoff there?

14 A. Yes, because you have to construct those
15 features. So under the construction part we address that.

16 For operation, if those -- what the operation
17 requirements do is, if those features fail, it gives the
18 Division an opportunity to come in and get the operator to
19 do something else than what they had originally done.

20 Q. So it then the Division's plan to seek double
21 penalties, one for the violation of the operational
22 standard and another for a violation of the construction
23 and design standard?

24 A. I didn't state that. What I did state is that --
25 You can look at it this way: If they were approved in

1 their permit to do those features as they had proposed to
2 them, that would mean that they were in violation of their
3 permit. But since their permit was approved, they wouldn't
4 be, because they were approved to implement those measures.

5 What I don't count on, because I've done
6 enforcement before -- it's easier to go out there and tell
7 someone to do something else or to correct it, especially
8 if it's an operation.

9 Now would something be written up to document
10 that? I would hope, absolutely, that they would have some
11 sort of documentation, because if they went out a week
12 later and nothing had been done, then it might require some
13 type of, you know, enforcement with a fine.

14 Q. But it's your testimony today that the Division
15 is not planning to seek double enforcement, once on the
16 construction and design grounds --

17 A. I don't see --

18 Q. -- and once on the operation --

19 A. -- how you could bind someone that -- on the
20 basis of something that's allowed in their permit.

21 Q. Thank you. What I'd like to do now is to sort of
22 start at the front of the regulation as you've proposed it
23 and work our way through the proposal from start to finish.
24 I think that would probably be easiest for everyone.

25 And my first question has to do with section 7.7,

1 which is the definitions. And my question to you is, under
2 the definition of permanent pit, that appears to me to
3 include stormwater control facilities, and I'm wondering if
4 it's really the Division's intent to require a permit for a
5 stormwater control facility.

6 A. Are you talking about a --

7 Q. If you look at -- I believe the definition of
8 permanent pit is E, which means a pit, including a pit used
9 for the collection, retention or storage of produced water
10 or brine that is constructed with the conditions and for
11 the duration provided in its permit and is not a temporary
12 pit.

13 A. So is your question -- If I understand it, your
14 concern is facilities that are permitted under the WQCC
15 regulations; is that correct?

16 Q. I'm concerned if I'm going to install a
17 stormwater diversion channel and if I'm concerned about
18 sediment erosion and my landowner who doesn't want to have
19 that, and so I put in a sedimentation basin or retention
20 pond in order to address that situation and that -- do I
21 have to obtain a permit under Rule 50, as you're proposing?

22 A. Well, I guess the question would be, in order for
23 that water to be diverted to those features, you would
24 still have to have a diversion measure in place, which the
25 rules require. So those measures would be issued -- or

1 regulated under this permit.

2 Q. Okay. And so I don't see that your rule
3 contemplates what I would call facility permitting, and so
4 to me -- Would I have to file for one permit, one for my
5 actual drilling pit, and one for my stormwater pit in that
6 case?

7 A. These regulations only address those permit
8 activities as covered under this rule. Once again I'll
9 state, the diversion measures to divert that water is a
10 different issue.

11 Q. Well, Mr. --

12 A. I mean, they pertain up under this. Now the pond
13 itself, if it's not incorporated in this process to be
14 permitted, it would not be considered -- it's not used
15 as --

16 I guess we should go back to the objective of the
17 regulation and the scope. The scope states that part 17
18 applies to persons engaging in oil and gas development and
19 production in New Mexico.

20 Q. Right, but if you look at the objective under 6,
21 it says that the regulated pits, closed-loop systems,
22 below-grade tanks and sumps used in connection with --

23 A. In connection with --

24 Q. -- oil and gas operations.

25 A. -- for the protection of public health, welfare,

1 yes.

2 Q. And I would --

3 A. So it's in connection with the operations.

4 Q. And so I would argue that that brings my
5 stormwater pit within the ambit of your regulation,
6 particularly if you look at the definition of pit under
7 19.15.1.7, or whatever the definition section is.

8 A. So -- So I guess what you're stating is that you
9 plan to use your stormwater pit for the collection,
10 retention and storage of produced water or brine? Is that
11 what you're stating?

12 Q. Well, no, because --

13 A. Because that's in the definition.

14 Q. That is in the definition. And is it the
15 Division's position, then, that only production of produced
16 water and brine is included within a permanent pit?

17 A. That's what the definition states.

18 Q. Or is the definition meant to be the negative of
19 the temporary pit, which means a pit including a drilling
20 or workover pit which is constructed with the intent that
21 the pit will hold liquids?

22 A. Well it says, And is not a temporary pit. So
23 it's both. It has to be both. It's not or, it's both.

24 Q. So I can have a permanent pit that doesn't
25 require a permit if it's going to only contain stormwater,

1 under your interpretation of the regulation the Division is
2 proposing?

3 A. Yes. It would probably follow up under federal
4 regulations for an MPDS permit, though.

5 Q. Okay, but your interpretation, speaking for the
6 Division today, is that you would not require a pit -- or a
7 permit for a permanent pit that would do stormwater,
8 although you might for a temporary pit?

9 A. I'm sorry, ask that again. That wasn't clear.

10 Q. So your testimony today is that you would not
11 require a pit -- a permit under Rule 50 for a permanent
12 stormwater pit if I was using it for stormwater control?

