

**Cause No. CV11-0798**

**Lipsky v. Durant Carter Coleman LLC et al**

**Thomas Richter**

**November 9, 2011**



**Job No. 12133**

**307 W. 7<sup>th</sup> Street, Suite 1350  
Fort Worth, Texas 76102**

**817-336-3042 \* [depos@merittexas.com](mailto:depos@merittexas.com)**

Page 1

1 CAUSE NO. CV11-0798  
2 STEVEN and SHYLA LIPSKY § IN THE DISTRICT COURT  
3 v. §  
4 DURANT, CARTER, COLEMAN §  
5 LLC, SILVERADO ON THE §  
6 BRAZOS DEVELOPMENT §  
7 COMPANY #1 LTD, JERRY V. § 43RD JUDICIAL DISTRICT  
8 DURANT, Individually, §  
9 JAMES T. COLEMAN, §  
10 Individually, ESTATE OF §  
11 PRESTON CARTER, RANGE §  
12 PRODUCTION COMPANY, AND §  
13 RANGE RESOURCES §  
14 CORPORATION §  
15 v. §  
16 ALISA RICH § PARKER COUNTY, TEXAS

---

ORAL AND VIDEOTAPED DEPOSITION OF  
THOMAS H. RICHTER  
November 9, 2011

---

ORAL DEPOSITION OF THOMAS H. RICHTER,  
produced as a witness at the instance of Range  
Production Company and Range Resources Corporation, and  
duly sworn, taken in the above-styled and numbered  
cause on November 9, 2011, from 10:06 a.m. to  
6:19 p.m., before Joseph D. Hendrick, Certified  
Shorthand Reporter No. 947 in and for the State of  
Texas, reported by machine shorthand, at the offices of  
Harris, Finley & Bogle, P.C., 777 Main Street, Suite  
3600, Fort Worth, Texas, pursuant to Notice and the  
Texas Rules of Civil Procedure and any provisions  
stated on the record or attached hereto.  
Job No. 12133

Page 3

1 FOR ALISA RICH:  
2 George Carlton, Jr., Esq.  
3 GODWIN RONQUILLO PC  
4 1201 Elm Street, Suite 1700  
5 Dallas, Texas 75270-2041  
6 Phone: 214.939.4421  
7 E-Mail: GCarlton@GodwinRonquillo.com  
8 VIDEOGRAPHER:  
9 Patrick Salvant  
10 MERIT COURT REPORTERS  
11 307 W. 7th Street, Suite 1350  
12 Fort Worth, Texas 76102  
13 Phone: 817.336.3042  
14 Fax: 817.335.1203  
15 E-Mail: video@merittexas.com  
16  
17 ALSO PRESENT:  
18 Wayman Gore  
19 Mike Middlebrook  
20 John McBeath

Page 2

1 A P P E A R A N C E S  
2 FOR THE PLAINTIFF:  
3 Allen M. Stewart, Esq.  
4 David Ritter, Esq.  
5 ALLEN STEWART, P.C.  
6 325 North St. Paul St., Suite 2750  
7 Dallas, Texas 75201  
8 Phone: 214.965.8700  
9 E-Mail: astewart@allenstewart.com  
10 dritter@allenstewart.com  
11 FOR RANGE PRODUCTION COMPANY AND RANGE RESOURCES  
12 CORPORATION:  
13 Andrew D. Sims, Esq.  
14 Troy D. Okruhlik, Esq.  
15 HARRIS, FINLEY & BOGLE, P.C.  
16 777 Main Street, Suite 3600  
17 Fort Worth, Texas 76102-5341  
18 Phone: 817.870.8700  
19 E-Mail: asims@hfblaw.com  
20 tokruhlik@hfblaw.com  
21  
22 David E. Jackson, Esq.  
23 JACKSON, SJOBERG, MCCARTHY & WILSON L.L.P.  
24 711 West 7th Street  
25 Austin, Texas 78701  
Phone: 512.472.7600  
E-Mail: djackson@jacksonsjoberg.com  
FOR DURANT, CARTER, COLEMAN LLC, SILVERADO ON THE  
BRAZOS DEVELOPMENT #1 LTD, JERRY V. DURANT,  
INDIVIDUALLY, JAMES T. COLEMAN, INDIVIDUALLY, AND  
ESTATE OF PRESTON CARTER:  
Albon O. Head, Jr., Esq.  
Sara Abbott McEown, Esq.  
JACKSON WALKER L.L.P.  
777 Main Street, Suite 2100  
Fort Worth, Texas 76102  
Phone: 817.334.7230  
E-Mail: ahead@jw.com  
smceown@jw.com

Page 4

1	INDEX	
2	Appearances .....	2
3	THOMAS H. RICHTER	
4	EXAMINATION BY MR. SIMS .....	9
5	EXAMINATION BY MR. HEAD .....	180
6	EXAMINATION BY MR. CARLTON .....	217
7	RE-EXAMINATION BY MR. SIMS .....	232
8	RE-EXAMINATION BY MR. HEAD .....	257
9	RE-EXAMINATION BY MR. SIMS .....	260
10	EXAMINATION BY MR. STEWART .....	265
11	RE-EXAMINATION BY MR. SIMS .....	273
12	EXAMINATION BY MR. HEAD .....	279
13	RE-EXAMINATION BY MR. SIMS .....	284
14	RE-EXAMINATION BY MR. HEAD .....	286
15	Signature and Changes .....	288
16	Reporter's Certification .....	290
17	EXHIBITS	
18	NO. DESCRIPTION PAGE	
19	1 November 3, 2011, Affidavit of Thomas	10
20	H. Richter, P.E. in Support of	
21	Plaintiff's Original Petition	
22	2 Pages 1 - 12, pages 205 - 212, Excerpt	16
23	from Volume Two, transcript of Railroad	
24	Commission hearing, January 20, 2011	
25	3 Amended Affidavit of Thomas H. Richter,	22
	P.E. in Support of Plaintiff's Original	
	Petition	
	4 Bates Lipsky06403 - Lipsky06404 April	24
	2007, Excerpt from AAPG Bulletin,	
	"Geologic framework of the	
	Mississippian Barnett Shale,	
	Barnett-Paleozoic total petroleum	
	system, Bend arch-Fort Worth Basin,	
	Texas"	

Page 5		
1	5	April 2007, AAPG Bulletin, "Geologic framework of the Mississippian Barnett Shale, Barnett-Paleozoic total petroleum system, Bend arch-Fort Worth Basin, Texas" 25
2		
3		
4	6	Bates Lipsky06405 - Lipsky06417 Article titled "Assessing Undiscovered Resources of the Barnett-Paleozoic Total Petroleum System, Bend Arch-Fort Worth Basin Province, Texas" 27
5		
6		
7	7	Article titled "Assessing Undiscovered Resources of the Barnett-Paleozoic Total Petroleum System, Bend Arch-Fort Worth Basin Province, Texas," with charts and graphs 27
8		
9		
10	8	April 2007, AAPG Bulletin, "Thermal maturity of the Barnett Shale determined from well log analysis" 32
11		
12	9	Ravel affidavit 36
13	10	O&G Docket No. 7B-0268629, Staff Exhibit 1 37
14		
15	11	Excerpt from Volume Two, transcript of Railroad Commission hearing, January 20, 2011, pages 1 - 3, pages 66 - 68, pages 125 - 126 41
16		
17	12	Bates Lipsky06436 - Lipsky06437 Wells Within 2 Miles of the Lipsky Well, Hood and Parker Counties, Texas 45
18		
19	13	Texas Administrative Code 3.13, "Casing, Cementing, Drilling, and Completion Requirements" 48
20		
21	14	Railroad Commission of Texas Form G-1, "Gas Well Back Pressure Test, Completion or Recompletion Report, and Log" for Butler Unit 50
22		
23		
24	15	Railroad Commission of Texas Form G-1, "Gas Well Back Pressure Test, Completion or Recompletion Report, and Log" for Teal Unit 53
25		

Page 6		
1	16	August 10 and October 26, 2010, Railroad Commission of Texas District Office Inspection Reports for Teal Unit 1H 57
2		
3		
4	17	August 10, September 10, September 20, October 14 and October 26, 2010, Railroad Commission of Texas District Office Inspection Reports for Butler Unit 1H 61
5		
6		
7	18	Photograph captioned "Hurst Water Well Flaring"; October 15, 2005, five photographs depicting Hurst Water Well 76
8		
9	19	Notice of Deposition of Buddy Richter 96
10		
11	20	DVD produced by Allen Stewart, PC 97
12		
13	21	Working file produced by Mr. Richter 98
14		
15	22	Bates numbers 000645 - 000651 December 2, 2010, Letter from David Ritter to Scott McDonald 128
16		
17		
18	23	Texas Administrative Code 1.2, "Definitions" 138
19		
20	24	Notice of Appearance of Counsel 142
21	25	Bates numbers Lipsky01512, Lipsky02522, Lipsky02612, Lipsky06249 January 5, 2011, Letter to Wayman Gore from Maricela Rosas, paralegal for Allen Stewart; January 12 and 13, 2011, IHS data printouts; January 3, 2011, handwritten notes 150
22		
23	26	Bates Lipsky06248 - Lipsky06251, Lipsky06253-Lipsky06261, Lipsky06457 - Lipsky06493, and Lipsky06456 Documents from DVD (Exhibit 20) 155
24		
25	26-A	Documents from DVD (Exhibit 20) 158
	27	Final Order 273

Page 7		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Page 8		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

**VIDEOGRAPHER:** We are on the record. Today's date is November 9, 2011, at 10:06 a.m. This is the videotaped deposition of Buddy Richter in the case styled Steven and Shyla Lipsky versus Durant Carter Coleman, LLC, et al., Cause Number CV11-0798. Will the attorneys please state their appearances for the record.

**MR. SIMS:** My name is Andy Sims and I am here on behalf of the Range defendants. David Jackson is here, an attorney as well on behalf of the Range defendants. I have seated with me Mike Middlebrook, who is corporate representative for Range, and John McBeath is a petroleum engineer from Austin, he's also here, and Troy Okruhlik is here, an attorney for Range as well.

**MR. STEWART:** Al Stewart for the plaintiffs in this case. David Ritter is with me. He's also a lawyer in our office. Wayman Gore is here. He's with the consulting firm of PGH. And of course Buddy Richter is an expert for us who is being deposed today.

**MR. HEAD:** I am Albon Head with Jackson Walker, along with Sara Abbott McEown, representing the Silverado defendants.

**THE REPORTER:** Would you raise your right hand, please.

Page 9

1 MR. STEWART: Wait. One more.  
2 THE REPORTER: I beg your pardon.  
3 MR. CARLTON: George Carlton with Godwin  
4 Ronquillo. I represent Alisa Rich.  
5 THE REPORTER: Raise your right hand,  
6 please, sir.  
7 Do you swear or affirm the testimony you  
8 are about to give in this case will be the truth, the  
9 whole truth, and nothing but the truth?  
10 THE WITNESS: I shall.  
11 THE REPORTER: Thank you.  
12 THOMAS H. RICHTER  
13 having been duly sworn, testified as follows:  
14 EXAMINATION  
15 BY MR. SIMS:  
16 Q. Mr. Richter, would you please state your  
17 full name?  
18 A. **Thomas H. Richter.**  
19 Q. And where do you live, sir?  
20 A. **I live in Austin.**  
21 Q. And what is your address?  
22 A. **It is 8808 Fritch Drive, Austin.**  
23 Q. By whom are you employed?  
24 A. **PGH Engineers.**  
25 Q. How long have you been employed with PGH

Page 10

1 Engineers?  
2 A. **Be going on four years.**  
3 **(Marked Deposition Ex. 1)**  
4 BY MR. SIMS:  
5 Q. What I would like to do is show you what  
6 has been marked as Exhibit 1 to your deposition and ask  
7 you, if you can, to identify that, please.  
8 A. **Yes. It is the deposition that I -- I**  
9 **mean, "deposition" -- I'm sorry. The affidavit.**  
10 Q. This is your affidavit?  
11 A. **Yes, this was my affidavit.**  
12 Q. And --  
13 A. **It was -- I should point out it's the first**  
14 **one. There is an amended copy, too.**  
15 Q. Okay. When did you sign this affidavit  
16 that has been marked as Exhibit 1 to your deposition?  
17 A. **November 3rd, 2011.**  
18 Q. Do you know the notary public that  
19 notarized the affidavit?  
20 A. **Yes. Tedi Gil.**  
21 Q. And who is Tedi Gil?  
22 A. **She works there at PGH Engineers.**  
23 Q. How long has she worked at PGH Engineers?  
24 A. **I think about five and a half, six years.**  
25 Q. Who else was present when you signed the

Page 11

1 affidavit that has been marked as Exhibit 1?  
2 A. **No one else.**  
3 Q. What did you do when you signed the  
4 affidavit that is marked as Exhibit 1?  
5 A. **What did I do?**  
6 Q. Yes, sir.  
7 A. **I took the affidavit down to her, told her**  
8 **what it was for, who it was, we filled out the book,**  
9 **and then I signed it, sealed it, and then she notarized**  
10 **it.**  
11 Q. Is that everything that happened when you  
12 signed the affidavit?  
13 A. **Yes.**  
14 Q. Nothing else?  
15 A. **Not that I'm aware of. That's typically**  
16 **what we do with the affidavits.**  
17 Q. Okay. You stated, when you signed this  
18 affidavit, that you had "reviewed the entirety of the  
19 record before the Railroad Commission of Texas in Oil &  
20 Gas Docket No. 7B-0268629," correct?  
21 A. **Yes, the records, as we had asked to go get**  
22 **the records of the entire case, the transcripts, as**  
23 **well as the exhibits.**  
24 Q. And who is "we"?  
25 A. **We. Tedi Gil. She's an engineering**

Page 12

1 **assistant there and she's the one -- she worked at the**  
2 **Railroad Commission for many years also, so she knew**  
3 **Central Records and the examiners.**  
4 Q. Well, when you -- when you signed this  
5 affidavit, you were swearing under oath that you had  
6 reviewed the entirety of the record before the Railroad  
7 Commission when you signed it, didn't you?  
8 A. **That I had reviewed all of it and it was to**  
9 **my belief at that time that, yes, we had the entire**  
10 **record.**  
11 Q. Had you reviewed the entire record when you  
12 signed the affidavit that is marked as Exhibit 1?  
13 A. **As I had as of that day.**  
14 Q. Well, did you subsequently retain -- obtain  
15 other records from the Railroad Commission?  
16 A. **Yes.**  
17 Q. So when you signed Exhibit 1, you had not  
18 reviewed the entirety of the record; is that --  
19 A. **As it turns out, that is right. We did not**  
20 **have the entire record.**  
21 Q. So that was not a true statement that you  
22 made in Exhibit 1 to your affidavit, correct?  
23 MR. STEWART: Objection, form.  
24 A. **It was a true statement to the best of my**  
25 **knowledge of the documents that we had received from**

Page 13

1 the Railroad Commission.  
2 BY MR. SIMS:  
3 Q. Had you reviewed the transcript of the  
4 hearing?  
5 A. Yes.  
6 Q. And you noted in the transcript that there  
7 were depositions that were offered into evidence and  
8 admitted into evidence that you say in this Exhibit 1  
9 were not part of the record, true?  
10 A. **As the record we had it, that is correct.**  
11 Q. Had you not reviewed that portion of the  
12 transcript when you swore to this affidavit as Exhibit  
13 1?  
14 A. **I had read that, yes; we didn't have them.**  
15 Q. Did you -- did you contact anybody at the  
16 Railroad Commission to say, "Hey, did we" -- "did you  
17 fail to give us these depositions," before you swore  
18 out this affidavit?  
19 A. **No, I did not.**  
20 Q. Why not?  
21 A. **At the time I had the depositions. I had**  
22 **received those depositions of Mr. Lipsky, Mr. Malone**  
23 **and Mr. Peck from Mr. Stewart.**  
24 Q. So you just assumed that they were not  
25 offered into evidence as the record reflected they had

Page 14

1 been?  
2 A. **I assumed that they were there. It wasn't**  
3 **until I started looking for them, because I had sent**  
4 **all the information I had up here for y'all's discovery**  
5 **and I wanted to go back and review those. I did not**  
6 **have them and I knew I should have. And when I saw**  
7 **that, then I had Tedi go back over to the Commission,**  
8 **and sure enough, Central Records came up with another**  
9 **file of those depositions.**  
10 Q. When did you --  
11 A. **And --**  
12 Q. When did you discover that your affidavit  
13 marked as Exhibit 1 contained inaccurate statements?  
14 A. **When -- well, as far as that statement,**  
15 **yes, that's the only inaccurate statement that I can**  
16 **say. But I found that out this last Sunday as I was**  
17 **reviewing the record and I got to looking; I wanted to**  
18 **see those depositions, I wanted to look at them again.**  
19 **I did not have any of them and I should have had them.**  
20 **And so on Monday, I had Ms. Gil go back over to the**  
21 **Commission and that's where those three -- four**  
22 **exhibits, as it turned out, were.**  
23 Q. When did you notify these lawyers that your  
24 affidavit that's Exhibit 1 was inaccurate?  
25 A. **On Monday morning.**

Page 15

1 Q. Who prepared Exhibit 1? Who typed it up?  
2 A. **I did. I did myself.**  
3 Q. Did you have any drafts of it?  
4 A. **I had sev -- I went through several drafts.**  
5 **It originally started out a lot longer and I kept on**  
6 **narrowing it down.**  
7 Q. Where are those drafts?  
8 A. **Items.**  
9 **They were on the computer, but I use**  
10 **typeover, so as I was doing away with information or**  
11 **condensing information, that's how they came up with**  
12 **this particular one. This is the only one that's on my**  
13 **computer and the only hard copies I have.**  
14 Q. Are the drafts on the hard drive of your  
15 computer?  
16 A. **No, that's what I was saying. I use**  
17 **typeover.**  
18 Q. Do you know if they're on the hard drive,  
19 saved on the hard drive in some fashion?  
20 A. **That, I don't know. I'm not a computer**  
21 **expert, so I don't know how those would.**  
22 Q. But you still have your computer?  
23 A. **Yes.**  
24 Q. Same one? You haven't done anything to  
25 alter the hard drive?