13 A. If it doesn't meet the definition of a permanent
14 pit in its intent.

15 Q. Okay. But if I put in a temporary stormwater
16 pit, then I would have to get a permit under --

17 A. I didn't make that statement. We were discussing
18 permanent pits. You just added the topic of --

19 Q. Okay, well --

20 A. -- temporary pits --

21 Q. -- I'll go ahead and I'll --

22 A. -- and you didn't discuss that, we didn't discuss
23 that in detail. We were discussing the definition for
24 permanent pits --

25 Q. Okay.

1 A. -- not temporary pits.

2 Q. Okay, well now I'll ask you the same question for
3 a temporary pit. What is your opinion on whether or not I
4 would need to obtain a permit for a temporary stormwater
5 pit, for example, during construction clearing, at a --

6 A. Well, I guess my question would be, would that
7 temporary pit be a drilling or workover pit?

8 Q. Well, I guess -- if I read the definition, it
9 says a pit, including a drilling or workover pit, which is
10 constructed with the intent that it will hold liquids for
11 less than six months and will be closed in less than one
12 year.

13 Now is your interpretation, by including a
14 drilling or workover pit, that including is limited to only
15 the items that are -- follow it?

16 A. Well, I guess, you know, there could be other
17 types of pits used in the production of oil and gas,
18 especially in the storage of any type of waste material,
19 that we would permit under that. I don't know what they
20 are offhand, but based on the definition of part 1 of what
21 a pit is -- and we could go to that, and it is in part 1,
22 section 7 -- we might as well just start with what's a pit
23 and then --

24 Q. That would be great --

25 A. -- go from there --

1 Q. -- if you would --

2 A. -- and maybe that will shed some light on this.

3 CHAIRMAN FESMIRE: Mr. Hiser, would you mind if
4 we started there in the morning?

5 MR. HISER: That would be fine with me, Mr.
6 Chairman.

7 CHAIRMAN FESMIRE: Okay. There were several
8 people that indicated that they would like to make a
9 statement on the record.

10 Before we start, we have two kinds of statement
11 on the record. The first is the statement of position, the
12 second is a sworn -- is sworn testimony. If you decide to
13 make sworn testimony, you are subject to cross-examination
14 by the parties in this case. But other than that, we have
15 very few restrictions. It just has to be pertinent and
16 non-repetitive. So -- Oh, yes, and we would ask that folks
17 not applaud or boo or anything else when statements are
18 made.

19 Who would like to make the first statement?

20 Why don't you come forward, sir? We ask that you
21 start with your name. Would you like to be sworn?

22 MR. THOMPSON: Yes, please.

23 CHAIRMAN FESMIRE: Would you raise your right
24 hand?

25 (Thereupon, the witness was sworn.)

1 CHAIRMAN FESMIRE: And like I said, just start
2 with your name.

3 PAUL THOMPSON,
4 the witness herein, after having been first duly sworn upon
5 his oath, testified as follows:

6 DIRECT TESTIMONY

7 BY MR. THOMPSON:

8 MR. THOMPSON: My name is Paul Thompson, and I'm
9 a small, very small, producer and a consulting engineer
10 from Farmington, New Mexico. And unlike most of the people
11 in this room, I have 25 years of on-location experience
12 with drilling and reserve pits, while I supervise the
13 drilling of hundreds of wells throughout the San Juan
14 Basin.

15 I would like to limit my comments today to
16 drilling pits and drilling pits specifically in the San
17 Juan Basin only, since that's where all of my experience
18 lies.

19 I'd like to make two points during my testimony
20 today.

21 The first is, I know what goes into a reserve pit
22 in San Juan Basin, and there should be no cause for
23 concern.

24 The second is that the proposed rules will
25 effectively eliminate additional drilling in the more

1 marginally economic areas of the Basin, which is contrary
2 to the NMOCD mission of preventing waste and protecting
3 correlative rights.

4 The material in a drilling reserve pit, usually
5 referred to as mud, consists of three main components:
6 drill cuttings, water and mud additives.

7 As you know, the San Juan Basin can be described
8 as a set of stacked mixing bowls, where every smaller bowl
9 or every different-size bowl represents a different
10 formation. The top edge of each bowl or each formation
11 actually outcrops or is on the surface along the edges of
12 the San Juan Basin. As you take the short drive from
13 Farmington to Shiprock you actually drive through, on the
14 surface, all the formations that we produce in the San Juan
15 Basin.

16 I have never heard of any land described between
17 Farmington and Shiprock as being toxic. I think since the
18 drill cuttings are part of the natural environment, I think
19 we can eliminate drill cuttings as a source for any
20 pollution.

21 Most of the wells drilled in the San Juan Basin
22 use surface waters as the component in the circulating
23 system, surface waters that either come from the lakes, the
24 rivers or from municipal water supply. Again, since this
25 is the same water that flows through the San Juan Basin,

1 it's hard to imagine how this water can adversely impact
2 the few underground freshwater sources in the Basin.

3 That leaves mud additives. Additives are added
4 to the water for various reasons, but primarily to increase
5 the viscosity of the fluid to help lift the drill cuttings
6 out of the wellbore. And I'm actually only aware of maybe
7 a dozen chemicals at the most that we use as mud additives
8 in the San Juan Basin.