Page 16

1 A. **No.**  
2 Q. And you wouldn't do that, would you?  
3 A. **Well, no. I'll be the first one to admit I**  
4 **don't know that much about the inner workings of the**  
5 **computer.**  
6 **(Marked Deposition Ex. 2)**  
7 BY MR. SIMS:  
8 Q. Okay. Let me show you what I have marked  
9 as Exhibit 2 to your deposition, Mr. Richter.  
10 I want to ask you if you can identify this  
11 as a portion of the transcript from the Railroad  
12 Commission hearing held on January 19 and 20, 2011.  
13 A. **I believe it is, yes, sir.**  
14 Q. And this portion of the transcript, if you  
15 flip over to Exhibit 2, over to the page up at the top  
16 that says "208" in the right-hand corner.  
17 A. **Yes.**  
18 Q. Do you see where it says, "Exhibit 131 is  
19 the entire deposition of water well driller Larry  
20 Peck"?  
21 A. **Yes, sir.**  
22 Q. And you see where it says, "Exhibit 132 is  
23 the entire deposition of Steven Lipsky"?  
24 A. **Yes, sir.**  
25 Q. And up above that, it says, "Exhibit 130 is

Page 17

1 the complete deposition of water well driller, Leland  
2 Malone"?

3 **A. Yes, sir.**

4 Q. And you see down here, Examiner Chandler  
5 says, "All right. They are admitted as part of the  
6 record"?

7 **A. Yes, sir.**

8 Q. And that refers to, among others,  
9 Exhibits 130, 131 and 132, right?

10 **A. That would be all of those exhibits, yes,  
11 sir.**

12 Q. When did you read this part of the record  
13 from the Railroad Commission hearing?

14 **A. Again, it was on -- I would -- this portion  
15 of it, I found that on Sunday because I wanted to look  
16 for those depositions. And the reason I questioned  
17 that was because right -- on line 12 it says -- and  
18 Mr. Jackson is speaking to the examiners, "Those are in  
19 these boxes here in front of me and we will provide  
20 those to you, make sure you get a set of them, they get  
21 in the file."  
22 To me that says it's up to the examiners to  
23 get those.  
24 Well, I don't know if the examiners got  
25 them, and that's why on that Monday, this last Monday,**

Page 18

1 **I had Tedi Gil go back over to the Commission to see  
2 where are those depositions. They were not -- which we  
3 had originally gotten I think it was February 8th, they  
4 were not part, as it turns out, of the entire hearing.**

5 Q. My question to you, sir, is when is the  
6 first time you read the information on page 208 of  
7 Exhibit 2?

8 **A. Oh, when I -- I read the entire transcript  
9 I'd say probably sometime in February.**

10 Q. And you didn't -- you didn't follow up at  
11 that time, ask any questions about where these exhibits  
12 were?

13 **A. No, I didn't, because I had the depositions  
14 already.**

15 Q. And so when you signed your affidavit  
16 that's Exhibit 1, you, even though you had read this  
17 and even though you saw that those had been admitted  
18 into the record, you still swore under oath that they  
19 were not part of the record?

20 **A. As it turns out, that was just it; they  
21 weren't part of the record. When I actually went to  
22 look for those exhibits, I did not have them. I didn't  
23 look for them when I was reading them for the simple  
24 reason I already had the depositions from Mr. Stewart.**

25 Q. Are you telling us that even though they

Page 19

1 were offered and admitted into evidence in the hearing  
2 that they weren't part of the Railroad Commission  
3 record?

4 **A. To the best of my knowledge at the time I  
5 wrote that on November 3rd, Exhibits 130, 131, 132, 133  
6 were not in my possession as far as what was obtained  
7 from the Railroad Commission.**

8 MR. SIMS: Objection, non-responsive.

9 BY MR. SIMS:

10 Q. Are you telling us they were not part of  
11 the record of the Railroad Commission hearing even  
12 though they were offered and admitted into evidence?

13 **A. They were admitted, so they were part of  
14 the record.**

15 Q. Okay. And you --

16 **A. Whether if the depositions were physically  
17 there, I don't know, based on that one sentence. It's  
18 like saying, "Examiners, make sure you get a set of  
19 them, they get in the file."**

20 Q. But anyway, you sent your assistant back  
21 over there, and sure enough, she found them.

22 **A. She found them.**

23 Q. You understand that Mr. Stewart and  
24 Mr. Ritter, who represent Mr. Lipsky, were both present  
25 at the depositions of Mr. Peck and Mr. Malone, don't

Page 20

1 you?

2 **A. As I recall, yes, I believe they're -- I --  
3 I know Mr. Stewart was. I'm not sure about Mr. Ritter.  
4 I didn't look at the front pages that close.**

5 Q. And you understand that they had filed a  
6 notice of appearance in the Railroad Commission hearing  
7 as of that time?

8 **A. I don't know if they had filed a notice or  
9 not.**

10 Q. You don't know that?

11 **A. I don't know that.**

12 Q. Would that be something that would be  
13 important to your decision-making in this case if they  
14 had?

15 **A. If they had filed one?**

16 Q. Yes, sir.

17 **A. No.**

18 Q. It wouldn't matter to you?

19 **A. No.**

20 Q. One way or the other?

21 **A. No.**

22 Q. You are not aware of anything that  
23 precluded Mr. Lipsky, Mr. Ritter, Mr. Stewart or  
24 yourself from telling the Railroad Commission anything  
25 you wanted to tell them about the depositions of

Page 21

1 Malone, Peck or Lipsky, are you?  
2 A. Since I didn't attend the hearing and I  
3 wasn't directed to attend the hearing, it's my  
4 understanding when you read the PFD that the examiners  
5 wrote, they say they were not parties to the hearing,  
6 they were invited.  
7 Now, I'm just looking at it from the  
8 economics standpoint that, yeah, it would cost money to  
9 have attorneys present, consulting engineers present.  
10 So as to the reason that I was not directed or they did  
11 not attend, I don't know. I can only say that, no, I  
12 wasn't asked to attend.  
13 Q. But you certainly could have, had you been  
14 asked to?  
15 A. Well, I don't know what my workload would  
16 have been at the time.  
17 Q. As far as you know, Mr. Stewart or  
18 Mr. Ritter could have showed up and told the Railroad  
19 Commission anything about these depositions they wanted  
20 to?  
21 A. I have no knowledge of that now.  
22 Q. You're not here giving any opinions about  
23 whether you or Mr. Stewart or Mr. Ritter or Mr. Lipsky  
24 was precluded in any way from showing up and telling  
25 the Railroad Commission whatever they wanted to tell

Page 22

1 them during this hearing, are you?  
2 A. Anything that involves those three  
3 individuals, I don't know what they were. I just know  
4 that I was not asked to. PGH was not asked to.  
5 Q. Was not asked to show up and say anything  
6 at the hearing?  
7 A. No.  
8 (Marked Deposition Ex. 3)  
9 BY MR. SIMS:  
10 Q. Let's look at Exhibit 3 to your deposition.  
11 MR. STEWART: Are we done with these two?  
12 MR. SIMS: Well, for the time being.  
13 MR. STEWART: Okay.  
14 BY MR. SIMS:  
15 Q. Now, let me tell you on Exhibit 3, we have  
16 assembled it exactly like it was e-mailed to us  
17 yesterday. Okay? All right? The attachments and  
18 everything. I think there are some attachments that  
19 were not e-mailed that are referred to in the  
20 affidavit. But what I need you to tell me is, are the  
21 attachments to Exhibit 3 identical to the attachments  
22 to iden -- to Exhibit 1, or should they be the same?  
23 A. The one thing that I noticed in the  
24 exhibit was there should have been a 3A and it was not  
25 attached, that is referenced in my affidavit. And what

Page 23

1 that was, it was a larger depiction of the 3D seismic  
2 that Range had provided I believe to the Lipskys  
3 through discovery.  
4 Q. Okay. What --  
5 A. And that was at 3A.  
6 Q. We'll talk about that in a minute.  
7 A. Oh, okay.  
8 Q. But is -- 3A is attached to Exhibit 1,  
9 correct?  
10 A. 3A is attached to Exhibit 1.  
11 Q. Okay. But it was not forwarded yesterday  
12 as an attachment to your amended affidavit as  
13 Exhibit 3, so we just assembled your Exhibit 3 the way  
14 it came to us. All right?  
15 A. And it does not have the 3A in it.  
16 Q. Okay. Should it?  
17 A. Yes.  
18 Q. Okay.  
19 A. Because it's referred to.  
20 Q. All right. We'll -- we'll then refer to  
21 the 3A on Exhibit 1 when we need to.  
22 A. Okay.  
23 Q. Is that -- is that fair?  
24 A. That's fair, sir.  
25 Q. All right.

Page 24

1 Now, if you will, turn to page 6 of Exhibit  
2 3.  
3 MR. STEWART: I'm sorry. Page 6 did you  
4 say?  
5 MR. SIMS: Yes.  
6 MR. STEWART: Thank you.  
7 BY MR. SIMS:  
8 Q. In paragraph d. on page 6 of your  
9 affidavit, you say that you "performed research  
10 concerning the Mineral Wells Fault System, and I found  
11 several technical articles and technical papers which  
12 depict and discuss the location of this fault system."  
13 Did I read that accurately?  
14 A. Yes.  
15 Q. You go on to say that "These  
16 articles/papers show the Mineral Wells Fault System  
17 complex traversing across Hood-Parker County line area  
18 in a northeast-southwest orientation and intersecting  
19 the Newark East Fault System to the east."  
20 Did I read that accurately?  
21 A. Yes, sir.  
22 (Marked Deposition Ex. 4)  
23 BY MR. SIMS:  
24 Q. Okay. What I want to do is I have marked  
25 as Deposition Exhibit 4 one of the articles that are

Page 25

1 contained in the documents that were produced. And  
2 we'll get to all these documents in a little while  
3 about how they were assembled and all that. But for  
4 the time being, this document, Exhibit 4, is one of the  
5 articles that you are referring to in terms of research  
6 concerning the Mineral Wells Fault System that you  
7 found?  
8 **A. I believe so.**  
9 Q. Why do you not include the entirety of the  
10 article in what was produced in this case?  
11 **A. Why I didn't? It might have been just**  
12 **based on the pure volume of it, but I found the**  
13 **information that I was looking at and it was, again,**  
14 **it's kind of a general type statement.**  
15 Q. Did you make a decision, a conscious  
16 decision to leave out some portions of the article?  
17 **A. No. I did not.**  
18 Q. You're sure about that.  
19 **A. I'm sure about that.**  
20 Q. All right. Well, let's -- I -- I went out  
21 and we found the entire article and so let me -- let me  
22 show you that. Exhibit 5 to your deposition.  
23 (Marked Deposition Ex. 5)  
24 BY MR. SIMS:  
25 Q. And if you will, flip over to page 430.

Page 26

1 Are you with me?  
2 **A. Yes, sir.**  
3 Q. And on page 430 of Exhibit 5 -- and do you  
4 agree with me that this is the entire article, not just  
5 the two pages that you produced?  
6 **A. I believe that would be correct, because it**  
7 **was quite extensive.**  
8 Q. And if you look at page 430, it shows a  
9 depiction of the Mineral Wells-Newark East Fault,  
10 doesn't it?  
11 **A. Yes.**  
12 Q. And that Mineral Wells-Newark East Fault is  
13 in northern Parker County, southern Wise County, isn't  
14 it?  
15 **A. The main fault line it's showing if -- you**  
16 **know, I mean, those are generalities.**  
17 Q. It doesn't show anything down there on the  
18 southern Parker County-Hood County line like you state  
19 in your affidavit, does it?  
20 MR. STEWART: Form.  
21 **A. No.**  
22 MR. STEWART: I'm sorry. Form, objection.  
23 Go ahead.  
24 **A. On this particular exhibit, no, it does**  
25 **not.**

Page 27

1 BY MR. SIMS:  
2 Q. Okay. Well, let's look at another one that  
3 you produced a portion of.  
4 (Marked Deposition Ex. 6)  
5 BY MR. SIMS:  
6 Q. Can you identify Exhibit 6 to your  
7 deposition, please?  
8 **A. Yes.**  
9 Q. What is that?  
10 **A. That was one of the discovery type items**  
11 **that I looked at, "Assessing the Undiscovered Resources**  
12 **of the Barnett-Paleozoic Total Petroleum," and this was**  
13 **through a website called Search and Discovery**  
14 **Documents. It was a paper presented by AAPG.**  
15 Q. And you only presented portions of that  
16 paper as well in the discovery products that you  
17 produced; isn't that right?  
18 **A. Let's see how far I went through.**  
19 **Well, I believe what I have in my document**  
20 **is the entire document.**  
21 (Marked Deposition Ex. 7)  
22 BY MR. SIMS:  
23 Q. Well, let me show you Exhibit 7 to your  
24 deposition.  
25 Is this the same article?

Page 28

1 **A. Well, I am not finding that one, Mr. Sims.**  
2 **The first one, Exhibit 6 you gave me, that looks like**  
3 **it's an exact copy of it, but this --**  
4 Q. Well, Exhibit 7 has -- has a bunch of  
5 charts and graphs in it that are referred to in  
6 Exhibit 6 but are not shown in Exhibit 6, your  
7 document, correct?  
8 MR. STEWART: Objection, form. It's not  
9 his document. It's a document he took off the  
10 Internet.  
11 **A. Well, I included all 13 pages, as it shows**  
12 **at the top.**  
13 BY MR. SIMS:  
14 Q. Do you have any explanation why the  
15 document you found doesn't include the charts and  
16 graphs and pictures that are shown in Exhibit 7?  
17 **A. Not offhand, because I copied, as you can**  
18 **see, the entire 13 pages. So I ...**  
19 Q. Look over at page 5.  
20 **A. Of which?**  
21 Q. Of Exhibit 7.  
22 **A. 7.**  
23 Q. This is Figure 3 that's shown in your -- or  
24 that's -- that's referenced in -- in your document,  
25 right, Exhibit 6? It's referenced but not shown in



Page 29

1 your -- your discovery.  
2 MR. STEWART: Objection, form. It's  
3 linked. It's not shown. It's shown. 6406. It is  
4 shown.  
5 BY MR. SIMS:  
6 Q. Where does --  
7 MR. STEWART: 6406.  
8 BY MR. SIMS:  
9 Q. Where does -- on Exhibit 7, where does it  
10 depict the Mineral Wells fault line that you refer to  
11 in your affidavit?  
12 A. **It's hard to make out the county names**  
13 **there. Tarrant. The next one over would be Parker.**  
14 **Then the next one over would be, what, Wise or**  
15 **something like that, I guess.**  
16 Q. It's in northern -- it's in -- just like in  
17 the other article we looked at, it's in northern Parker  
18 County, southern Wise County.  
19 A. **It goes across Parker County, yes.**  
20 Q. Northern Parker County.  
21 A. **Well, it does go up to the north, yes.**  
22 Q. Yeah. It's the same -- same fault line  
23 you -- you talk about in your affidavit as being  
24 oriented from the northeast to the southwest, in -- in  
25 your affidavit on page 6?

Page 30

1 A. **Yes.**  
2 Q. The truth is, these articles/papers do not  
3 show the Mineral Wells Fault System complex traversing  
4 across the Hood-Parker County line area in a  
5 northeast-southwest orientation, do they?  
6 MR. STEWART: Form objection.  
7 A. **These two exhibits? That was your**  
8 **question? I'm trying to get clear.**  
9 BY MR. SIMS:  
10 Q. Yes, sir. They --  
11 A. **Yes.**  
12 Q. They do not show that, do they?  
13 A. **They do not show that.**  
14 Q. You didn't produce any document in any of  
15 your discovery that show that, did you?  
16 A. **Yes, I did.**  
17 Q. Where?  
18 A. **Right here, sir (indicating).**  
19 Q. What are you looking at?  
20 MR. STEWART: Why don't you read the title.  
21 A. **Oh. "Thermal maturity of the Barnett Shale**  
22 **determined from well log analysis."**  
23 **This was AAPG Bulletin V., 91, number 4,**  
24 **April 2007, pages 535 to 549.**  
25 BY MR. SIMS:

Page 31

1 Q. And did you produce this --  
2 A. **Yes.**  
3 Q. -- as part of your --  
4 A. **All of that was produced.**  
5 Q. Okay. And what does this -- what does this  
6 chart purport to show that you identified?  
7 A. **It does show that major one, but it shows**  
8 **these other ones running right across the area where**  
9 **these wells are located.**  
10 Q. That's not -- those aren't part of the  
11 Mineral Wells Fault System, are they?  
12 A. **Yes. North, south, east, west, they all**  
13 **run into the Newark East Fault System.**  
14 Q. The -- what you're -- what you're talking  
15 about on this document is not part of the Mineral Wells  
16 Fault, is it?  
17 A. **Yes, it is.**  
18 Q. It's not depicted on these other charts as  
19 part of the Mineral Wells Fault.  
20 A. **They may be the minor faults of it, but it**  
21 **definitely shows it going right across there.**  
22 Q. Does it refer to it as the Mineral Wells  
23 Fault in this article?  
24 A. **Well, I have to re-read the thing, but I'll**  
25 **look at it, sir.**