9 I'm not sure of the 170 different chemicals that
10 were included. Again, I'm only speaking of drilling
11 reserve pits in the San Juan Basin.

12 But the most common additive is bentonite, which
13 is a natural clay mined in Wyoming, or a synthetic polymer
14 called guar-gel. The polymer, again, is something that's
15 used as a food additive, so it doesn't have any hazardous
16 properties. And the bentonite, of course, is just mined
17 from the surface, it's a natural element. Before pits were
18 lined, bentonite was a very -- did a very good job of
19 lining the bottom of these reserve pits.

20 A list of the material safety data sheets that we
21 use for the components in our drilling were supplied with
22 the Walsh Engineering comments that were previously
23 supplied to the Commission. Aside from the dust hazard to
24 the men who are actually mixing the mud, these additives
25 are fairly benign.

1 Therefore, since the drill cuttings and water are
2 naturally present and have always been naturally present in
3 the San Juan Basin, long before there was oil and gas
4 activities, it seems intuitive to me that the material in
5 drilling reserve pits poses no environmental threat and
6 should be buried on site. In fact, from a remediation
7 standpoint I think it would be better if the drilling pits
8 were not plastic-lined.

9 Small producers in New Mexico do not set the
10 price at which we sell our gas, which I'm sure is not news
11 to you all. We receive the price of gas dictated by the
12 national gas market, which takes into account the supply
13 and demand and pipeline availability for the consuming
14 regions of the country.

15 Since natural gas is a commodity, our gas is the
16 same as Wyoming gas or Oklahoma gas. We are not able to
17 pass on any increased costs for drilling, production,
18 transportation or regulation to the price of our product.

19 During the past two years, the price of natural
20 gas at the well head has stabilized around six dollars,
21 while the cost for drilling the same years has nearly
22 doubled. Therefore, the profit margin for drilling new
23 reserves in the more marginal parts of the San Juan Basin
24 has shrunk significantly. This explains the lower drilling
25 activity in the San Juan Basin in 2007 versus 2006.

1 Unfortunately for me and for most of my small
2 independent clients, we own the leases in the more marginal
3 parts of the Basin. If these proposed pit rules go into
4 effect, most if not all of our proposed drilling projects
5 will become uneconomic ventures. It won't be a matter of
6 not making as much money, it will be a case of not drilling
7 at all. These proposed regulations will, in effect, be
8 taking property from my clients without just compensation
9 and will result in a considerable amount of clean-burning
10 natural gas being left in the ground.

11 It appears to me that the proposed pit rule is
12 diametrically opposed to the NMOCD's mission relating to
13 the conservation of oil and gas, the prevention of waste
14 and the protection of correlative rights. I encourage you
15 not to pass these unnecessary and excessive regulations.

16 CHAIRMAN FESMIRE: Thank you, Mr. Thompson.

17 Is there any question from the attorneys?

18 MR. BROOKS: Just one from us, Mr. Chairman.

19 CHAIRMAN FESMIRE: From the OCD?

20 MR. BROOKS: From the OCD, yes.

21 EXAMINATION

22 BY MR. BROOKS:

23 Q. I'm sorry, I forgot your name.

24 A. Paul Thompson.

25 Q. Mr. Thompson. You mentioned gas being left in

1 the ground. This would be left in the ground because at
2 present prices and present costs, in your opinion, with the
3 added regulatory burden it wouldn't be economic to produce,
4 correct?

5 A. That's correct.

6 Q. And -- But at some future time, if the price went
7 to a higher level, it might be economic even with the
8 additional waste disposal costs, correct?

9 A. It might be, yes.

10 Q. So it wouldn't be permanently left in the ground
11 if you assume the price is going to continue to rise?

12 A. If you assume the price is going to go up, then
13 it's possible.

14 MR. BROOKS: That's all.

15 CHAIRMAN FESMIRE: Mr. Hiser, any questions?

16 EXAMINATION

17 BY MR. HISER:

18 Q. With regard to what Mr. Brooks just said, are
19 there any reservoir effects, where if you stop production
20 on a reservoir you can't recover it in the future?

21 A. You're probably getting out of my range of
22 expertise, I'm sorry.

23 MR. HISER: Okay, thank you.

24 CHAIRMAN FESMIRE: Mr. Carr?

25 EXAMINATION

1 BY MR. CARR:

2 Q. Mr. Thompson, if you shut these gas wells in or
3 don't drill them, is there -- is there existing
4 infrastructure available to you to move gas if you drill it
5 now?

6 A. There is, yes.

7 Q. And if you defer drilling for an extended period
8 of time, is it possible that infrastructure might not still
9 be there?

10 A. What happens when you're, you know, a small
11 producer, where you don't drill wells continually through
12 the year, is that you're at the last end of a drilling-rig
13 contract. So what happens is, when the price of gas goes
14 up, everybody wants to drill their wells, and the small
15 independent producer has to wait in line to get a rig.
16 Therefore, you know, we would be -- That's just how the
17 food chain works.

18 Q. Your testimony was that if the rules were enacted
19 or adopted, that it was your opinion that certain wells
20 wouldn't be drilled; is that what I heard you say?

21 A. I have had clients already tell me that, yes,
22 sir.

23 Q. And if the price of gas doesn't go up to some
24 level to support new development at a later date, those
25 reserves might never be produced; is that fair to say?

1 A. That's correct, yes.

2 Q. Thank you.

3 CHAIRMAN FESMIRE: Ms. Foster?

4 MS. FOSTER: No questions, thank you.

5 CHAIRMAN FESMIRE: I'm sorry, I didn't hear you.

6 (Laughter)

7 MS. FOSTER: No questions.

8 CHAIRMAN FESMIRE: Dr. Neeper?

9 DR. NEEPER: Just one question.

10 EXAMINATION

11 BY DR. NEEPER:

12 Q. You have described the pit contents as mainly
13 bentonite and polymer and drill cuttings, which are fairly
14 benign substances. Are caustic substances such as calcium
15 oxides, or even hydroxide or similar caustic agents added to
16 the mud?

17 A. Yes, we do add sodium hydroxide to raise the pH
18 at times. We also add lime at times to flocculate drill
19 cuttings and raise the pH. However, these are chemicals
20 that you add to your swimming pool too.

21 Q. Is the pH level in the pits at a harmful level,
22 or is it more like the level in your swimming pool?

23 A. It's like 8.

24 Q. And do you take that from the measurements?

25 A. Yeah, we do mud-checks daily, yes.

1 DR. NEEPER: Thank you.

2 CHAIRMAN FESMIRE: Mr. Jansen?

3 MR. JANTZ: No questions.

4 CHAIRMAN FESMIRE: Commissioner Bailey?

5 COMMISSIONER BAILEY: No questions.

6 COMMISSIONER OLSON: No questions.

7 EXAMINATION

8 BY CHAIRMAN FESMIRE:

9 Q. Mr. Thompson, on the question of the price of gas
10 and the future price of gas, you're aware that the price of
11 oil has gone up recently, haven't you?

12 A. Yes.

13 Q. Over that same two-year period, right?

14 A. Yes.

15 Q. Okay. You don't happen to know on a BTU basis
16 what the price of gas today would be if it were the same as
17 oil, do you?

18 A. What the price of gas would be if it's the same
19 as oil? Well, if they use the 6-to-1 ratio, you know,
20 you're looking at what? Fifteen dollars?

21 Q. Okay. So if oil stays where it is or, you know,
22 doesn't come down drastically, can we expect the price of
23 gas to go up in the relatively near future?

24 A. I don't believe so. Again, we're probably
25 outside my area of expertise, but there are very few

1 markets where gas and oil actually compete for the same
2 market anymore. You know, the BTU spread is more of a
3 marketing ploy or a -- you know, a measurement.

4 But the fact of the matter is, you know, your gas
5 probably is natural gas. You can't convert to fuel oil
6 very quickly, nor can someone in the northeast that's using
7 fuel oil convert to natural gas very quickly. So basically
8 we've already eliminated most of our manufacturing that
9 uses gas and oil, that can switch back and forth. So if
10 you're a pharmaceutical company and you're using natural
11 gas, you have to continue to use the same.

12 Q. Okay.

13 A. So again, I think that, no, the gas market in the
14 United States is basically a domestic market because
15 there's not that much imports of natural gas. It's limited
16 by pipeline capacity, and it serves a different market than
17 oil. So I think they're two different things.

18 Q. Are you familiar with carbon sequestration and
19 coal and the effects that the pending rules in carbon
20 sequestration might do to the costs of coal generation and
21 the electric business?

22 A. No.

23 CHAIRMAN FESMIRE: Okay, I have no further
24 questions. Any redirect of this witness? Would it be a
25 redirect?

1 (Laughter)

2 CHAIRMAN FESMIRE: Mr. Thompson, thank you very
3 much. Who else would be interested in doing a -- Sir, do
4 you want to be sworn, or do you want to --

5 MR. MATTHEWS: I'd like to be sworn in.

6 CHAIRMAN FESMIRE: Okay, would you please raise
7 your right hand?

8 (Thereupon, the witness was sworn.)

9 CHAIRMAN FESMIRE: And please start with your
10 name, sir.

11 BUTCH MATTHEWS,

12 the witness herein, after having been first duly sworn upon
13 his oath, testified as follows:

14 DIRECT TESTIMONY

15 BY MR. MATTHEWS:

16 MR. MATTHEWS: My name is Butch Matthews. I own
17 M&R Trucking out of Farmington. I've been in this business
18 for -- let's see, since 1980 in the trucking industry.

19 One of the things I think everybody is
20 overlooking is the job impact here. Forty percent of our
21 business in San Juan Basin is around the drilling site.
22 These jobs, these drivers, are \$60,000, \$70,000-a-year
23 employees. If we impose these laws, or this rulemaking,
24 we're taking away the jobs from the state.

25 All our supplies -- I am a New Mexican, I'm very

1 proud of my state, I'm very proud of my industry. I think
2 we've come a long ways. If you drive on our existing
3 locations now, our operators have a lot of pride in what
4 they do and how they handle their business and what they
5 expect of us as vendors for them.

6 If you walk in the retail market -- this is one
7 of the things I'll compare to, day in, day out. If we walk
8 around the retail markets in the different towns within the
9 state, if you go through their parking lots you'll find oil
10 spots everywhere. You'll not find them on our locations.
11 I mean, we did a good job about our environmental health.