Page 32

1 Q. Let's go ahead and mark that as an exhibit  
2 since you pulled it out. We will mark that as  
3 Exhibit 8 to your deposition.  
4 A. **All right, sir.**  
5 **(Marked Deposition Ex. 8)**  
6 A. **As it states for Figure 1, "Regional**  
7 **geology and general structure on the base of the**  
8 **Barnett Shale, which is equivalent to the top of the**  
9 **Ellenburger or Viola limestone, in the Fort Worth**  
10 **Basin." Then it talks about the contour is a thousand**  
11 **feet. "The current ... outline of the Newark East**  
12 **field (Barnett ...) is a red line."**  
13 Q. Doesn't say anything about the Mineral  
14 Wells Fault in there, does it?  
15 A. **It's part of that system.**  
16 Q. Are you a geologist?  
17 A. **I have -- I am not a geologist, but I am a**  
18 **petroleum engineer.**  
19 Q. Have you ever been a -- are you a  
20 geophysicist?  
21 A. **I have been exposed -- you cannot be a**  
22 **petroleum engineer without taking a lot of geology --**  
23 MR. HEAD: May I interrupt?  
24 A. **-- and in the 20 years --**  
25 MR. HEAD: Excuse me. I'm sorry. Go

Page 33

1 ahead, finish.  
2 **A. In the 20 years at the Commission as an**  
3 **examiner, I have seen an awful lot of geology, I have**  
4 **seen a lot of seismology, seismic data, hydrology.**  
5 MR. SIMS: Object to the responsiveness of  
6 your answer.  
7 BY MR. SIMS:  
8 Q. Are you a geologist?  
9 **A. No.**  
10 Q. Do you hold yourself out as a geologist?  
11 **A. No.**  
12 Q. Are you a licensed geologist in the State  
13 of Texas?  
14 **A. No.**  
15 Q. Are you a geophysicist?  
16 **A. No.**  
17 Q. Do you hold yourself out as a geophysicist?  
18 **A. No.**  
19 Q. Are you a -- do you have any kind of  
20 licenses in geophysics?  
21 **A. No.**  
22 Q. Do you have any kind of degrees in  
23 geophysics?  
24 **A. No.**  
25 Q. Do you have any kind of degrees in geology?

Page 34

1 **A. No.**  
2 MR. HEAD: Andy, may I ask, is Exhibit 8  
3 for identification purposes, is that the AAPG Bulletin  
4 V., 91, 4 that is referred to?  
5 THE WITNESS: It's -- yes. V., 91, 4.  
6 MR. HEAD: V., 91, 4.  
7 THE WITNESS: Yes.  
8 MR. HEAD: Dated April 2007?  
9 THE WITNESS: Yes.  
10 MR. HEAD: Pages?  
11 THE WITNESS: It says 535-549.  
12 MR. HEAD: Thank you very much. Pardon the  
13 interruption.  
14 BY MR. SIMS:  
15 Q. Let's look on page 6 of your amended  
16 affidavit which is Exhibit 3.  
17 **A. I'm sorry, Mr. Sims, what was the page**  
18 **number?**  
19 Q. 6.  
20 **A. 6.**  
21 Q. Paragraph c.  
22 **A. All right.**  
23 Q. You state in this affidavit, the "Discovery  
24 information provided by Range in this lawsuit included  
25 a broader area 3-D seismic structure map, which shows

Page 35

1 faulting over the entire area surrounding the Butler  
2 and Teal wells. See Attachment 3A."  
3 Did I read that correctly?  
4 **A. You read that correctly.**  
5 Q. All right. And before signing this  
6 affidavit that's Exhibit 3, you reviewed the entirety  
7 of the record of the Railroad Commission hearing,  
8 correct?  
9 **A. Yes.**  
10 Q. That included all the documents that the  
11 Railroad Commission took judicial notice of?  
12 **A. As far as the ones they took judicial**  
13 **notice of, no.**  
14 Q. You didn't review those?  
15 **A. I did not review those documents.**  
16 Q. Why not?  
17 **A. They were just the judicial review. When I**  
18 **read the PFD, there was nothing to indicate any of that**  
19 **information was necessary, so no, I did not review**  
20 **every one of the ones that the examiners took judicial**  
21 **review of.**  
22 Q. Do you agree with me that it's important to  
23 consider all the data in coming up with opinions?  
24 **A. Oh, I believe so, sir.**  
25 **(Marked Deposition Ex. 9)**

Page 36

1 BY MR. SIMS:  
2 Q. Let me show you what I have marked as  
3 Exhibit 9, which is a certified copy of documents that  
4 were - and I don't have another copy of that, I'm  
5 sorry - but that were tendered to the Railroad  
6 Commission according to the Certification on December  
7 14. You've seen those documents before, haven't you?  
8 **A. I know I have seen some of them, yes. I --**  
9 **and I had received these from Mr. Stewart.**  
10 Q. From Mr. Stewart?  
11 **A. Yes, sir.**  
12 Q. And is he the one that told you that those  
13 documents came from, as you say in your affidavit,  
14 discovery information provided by Range in the lawsuit,  
15 in this lawsuit?  
16 **A. That was my understanding of it, yes, sir.**  
17 Q. And when you say "this lawsuit," you are  
18 referring to this lawsuit that's pending in Parker  
19 County with the cause number that was read earlier for  
20 this deposition?  
21 **A. I believe that's correct, yes, because that**  
22 **was the reason the heading on the affidavit.**  
23 Q. What did you do to determine, I mean  
24 independently determine if what Mr. Stewart told you  
25 was true?

Page 37

1           A. **I don't quite understand your question.**  
 2           Q. What did you do to determine if in fact the  
 3 Attachment 3A to your affidavit that's Exhibit 1 was in  
 4 fact provided by Range in this lawsuit?  
 5           A. **Because I -- I had all of this information.**  
 6 **I mean, everything -- it wasn't just that particular**  
 7 **item. It was this entire.**  
 8           Q. That entire notebook?  
 9           A. **This entire notebook with all these**  
 10 **sections; and that was Section 7, as I recall. I**  
 11 **believe that's correct.**  
 12           **(Marked Deposition Ex. 10)**  
 13 BY MR. SIMS:  
 14           Q. Let's look at the --  
 15           A. **Yes.**  
 16           Q. -- Exhibit 10 to your deposition which is,  
 17 again, another certified copy, and I'm sure you've seen  
 18 this before as well, which is the Staff Exhibit that  
 19 was tendered at the hearing?  
 20           A. **Yes.**  
 21           Q. You reviewed that?  
 22           A. **I remember reading it.**  
 23           Q. Go down to the December 14th entry, if you  
 24 will.  
 25           A. **Okay.**

Page 38

1           Q. Why don't you read that outloud.  
 2           A. **"December 14th, 2010. RRC meets with Range**  
 3 **to discuss action items. Range delivers a notebook of**  
 4 **information about Butler and Teal wells, and**  
 5 **information regarding water wells and occurrence of**  
 6 **natural gas in the area. Range reports that gas meters**  
 7 **have been installed at ... two homes, and water supply**  
 8 **has been offered to both homes but not accepted."**  
 9           Q. Okay. So on December 14th, a notebook was  
 10 presented to the Railroad Commission; is that right?  
 11           A. **Yes, that's what this states.**  
 12           Q. And according to this Certification, this  
 13 is the notebook that was presented (indicating  
 14 Exhibit 9).  
 15           A. **All right.**  
 16           MR. STEWART: Objection, form.  
 17 BY MR. SIMS:  
 18           Q. Correct?  
 19           MR. STEWART: Are you asking? Telling?  
 20           A. **I assume it is that -- what was presented.**  
 21 **It appears Range Production Company, it says 12/11,**  
 22 **that says 12/10, December 10, so ...**  
 23           MR. STEWART: Object to the responsiveness.  
 24           Don't assume. You are here to testify to  
 25 personal knowledge. If you don't know the answers --

Page 39

1           A. **I don't know what was tendered. It says,**  
 2 **"Range delivers a notebook," and this says December**  
 3 **14th. This was, what?**  
 4 BY MR. SIMS:  
 5           Q. It says right here in this --  
 6           A. **December 11.**  
 7           Q. -- this affidavit, attached is a true and  
 8 correct copy of the notebook of materials filed with  
 9 the Railroad Commission by Range Production Company on  
 10 December 14, 2010.  
 11           A. **All right.**  
 12           Q. Did I read that correctly?  
 13           A. **You read that correctly.**  
 14           **I did not have this, the affidavit page. I**  
 15 **had the notebook material.**  
 16           Q. Okay. So you had the Ellenburger structure  
 17 map --  
 18           A. **Yes.**  
 19           Q. -- which you refer to as Exhibit 3A in your  
 20 affidavit.  
 21           A. **That's correct.**  
 22           Q. And you say that it was discovery material  
 23 provided by Range in this lawsuit. The truth is, it  
 24 was information provided to the Railroad Commission --  
 25           A. **Yes.**