12 My company of 170 employees, we have two full-
13 time environmental health and safety people on staff, plus
14 their support staff. We take a lot of pride in the jobs we
15 do.

16 When they're talking about the economic downturn
17 of the industry, we see it coming.

18 My start off in the business was a drilling-mud
19 engineer. The muds and the chemicals that we've used at
20 the time and what we're using now are -- I think are very
21 safe. I have not experienced any personal effects with any
22 of my employees over contamination. We haul it all the
23 time, we're around it all the time.

24 And I think we ought to think about the employees
25 of the state. These are New Mexican jobs. You know, all

1 our stuff we buy -- I'm very proud of my state, so I buy
2 locally. I buy my trucks from a local dealer, I buy my
3 tires from a local tire dealer, I buy my parts from a local
4 dealer, I buy my fuel from a local dealer, I buy my pickups
5 from a local dealer. I put into New Mexico.

6 My employees in turn buy their homes here, shop
7 here, live here. We're taking away from them. The end
8 result is them, that's what we're supposed to be all about.
9 That's all I have to say.

10 CHAIRMAN FESMIRE: Thank you, Mr. Matthews.

11 Are there any questions of this witness?

12 MR. BROOKS: Yes, Mr. Chairman, with the
13 Commission's permission.

14 EXAMINATION

15 BY MR. BROOKS:

16 Q. Mr. Matthews, does your company -- would your
17 company -- your trucking company, would they do waste
18 hauling?

19 A. Well if we're not doing no drilling we won't.

20 Q. But that is within the purview of your business,
21 correct?

22 A. Okay, let me go back to something. You're
23 calling it a waste, okay? So the Department of
24 Transportation gets to get their hand in the deal.

25 Q. Yes, sir.

1 Q. How are you going to clarify the waste? What are
2 we going to clarify to haul it with? What are the rules
3 with it? Is it -- you're going to call it -- you're
4 calling it hazardous, you're calling it something we have
5 to deal with, so how are we going to clarify it?

6 Q. We're not calling it hazardous waste. You
7 understand that, don't you?

8 A. Okay, well, why are we disposing of it off-site
9 if it's not hazardous?

10 Q. Well, perhaps I'm being --

11 A. I'm not sure where you're --

12 Q. -- perhaps I'm going beyond your expertise
13 here --

14 A. Okay.

15 Q. -- because hazardous waste is a legal term, but
16 I'm just trying to clarify if your company is -- if that is
17 within the purview of your business, hauling waste,
18 oilfield waste?

19 A. No, sir. I do haul produced water.

20 MR. BROOKS: Okay, I guess that's all my
21 questions.

22 CHAIRMAN FESMIRE: Ms. Foster?

23 EXAMINATION

24 BY MS. FOSTER:

25 Q. Mr. Matthews, you stated that you have 170

1 employees in your company?

2 A. Yes, ma'am.

3 Q. And not all those folks are truckers?

4 A. No, ma'am, they're not.

5 Q. And have you had conversations with your clients
6 on the impact of this rule?

7 A. Yes, ma'am, I have.

8 Q. And could you relate for the Commission what the
9 substance of those conversations was?

10 A. Due to the economic factor, the drilling would
11 stop. Economics will slow down our drilling.

12 Q. Okay, the economics will slow down your drilling.
13 Would they give you any sort of a percentage?

14 A. Well, right now -- no, not a particular
15 percentage, but it would be very slim, the amount of
16 drilling that we are currently seeing, okay, in these jobs.
17 And this money would be spent somewhere else, another
18 state.

19 Q. Now based on the conversations that you've had
20 with your clients, are you going to readjust your
21 operational structure at all in the near future?

22 A. Well, first of all, I built all my business in
23 the State of New Mexico. Okay? I know it well, I know the
24 industry well, I know my clients well. So would I go
25 somewhere else? May have to. But what's going to be up

1 there to compete with before we get there? Am I going to
2 be able to move my employees that I have, that's been with
3 me -- you know, employee's that been with 20-plus years
4 from the time of start?

5 Our turnover rate is fairly small, we've built a
6 very strong company. So it's like what do you do? I'm not
7 sure, I don't have that answer yet.

8 Q. So a layoff of employees is not a consideration
9 for your company?

10 A. It would be a layoff.

11 Q. And could you give us a percentage of what you
12 think you might have to lay off?

13 A. Well, with the drilling side of our business
14 being 40 percent, I would presume that we'd probably lay
15 off 30 percent.

16 MS. FOSTER: Thank you, no further questions?

17 CHAIRMAN FESMIRE: Commissioner Bailey?

18 COMMISSIONER BAILEY: I don't have any questions.

19 CHAIRMAN FESMIRE: Commissioner Olson?

20 COMMISSIONER OLSON: No questions.

21 DR. BARTLIT: I had a question.

22 CHAIRMAN FESMIRE: Dr. Bartlit?

23 EXAMINATION

24 BY DR. BARTLIT:

25 Q. I have one question. Mr. Matthews, have you been

1 present when there's been testimony and cross-examination
2 regarding that testimony about the problems due to
3 increased truck traffic and accidents on the highway due to
4 increased truck traffic if these rules pass?

5 A. That is one thing we're involved with. No, I
6 have not been present at any other testimony, okay? But
7 it's one thing we deal with every day, is landowner
8 complaints about truck traffic, highway usage.

9 One thing you can do is -- I'm very proud of our
10 company -- is, we're all regulated by the federal
11 Department of Transportation.

12 If you go up and look up on their website and you
13 look at the DOT number, you'll find out that we're one of
14 the top trucking companies in the nation, as far as safety
15 concerns.

16 Q. I'm specifically talking, though, about increased
17 truck traffic --

18 A. Increased truck traffic will --

19 Q. -- mileage driven because these regulations were
20 passed.

21 A. You would create a lot of problems. Yes, sir,
22 you would.

23 EXAMINATION

24 BY CHAIRMAN FESMIRE:

25 Q. Mr. Matthews, that leads me to an internal

1 inconsistency here. We should not pass this rule for --
2 among other reasons, because it will result in the layoff
3 of truckers and decrease trucking. Yet one of the
4 arguments against the rule is that it will increase
5 trucking -- truck traffic. I guess I don't understand
6 that.

7 A. Well, my understanding is, we won't be doing any
8 drilling.

9 Q. But doesn't that solve the problem of increased
10 trucking --

11 A. Well, that solves the problem, because we won't
12 be trucking anything then.

13 Q. Okay, so -- I guess this is just an internal
14 inconsistency, I don't know how to overcome it, but it
15 seems like a self-correcting problem if that's the
16 argument.

17 If the argument is, you know, we're going to have
18 more trucks on the road and that that's an evil, isn't this
19 correcting that evil?

20 And I'm not saying that I see it as an evil, but
21 do you see my problem there?

22 A. Well, maybe I don't understand your question. My
23 understanding is, if there's no drilling we're not going to
24 be moving equipment and doing the supply-chain stuff that
25 we're doing.

1 So that would create layoffs. Okay? If there's
2 no drilling, there's no waste to haul.

3 Q. Right, but I don't think I'm making myself clear,
4 then.

5 If increased truck traffic is an evil, this is a
6 solution to that evil.

7 And I'm not saying that that's -- you know, that
8 that should be considered, but it seems to me like if the
9 argument is that we shouldn't have as many trucks on the
10 road, then that is not a negative to the argument that
11 we're making here.

12 A. Okay, are we going to haul them to a central
13 site, or are we going to bury on-site?

14 Q. Well, that's -- you know, that's one of the
15 options that we're looking at.

16 A. Okay.

17 Q. But I guess I didn't make myself clear enough.

18 A. I've got a thick head, it's not going through.

19 CHAIRMAN FESMIRE: Okay, thank you very much.

20 Are there any other questions of this witness?

21 Okay, thank you very much, Mr. Matthews.

22 Why don't you come forward, sir?

23 MR. WIELAND: Thank you.

24 CHAIRMAN FESMIRE: Do you want to be sworn, or do
25 you want to just make a statement?

1 MR. WIELAND: I'd like to be sworn, please.

2 CHAIRMAN FESMIRE: Okay.

3 BARRY WIELAND,

4 the witness herein, after having been first duly sworn upon
5 his oath, testified as follows:

6 DIRECT TESTIMONY

7 BY MR. WIELAND:

8 MR. WIELAND: Thank you all for having me today.
9 My name is Barry Wieland. I live in Farmington, New
10 Mexico, and I am employed by Weatherford International.

11 I realize that the Commission has asked us to not
12 be too redundant, but I need to go over a few items about
13 employee reduction.

14 The State of New Mexico, as of 2004, employed
15 13,000 direct jobs and 14,000 service sector jobs in the
16 oil and gas business. 28,000 people. That's pretty
17 significant.

18 At Weatherford, currently, as of Friday, we
19 employ 240 employees. We have six Weatherford offices in
20 Farmington, New Mexico. I can break them down for you, but
21 the total is 240 people. We have had discussions, if the
22 closed-loop system comes into effect, it has -- will have
23 adverse effect and will cause unemployment in my -- under
24 my 240 employees. We're calculating about 50 percent of
25 those employees.

1 On top of that, we're also concerned -- one of
2 our major concerns is the children of the state. And I
3 might be incorrect here, but there are nine producing
4 counties in the State of New Mexico, and they go into the
5 -- severance taxes and *ad valorem* taxes goes into a special
6 fund. These funds are redistributed as block grants to
7 every individual county in the state, which goes to help
8 build schools and maintain school, books, teachers'
9 salaries, et cetera. We feel that that could be very
10 detrimental to the children of the state if this rule is
11 passed.

12 Also on top of that, we feel like there might be
13 a cascade effect. That is that if all these employees
14 start losing jobs, just not at Weatherford but on a state
15 level from Lea County to San Juan County, you know, we feel
16 like it will cause the housing industry to suffer, we're
17 going to see foreclosures, crime rates are going to go up,
18 all the bad things that go around, the bacon industry
19 suffers, all the things that go wrong with bad economy.
20 And we feel like -- Weatherford feels like this is -- we've
21 got potential for this to happen.

22 And really that's all I had today. Appreciate
23 it.

24 CHAIRMAN FESMIRE: Any questions of Mr. Wieland?

25 MR. BROOKS: No questions, Mr. Chairman.

1 MR. HISER: No questions.

2 THE WITNESS: I would like to state that -- One
3 gentleman referred to us as a 2000-pound gorilla. I'd like
4 to state that I'm only 270 pounds of that gorilla, so...