Page 40

1           Q. -- wasn't it?  
 2           A. **It was, as it turns out, yes.**  
 3           Q. Does that change your opinions in this  
 4 case?  
 5           A. **Well, it doesn't change my opinion because**  
 6 **of the information contained on the exhibit. As far as**  
 7 **whether if it was discovery or if it came through --**  
 8 **through the Railroad Commission, the information would**  
 9 **have been the same.**  
 10           Q. Why would you put down here that it was  
 11 discovery information provided by Range in this lawsuit  
 12 if that's not true?  
 13           A. **I assume because I got it from Mr. Stewart**  
 14 **that it was through a discovery request.**  
 15           Q. You just made that assumption?  
 16           A. **I made that assumption.**  
 17           Q. Just like you assumed that the depositions  
 18 hadn't actually been offered and admitted into  
 19 evidence?  
 20           A. **Just like I assumed ... no. I assumed they**  
 21 **had until I didn't have them.**  
 22           Q. And then you assumed that they hadn't?  
 23           A. **When I couldn't find them and with the**  
 24 **belief that the Commission had given us all the**  
 25 **exhibits, yes.**

Page 41

1 Q. You made that assumption.  
 2 A. **I made that assumption. They weren't**  
 3 **offered. Particularly when I kept re-reading that**  
 4 **sentence: "Make sure you get a copy of them." I don't**  
 5 **know if the examiners had to physically go up there or**  
 6 **if they were there. They were admitted into the**  
 7 **record.**  
 8 **(Marked Deposition Ex. 11)**  
 9 BY MR. SIMS:  
 10 Q. Let me show you what I have marked as  
 11 Exhibit 11 to your deposition.  
 12 Do you recognize this as a portion of  
 13 testimony from Dr. Kreitler at the hearing?  
 14 A. **Yes, I'm sure it is.**  
 15 Q. Do you know who he is?  
 16 A. **No. I know he testified. And I want to**  
 17 **say the name sounded so familiar, but I guess I've read**  
 18 **it so many times, he may have appeared before me when I**  
 19 **was an examiner.**  
 20 Q. All right. If you will look over at  
 21 Exhibit sixty -- excuse me, page 66 of Exhibit 11.  
 22 A. **Yes, sir.**  
 23 Q. And the question at line 10 begins, "What  
 24 is Exhibit 56?" Do you see that?  
 25 A. **Yes.**

Page 42

1 Q. And Exhibit 56 is the same document that is  
 2 shown in your affidavit as Attachment 3?  
 3 MR. STEWART: I will object to the form.  
 4 How do we know that?  
 5 BY MR. SIMS:  
 6 Q. Is that correct?  
 7 MR. STEWART: How do we know that Exhibit  
 8 56 is the same document?  
 9 BY MR. SIMS:  
 10 Q. Okay. Well, let's look at -- at your  
 11 Exhibit 1. If you will, turn over to Attachment Number  
 12 3.  
 13 MR. STEWART: Gotcha.  
 14 BY MR. SIMS:  
 15 Q. So is Exhibit -- are you with me?  
 16 A. **Yes, I think so.**  
 17 Q. And this is part of the -- part of the  
 18 record of the Railroad Commission you reviewed, right?  
 19 A. **Yes, sir.**  
 20 Q. If you will, look -- look over to page 67  
 21 of this.  
 22 A. **Yes.**  
 23 Q. And you see down here on line 24 where I  
 24 asked Dr. Kreitler, the "sort of triangular black area  
 25 is representative of what a fault might look like if

Page 43

1 one were present in either of the wellbore paths of the  
 2 Butler or Teal wells?"  
 3 A. **Yes.**  
 4 Q. I mean, Dr. Kreitler actually explained and  
 5 talked about what's shown as the fault on Exhibit 56 in  
 6 the record, didn't he?  
 7 A. **Repeat the question, please?**  
 8 Q. Dr. Kreitler explained what this triangular  
 9 cone shape was in this record before the hearing  
 10 examiners, didn't he?  
 11 A. **Yes, he did.**  
 12 Q. That was pointed out as part of the fault  
 13 during the hearing, wasn't it?  
 14 A. **Yes, he said that was a fault.**  
 15 Q. And he also pointed out that in the  
 16 wellbore paths which Exhibit 56 shows, there is no  
 17 faulting on this 3D seismic, correct?  
 18 A. **He made that statement.**  
 19 Q. And that is accurate as shown on this 3D,  
 20 isn't it, or are you capable of opining about that?  
 21 A. **Yes, I am.**  
 22 Q. There's no faulting shown --  
 23 A. **There --**  
 24 Q. -- in the wellbore paths?  
 25 A. **There is no faulting shown on the wellbore**

Page 44

1 **paths in that exhibit.**  
 2 Q. And that's exactly what Dr. Kreitler was  
 3 talking about with Exhibit 56 was whether there was  
 4 faulting in the wellbore paths.  
 5 A. **Mm-hmm.**  
 6 Q. Correct?  
 7 A. **He said according to that exhibit, that's**  
 8 **correct.**  
 9 Q. Right. And if you will, turn over to page  
 10 126 of this exhibit. I will represent to you that this  
 11 is cross examination by Mr. Cooney at this point, but  
 12 you see the question says, "The pointy black arrow  
 13 along the bottom left, is that partial or -- if we saw  
 14 an entire fault, would this -- how would that compare  
 15 to what we see in this lower left?"  
 16 And what does Dr. Kreitler say in response  
 17 to that?  
 18 A. **He says, "It would look like a splinter ...**  
 19 **we had ... more -- a larger map of this -- of the**  
 20 **Barnett and decided to give up" -- "give you a blowup**  
 21 **here to show specifically the area of the Teal and the**  
 22 **Butler Well, to show in the exhibit."**  
 23 Q. Did you read that as part of the record?  
 24 A. **Yes, I did.**  
 25 Q. And when you made your affidavit, you knew

Page 45

1 that the larger exhibit had been tendered to the  
 2 Railroad Commission, and the -- and the hearing  
 3 examiners had taken judicial notice of it, didn't you?  
 4 **A. Tendered? No. Oh. As far as in this**  
 5 **other part, yes, sir.**  
 6 Q. But you didn't say anything about that in  
 7 your affidavit, did you?  
 8 **A. No.**  
 9 **(Marked Deposition Ex. 12)**  
 10 BY MR. SIMS:  
 11 Q. Can you identify Exhibit 12, please?  
 12 **A. Yes.**  
 13 Q. What is Exhibit 12?  
 14 **A. This was part of my work product in looking**  
 15 **at wells within 2 miles to see how these wells were**  
 16 **completed, how they were plugged.**  
 17 Q. Just -- are these all the horizontal  
 18 Barnett Shale wells completed within 2 miles of Range's  
 19 wells?  
 20 **A. They are not necessarily Barnett wells.**  
 21 **They include more than that.**  
 22 Q. Okay. Is the -- looking down at the middle  
 23 of the page on the first page where it says "Praying  
 24 Mantis," the well operator is X -- XTO Energy. Are you  
 25 with me?

Page 46

1 **A. I see it now, yes, sir.**  
 2 Q. What does the "331" mean in blue there?  
 3 **A. That's where they set their surface casing.**  
 4 Q. At 331 feet?  
 5 **A. Yes.**  
 6 Q. Below surface level?  
 7 **A. Yes. Fresh water's at 270.**  
 8 Q. And where do you get that?  
 9 **A. If you read on across the line, you will**  
 10 **see "FW at." Those are what either Water Board letters**  
 11 **showed or what the back of the W3 would show.**  
 12 Q. Was this XTO Energy well completed open  
 13 hole?  
 14 **A. I -- no. I don't believe so.**  
 15 Q. Doesn't that say "No cement from 4706" up  
 16 to 331?  
 17 **A. It says longstring was set at 8243.**  
 18 Q. Over to the right --  
 19 **A. I'm sorry.**  
 20 Q. -- in yellow, doesn't it say, "No cement  
 21 from 4706" to 331?  
 22 **A. Right. That would be the top of the**  
 23 **cement.**  
 24 Q. And that means it's an open hole well.  
 25 **A. No. It means there's no cement behind**

Page 47

1 **casing.**  
 2 Q. Okay. Was that referred to sometimes as  
 3 "open hole" during -- from 4706 to 331?  
 4 **A. I don't believe I would, no. It's cased.**  
 5 **So it's not open hole.**  
 6 Q. What about the next one, there's no cement  
 7 on it from 5,304 feet all the way up to 355 feet; is  
 8 that correct?  
 9 **A. That is correct.**  
 10 Q. If we go down the list, we look at the  
 11 Devon wells, the Quicksilver wells, the XTO wells,  
 12 again, all those are consistent in that there are long  
 13 portions of the well bore that have no cement.  
 14 **A. That is correct.**  
 15 Q. And that's consistent with what Range did.  
 16 **A. That is true. You need to look at the**  
 17 **surface casing, however. You look at the Devon and the**  
 18 **Quicksilvers, all of them set anywhere from 600, and on**  
 19 **down at the bottom, Devon to over a thousand feet --**  
 20 Q. Well --  
 21 **A. -- surface casing, and yet they had the**  
 22 **same fresh waters. These were the later wells.**  
 23 Q. Well, if you look at the fresh water on the  
 24 Range wells, it says at 195.  
 25 **A. That's right.**

Page 48

1 Q. And you know Range set its surface casing  
 2 well below that.  
 3 **A. Well below that. Sure did.**  
 4 Q. Just as they were supposed to.  
 5 **A. No.**  
 6 Q. You disagree with that?  
 7 **A. Well, based on the information that they**  
 8 **gave me, they need to look at state-wide Rule 13.**  
 9 Q. Okay. Well -- well -- well, let's look at  
 10 state-wide Rule 13.  
 11 **A. Let's look at state-wide Rule 13, then.**  
 12 **(Marked Deposition Ex. 13)**  
 13 BY MR. SIMS:  
 14 Q. Let me show you what I have marked as  
 15 Exhibit 13 to your deposition.  
 16 Look at page 2, if you would, please. Do  
 17 you see (2), it says "Surface Casing"?  
 18 **A. Yes, sir.**  
 19 Q. And it says "(A) Amount required"?  
 20 **A. Yes, sir.**  
 21 Q. And then in (i) it says, "In no case ... is  
 22 surface casing to be set deeper than 200 feet below the  
 23 specified depth without prior approval from the  
 24 commission."  
 25 Is that true?