5 (Laughter)

6 CHAIRMAN FESMIRE: Mr. Wieland, we're not done
7 yet.

8 THE WITNESS: Oh, all right.

9 CHAIRMAN FESMIRE: I'm going to make a comment
10 about a guy my size can worry about the baking industry.

11 THE WITNESS: All right.

12 CHAIRMAN FESMIRE: Ms. Foster, did you --

13 MS. FOSTER: No questions, thank you.

14 CHAIRMAN FESMIRE: Doctor?

15 DR. NEEPER: (Shakes head)

16 CHAIRMAN FESMIRE: Mr. Jantz?

17 MR. JANTZ: No questions.

18 CHAIRMAN FESMIRE: Commissioner?

19 COMMISSIONER OLSON: No questions.

20 CHAIRMAN FESMIRE: Mr. Wieland, thank you very
21 much.

22 THE WITNESS: Thank you very much again.

23 CHAIRMAN FESMIRE: Is there anybody else who
24 would like to make a comment?

25 Come forward, sir. You've heard the options

1 before, what's your choice?

2 MR. CAVE: I'm just going to make a statement.

3 CHAIRMAN FESMIRE: Okay.

4 MR. CAVE: My name is Jimmy Cave, I own Cave
5 Enterprises in Farmington, New Mexico. We've been in
6 business for -- since 1999. My primary business is tubular
7 sales to the drilling industry. I've got 13 employees.
8 I'm not going to go into the effect of what it's going to
9 do to my business.

10 I've been sitting back here listening, and as far
11 as the impact to my business, is, the -- mine is a very low
12 profit margin business. Our sales, our revenue is about a
13 million and a half per month, which correlates to about
14 \$40,000 a month in gross receipts tax. I operate on a very
15 small budget. I rely on my customers to pay on time, and
16 it is going to kill me and my eight employees if this goes
17 through.

18 I've lived in Farmington all my life, and my dad
19 has been in the ranching -- he grew up in the ranching
20 business. You know, he grew up in west Texas. He had --
21 had permits on his -- he had oil and gas on his properties.
22 We have six children in our family. He has 25
23 grandchildren. We all live in San Juan County. Not all of
24 us are in the oil and gas business.

25 We all drink the water, we've lived there. There

1 has never been a reported case in Farmington -- There's
2 over 200 producing wells in Farmington city limits. There
3 has never been a case where drilling has impacted the
4 groundwater.

5 And that's -- Oil and gas is one of the most
6 regulated entities in the state. We've got two individual
7 areas, we've got north and we've got south. Our situation
8 in San Juan County is a little different. We run off of
9 regulations.

10 As far as the -- They use a model of Dulce, New
11 Mexico, for our area in Farmington. I don't understand. I
12 don't know where that comes from.

13 And I thank you for the time, and I'm sorry I'm
14 emotional about it, and it's something I want you to really
15 consider about the small business in New Mexico.

16 Thank you.

17 CHAIRMAN FESMIRE: Thank you. Mr. Cave.

18 Anyone else? Okay -- Yes, ma'am?

19 MS. McCANN: I just want to say -- I don't need
20 to be under oath, but I've been reading about Four Corners
21 area --

22 CHAIRMAN FESMIRE: Could you start with your
23 name, please, ma'am?

24 MS. McCANN: Oh, Colleen McCann. The things I've
25 been reading about Four Corners area is that they have five

1 times higher birth defects than anywhere else in the
2 nation, and I really do think that we should have a closed-
3 loop system. According to OCD, 800 instances of
4 groundwater contamination from oil and gas is due to pits.
5 So I mean that you guys are saying we have groundwater
6 contamination. I think we need to protect it. This area
7 is very sensitive to groundwater. He's talking about 10
8 feet in lining a pit, 10 feet above groundwater? That's
9 ridiculous.

10 That's all I have to say.

11 CHAIRMAN FESMIRE: Thank you, Ms. McCann.

12 Anyone else? Why don't you come forward, sir?

13 MR. TALBOT: I just wanted to make a statement.

14 CHAIRMAN FESMIRE: Okay. Could you start with
15 your name, please?

16 MR. TALBOT: My name is Steve Talbot,
17 T-a-l-b-o-t, and I live in Cerrillos. And I just wanted to
18 make a comment in support of the proposed rules, and I
19 wanted to thank you for taking them under consideration.

20 That's all.

21 CHAIRMAN FESMIRE: Thank you, Mr. Talbot.

22 Sir, you had a statement that you wanted to make?

23 MR. AAGESON: My name is Tom Aageson, and I'm
24 speaking in favor of the closed-loop, pitless drilling
25 system. But I also have been in business most of my life,

1 and I hear the issues raised by the people in business in
2 these areas, and I think it's probably appropriate also for
3 the Department of Economic Development to look at how to
4 keep our oil and gas industry competitive as well.

5 There are a lot of fears. In this county, or in
6 this city, they've raised the minimum wage substantially,
7 saying that businesses would fold. And a few marginal ones
8 might have, but actually the economy prospered, even though
9 minimum wages went up substantially, which meant the
10 business people like myself had to deal with increased
11 labor costs.