Page 49

1       A.   **That's true.**  
2       Q.   And they're talking about a Water Board  
3 letter received by the TCEQ.  
4       A.   **That's correct.**  
5       Q.   Okay. So in connection with that, have you  
6 looked at the Water Board letters that were sent to  
7 Range?  
8       A.   **Yes.**  
9       Q.   And what do they say?  
10      A.   **I believe they were saying 195.**  
11      Q.   And --  
12      A.   **I can't recall off the top of my head right**  
13 **now.**  
14      Q.   So did Range properly set the surface  
15 casing in connection with those Water Board letters?  
16      A.   **With the Water Board letters? I don't**  
17 **believe when you look at state-wide Rule 13, because if**  
18 **you look at (a) under "General," it says, "The operator**  
19 **is responsible for compliance with this section during**  
20 **all operations at the well. It is the intent of all**  
21 **provisions of this section that casing be securely**  
22 **anchored in the hole in order to effectively control**  
23 **the well at all times ..."**  
24           **That's one item.**  
25           **Next, "... all usable-quality water zones**

Page 50

1       **be isolated and sealed off to effectively prevent**  
2 **contamination or harm, and all potentially productive**  
3 **zones be isolated and sealed off to prevent vertical**  
4 **migration of fluids or gases behind ... casing. When**  
5 **the section does not detail specific methods to achieve**  
6 **these objectives, the responsible party shall make**  
7 **every effort to follow the intent of the section using**  
8 **good engineering practices and the best current**  
9 **available technology."**  
10      Q.   Okay. Well, we have a specific section  
11 telling us how to set surface casing, don't we? And we  
12 just looked at that --  
13      A.   **Yes.**  
14      Q.   -- in Rule 13?  
15      A.   **That's right.**  
16      Q.   Okay. So let's just go on and get as part  
17 of the record Exhibit 14.  
18           (Marked Deposition Ex. 14)  
19 BY MR. SIMS:  
20      Q.   And Exhibit 14 contains the TCEQ Water  
21 Board letter for the Butler well, doesn't it?  
22      A.   **It does.**  
23           MR. STEWART: Make sure you look at it  
24 before you say it does.  
25 BY MR. SIMS:

Page 51

1       Q.   And what does it report?  
2       MR. STEWART: This is 14, Andy?  
3       MR. SIMS: Yes.  
4       A.   **The letter states, "The interval from the**  
5 **land surface to 20 feet below the base of the**  
6 **Cretaceous ... beds must be protected. The base of the**  
7 **Cretaceous is estimated to occur at a depth of 175**  
8 **feet."**  
9 BY MR. SIMS:  
10      Q.   And Range set their surface casing down to  
11 200 feet below that, correct?  
12      A.   **I believe that's correct, yes.**  
13      Q.   So they complied with state-wide Rule 13  
14 with respect to that well?  
15      A.   **They complied with that part.**  
16      Q.   Okay.  
17      A.   **When you -- when information is sent to the**  
18 **Water Board, you send them a log. They don't know**  
19 **about other zones that are low below their fresh water.**  
20 **All they have is their determine where the base of the**  
21 **usable-quality water is. They don't know that these**  
22 **other zones could be productive oil or gas.**  
23      Q.   We're talking about the surface casing,  
24 aren't we?  
25      A.   **That's right.**

Page 52

1       Q.   That's what we're talking about.  
2       A.   **That's right.**  
3       Q.   And you just told me Range complied with  
4 state-wide Rule 13 with respect to the surface casing.  
5 We're going to talk about the other part --  
6       A.   **No, I didn't.**  
7       MR. STEWART: Objection, form. He didn't  
8 say that.  
9 BY MR. SIMS:  
10      Q.   You didn't say that?  
11      A.   **I didn't say that.**  
12      Q.   What did you say?  
13      A.   **I said they set more than what the Water**  
14 **Board said they were supposed to, 175, and I believe**  
15 **they set 397 and 427 --**  
16      Q.   Well, you get --  
17      A.   **-- for the various wells.**  
18      Q.   There's an additional 20 feet there that  
19 you have to take into account, isn't it?  
20      A.   **That's right. But they did not comply with**  
21 **what the rule says.**  
22           VIDEOGRAPHER: Excuse me. I just lost  
23 power.  
24      A.   **The general part of it.**  
25           **(Break from 11:04 a.m. until 11:07 a.m.)**

Page 53

1 VIDEOGRAPHER: We are back on the record at  
2 11:07 a.m.  
3 (Marked Deposition Ex. 15)  
4 BY MR. SIMS:  
5 Q. Mr. Richter, let me show you what I have  
6 shown as Deposition Exhibit 15, and does it contain the  
7 Water Board letter for the Teal well?  
8 MR. STEWART: Do you have an extra copy of  
9 that?  
10 A. **Yes, it does.**  
11 BY MR. SIMS:  
12 Q. Based on the Water Board letter and  
13 state-wide Rule 13, how far -- how far down would  
14 surface casing be allowed to be set?  
15 MR. STEWART: Objection, form, to that  
16 question.  
17 A. **Allowed to be set? An operator can set it**  
18 **anywhere.**  
19 BY MR. SIMS:  
20 Q. Under --  
21 A. **More than 200 feet. The rule provides for**  
22 **that provision with the permission --**  
23 Q. If they get prior approval?  
24 A. **Right. Just like they did here, it's a**  
25 **13 (a) exception.**

Page 54

1 Q. So in connection with the -- the two wells,  
2 they either -- they either got the approval needed to  
3 go more than 200 feet below, or they stayed within the  
4 200 feet?  
5 A. **I believe they both received 13 (a)**  
6 **exceptions. That's what that stamp means.**  
7 Q. And all this information was in front of  
8 the Railroad Commission during the hearing, correct?  
9 A. **It was in front of the commission, that's**  
10 **right.**  
11 MR. SIMS: All right. Let's take a break.  
12 VIDEOGRAPHER: We are off the record at  
13 11:09 a.m.  
14 (Break from 11:09 a.m. until 11:26 a.m.)  
15 VIDEOGRAPHER: We are back on the record at  
16 11:26 a.m.  
17 BY MR. SIMS:  
18 Q. Mr. Richter, do you know a gentleman named  
19 Joe Cress?  
20 A. **Yes.**  
21 Q. Who is he?  
22 A. **He's district director, Abilene.**  
23 Q. Is he a competent Railroad Commission  
24 district director?  
25 A. **I believe so. He's been district director**

Page 55

1 **for many years.**  
2 Q. Does he do a good job supervising and  
3 managing the employees that he has working under him?  
4 A. **I don't know.**  
5 Q. Have you ever known any instance in which  
6 Mr. Cress did not do a good job as the district  
7 director out in Abilene?  
8 A. **Again, I don't know. Being a Technical**  
9 **Hearing Examiner, I didn't mess with field operations**  
10 **that much. So the day-to-day operations,**  
11 **month-to-month operations, I wouldn't have any**  
12 **knowledge of.**  
13 Q. Do you know a man named Mr. Jonas?  
14 A. **Mr. Jonas. I do not recall that name.**  
15 Q. You were assistant director of a couple of  
16 different field offices for the Texas Railroad  
17 Commission, weren't you?  
18 A. **Well, it was one district. Kilgore was**  
19 **Districts 5 and 6 and 6E.**  
20 Q. So you were assistant district director of  
21 that office?  
22 A. **Yes, sir.**  
23 Q. What did you do as assistant district  
24 director, what were your responsibilities?  
25 A. **In that particular office, I looked at --**

Page 56

1 **besides overseeing the 21 field inspectors that we had**  
2 **at that time, I looked at all completion reports,**  
3 **plugging reports, initiating plugging procedures. This**  
4 **is back in the district office you're on call basically**  
5 **all the time, and operators would call in, "Dry hole,**  
6 **how do we plug it?"**  
7 Q. Do you feel like your office did a good  
8 job?  
9 A. **Yes.**  
10 Q. Do you feel like that the Railroad  
11 Commission employees that are stationed around the  
12 state in the district offices do a good job with the  
13 work that they do?  
14 A. **I can only assume so. Again, that's field**  
15 **operations. Technical hearings and the Office of**  
16 **General Counsel, we didn't come into contact with that**  
17 **kind of information.**  
18 Q. Do you have any factual information at all  
19 as you sit here today that any district office of the  
20 Texas Railroad Commission has not done a good job in  
21 any situation that you are aware of?  
22 A. **Again, I have no opinion. I can't give it**  
23 **to you.**  
24 Q. You have no facts that they -- that there's  
25 ever been an office that's not done a good job, as far

Page 57

1 as you know?