12 And so I think there may be solutions to this,
13 and I think both sides need the benefit. Perhaps the
14 business -- the Bureau of Economic Research could help in
15 this area, because if it is true that this will negatively
16 impact the industry, then we have to look at how the
17 industry too can be helped by the state. But at the same
18 time, I think this is the way to preserve groundwater and
19 the beauty of New Mexico, because drilling is being tested
20 in a lot of different places in our community.

21 Thank you.

22 CHAIRMAN FESMIRE: Thank you. Mr. Aageson, would
23 you spell your last name for the court reporter?

24 MR. AAGESON: Yes, two a's: A-a-g-e-s-o-n.

25 CHAIRMAN FESMIRE: Thank you, sir.

1 MR. AAGESON: Thank you.

2 CHAIRMAN FESMIRE: Is there anybody else who
3 would like to make a statement?

4 Would you come forward, please, ma'am? Would you
5 like to be sworn, or would you --

6 MS. AAGESON: No thank you.

7 CHAIRMAN FESMIRE: Okay, could you start with
8 your name, please?

9 MS. AAGESON: Yes, my name is Carol Aageson.
10 Same spelling, A-a-g-e-s-o-n. I'm here to respectfully
11 request and urge the Commission to enact the closed-loop --
12 the closed drilling as a mandatory regulation.

13 In 1993 I had a chemical injury from solvents.
14 It wasn't from oil and gas drilling, but I know what it's
15 like to be poisoned by a chemical. I was very, very ill
16 for 11 years. I was homebound for a lot of those years.
17 It's truly by the grace of God that I'm here right now.

18 Children were mentioned. Children are the most
19 vulnerable to any chemical contamination because of their
20 -- their organ systems are not fully developed.

21 I think the bottom line has to be the common
22 good. I don't want people to lose their employment, but I
23 do think there are creative ways to see that that doesn't
24 happen.

25 I think the model should really be, First, do no

1 harm, as the medical profession does. And if it means that
2 the oil and gas industry makes a few less dollars, the
3 common good has to be a primary consideration.

4 Even lined pits do leak. Most of these chemicals
5 would never be traced to an illness. You know, I keep
6 hearing that we don't have any proof. Well, someone gets
7 cancer 20 years down the road, and you never really know.

8 It's my understanding that many chemicals are
9 proprietary, oil and gas drilling companies don't have to
10 reveal what they are. Some of them are tasteless, they're
11 odorless. You could have it in your water; you would not
12 even know you were drinking it until you were ill.

13 Please, first do no harm. Thank you.

14 CHAIRMAN FESMIRE: Thank you, Ms. Aageson.

15 Is there anyone else who would like to make a
16 statement tonight?

17 Okay, with that we're going to adjourn, to
18 reconvene in this room at nine o'clock in the morning.

19 Mr. Hiser, has any decision been made about Dr.
20 Neeper and -- Have the attorneys gotten together?

21 MR. CARR: We have no objection.

22 MR. BROOKS: I believe -- Dr. Neeper, I believe
23 we had some discussions with you, and I believe that the
24 Division has no objection to breaking its case. And my
25 understanding is, the industry has no objection to breaking

1 their cross-examination at such time as it's most
2 convenient for Dr. Neeper to present his case.

3 And I believe he indicated that he would not be
4 available Friday and would not be available the week after
5 Thanksgiving, suggesting that he should proceed tomorrow if
6 that is acceptable to the Commission. And I'll let Dr.
7 Neeper speak for himself.

8 CHAIRMAN FESMIRE: Dr. Neeper, would you -- Is
9 that the way you want to proceed?

10 DR. NEEPER: We can be at your pleasure, at the
11 Commission's pleasure, tomorrow. My counsel just called
12 and said she can be here. We just need to know a little
13 bit ahead of time what time that would be. For instance,
14 if we continue cross-examining the current witness, we
15 would notify her about the time that ends.

16 CHAIRMAN FESMIRE: How long do you think it will
17 take, Doctor, or does your counsel think it will take?

18 DR. NEEPER: Well, I registered my testimony for
19 three hours, and the -- I notice that sometimes cross-
20 examination can exceed the testimony of the witness, but
21 that's not under my power.

22 CHAIRMAN FESMIRE: Okay.

23 MR. HISER: Mr. Chairman, if it helps Dr. Neeper
24 and his counsel, I have no objection to just breaking my
25 cross-examination, which is just really getting started

1 anyway. That way, he has a time certain that he could
2 start and then proceed directly through that. And then
3 whenever we're finished with that, that would be more than
4 fine with me.

5 CHAIRMAN FESMIRE: Okay. Dr. Neeper, what do you
6 say first thing in the morning, then?

7 DR. NEEPER: If that's the pleasure of the
8 Commission, we will do that.

9 CHAIRMAN FESMIRE: Okay, is there any objection
10 to that?

11 MR. CARR: No objection.

12 CHAIRMAN FESMIRE: Okay, we'll meet here at nine
13 o'clock in the morning; we'll start with Dr. Neeper's
14 direct testimony.

15 Thank you all very much.

16 (Thereupon, evening recess was taken at 5:38
17 p.m.)

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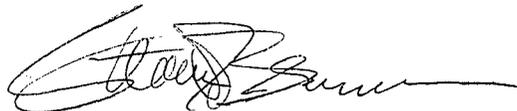
CERTIFICATE OF REPORTER

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 Commission 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 December 29th, 2007.



STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 16th, 2010