2 **A. They could have done jobs -- bad jobs on**

3 **something, I'm sure they got corrected for it. When**

4 **they do good jobs, they get an atta-boy.**

5 MR. SIMS: Object to the responsiveness of

6 your answer.

7 BY MR. SIMS:

8 Q. Are you aware of any situation as you sit

9 here today where any office of the Texas Railroad

10 Commission has not done a good job?

11 **A. I'm not aware one way or the other, sir.**

12 Q. You're not aware of any situation in which

13 they've done a good job?

14 **A. No.**

15 Q. Even when you were the assistant director?

16 **A. I thought you meant currently. I think we**

17 **always did a good job.**

18 Q. Okay.

19 (Marked Deposition Ex. 16)

20 BY MR. SIMS:

21 Q. Let me show you what I have marked as

22 Exhibit 16 to your deposition and ask you if you can

23 identify this document, please.

24 **A. Yeah, this is a field Inspection Report.**

25 Q. For which well?

Page 58

1 **A. This is for the Teal Unit 1H.**

2 Q. And what is the date of this field

3 Inspection Report?

4 **A. It is dated at the bottom August 10th,**

5 **2010.**

6 Q. So this is a year after the Teal well had

7 been drilled?

8 **A. I believe that's right. The Teal was**

9 **drilled in I believe close to the end of spring or**

10 **June, something like that, of 2009.**

11 Q. All right. If you would, look down in the

12 Comments section of this Inspection Report that we have

13 marked as Exhibit 16 to your deposition, and down there

14 there's -- there are some letters that says "SWR 13:

15 OK." Do you see that?

16 **A. On the second page or the first page?**

17 Q. Well, it's on the first page.

18 **A. SWK?**

19 Q. "SWR 13: OK."

20 **A. Yes. I see that.**

21 Q. Do you see that?

22 **A. Yes.**

23 Q. What does "SWR 13" stand for?

24 **A. Stands for state-wide Rule 13.**

25 Q. And if you look over in the Field

Page 59

1 Inspection Status box -- you are familiar with these

2 forms, aren't you? I mean, these are the kind of forms

3 that you would fill out when -- when you were in the

4 district office?

5 **A. No.**

6 Q. You didn't fill out these kind of forms?

7 **A. Not these kind of forms.**

8 Q. These are the actual field inspectors that

9 do this?

10 **A. Yes. This is -- well, what I'm getting at,**

11 **this form was revised in 2007. Our Inspection Reports**

12 **were a lot different back then.**

13 Q. Okay. Do you see that there is a Field

14 Inspection Status box that talks about compliance with

15 the various state-wide rules?

16 **A. Yes.**

17 Q. And do you see that the box for state-wide

18 Rule 13 for Casing/Cementing has been checked "yes"?

19 **A. Yes.**

20 Q. If you would, look at the next page of

21 Exhibit 16. Is this a District Office Inspection

22 Report for the Teal well?

23 **A. Yes, it is.**

24 Q. And it's dated what?

25 **A. October 26th, '10.**

Page 60

1 Q. 2010?

2 **A. Yes.**

3 Q. It also shows that the Teal well was in

4 compliance with state-wide Rule 13, doesn't it?

5 MR. STEWART: Objection, form.

6 **A. It says "SWR 13: OK."**

7 BY MR. SIMS:

8 Q. And it also has the Field Inspection Status

9 box that has the Compliance section and it has a check

10 under the "yes" box for state-wide Rule 13, doesn't it?

11 **A. Repeat that. I'm sorry.**

12 Q. In the Field Inspection Status box in the

13 middle of the page.

14 **A. Yes.**

15 Q. Do you see that? It has a number of

16 state-wide rules listed there.

17 **A. Yes.**

18 Q. And it has a column that says "Compliance,"

19 "yes" and "no." Do you see that?

20 **A. Yes.**

21 Q. And for state-wide Rule 13, it has a

22 Compliance check "yes" for state-wide Rule 13 for

23 casing and cementing?

24 **A. That is correct.**

25 Q. Did you review these documents before you



Page 61

1 came up with your opinions in this case?  
 2 **A. Yes.**  
 3 Q. You think that Mr. Jonas doesn't know what  
 4 he's doing?  
 5 **A. He's a field inspector.**  
 6 Q. Is he a good field inspector?  
 7 **A. I have no idea. Never met the gentleman.**  
 8 Q. Did you ever ask anybody if he's a good  
 9 field inspector?  
 10 **A. Never asked anybody.**  
 11 Q. That doesn't make any difference to you?  
 12 **A. As far as the conclusions that I drew, no.**  
 13 **(Marked Deposition Ex. 17)**  
 14 BY MR. SIMS:  
 15 Q. Let me show you what has been marked as  
 16 Exhibit 17.  
 17 Do you recognize this document?  
 18 **A. I remember seeing it, yes.**  
 19 Q. It also shows that for the Butler well for  
 20 August 10, 2010, that it is in compliance with  
 21 state-wide Rule 13, doesn't it?  
 22 **A. Yes, it does.**  
 23 Q. And if we flip over to the next page,  
 24 September 2010, there's another Inspection Report, it  
 25 shows that the Butler well is in compliance with

Page 62

1 state-wide Rule 13 for September of 2010, correct?  
 2 **A. Yes, it does.**  
 3 Q. If we flip over to the next page, there's  
 4 another Inspection Report dated September 20, 2010, it  
 5 also shows that the Butler well is in compliance with  
 6 state-wide Rule 13. Correct?  
 7 **A. It says "OK."**  
 8 Q. It also shows Compliance "yes"; the box is  
 9 checked. Correct?  
 10 **A. The box is checked.**  
 11 Q. That yes, it's in compliance.  
 12 **A. It says "yes" Compliance.**  
 13 Q. If we look at the next page, it says  
 14 Inspection Report dated October 14, 2010, correct?  
 15 **A. Yes.**  
 16 Q. It shows that the Butler well is in  
 17 compliance with state-wide Rule 13, doesn't it?  
 18 **A. Under the Field Inspection Status?**  
 19 Q. Yes.  
 20 **A. The box is marked -- checked "yes."**  
 21 Q. It also has state-wide Rule 13 OK, correct?  
 22 **A. That's what it says, yes, sir.**  
 23 Q. You didn't put any of that in your  
 24 affidavit, did you?  
 25 **A. No, sir.**

Page 63

1 Q. Why not?  
 2 **A. Because field inspector, how does he know**  
 3 **that state-wide Rule 13 is okay? Does he have the**  
 4 **completion paper? All he can look at is the surface.**  
 5 **Unless he has the G-1 in hand, he's not going to know**  
 6 **how much surface casing is set, how it was cemented,**  
 7 **longstring or anything.**  
 8 Q. You don't know what he had in hand, do you?  
 9 **A. I do not.**  
 10 Q. And you haven't asked him?  
 11 **A. No.**  
 12 Q. Let's go back to Exhibit 12 for a minute.  
 13 **A. 12.**  
 14 Q. Mr. Richter, do you admit that depending on  
 15 where you are in Parker County, that from the surface  
 16 to the base of the Cretaceous varies significantly in  
 17 depth?  
 18 **A. It can, yes. I don't know significantly.**  
 19 **I don't know what the various elevations are.**  
 20 Q. Can it vary by hundreds of feet, or do you  
 21 know?  
 22 **A. I don't know.**  
 23 Q. How -- how far down does the Strawn section  
 24 go in Parker County below the surface?  
 25 **A. How far does the Strawn go? According to**

Page 64

1 **Range's exhibit, I believe they said the Strawn goes**  
 2 **down to about 850 feet. I believe that was on -- I**  
 3 **believe it was Exhibit -- it's either 34 -- I believe**  
 4 **that was -- is their geological, like, cross-section.**  
 5 Q. Is it your opinion that all the wells shown  
 6 on Exhibit 12 that have surface casing set shallower  
 7 than 850 feet are improperly cased?  
 8 **A. As far as improperly cased, a lot depends**  
 9 **on their completion depth. The ones that were going**  
 10 **into the Strawn, probably not. If they were going**  
 11 **deeper, I would say so. Hence, that's why I look at**  
 12 **those wells of Devon and Quicksilver that they had, as**  
 13 **you can see, the fresh waters range anywhere from about**  
 14 **270 to 320, and yet the shallow was 566 and from there**  
 15 **on, 616 on up to over 900, to several with over a**  
 16 **thousand, and yet the fresh waters were still put at**  
 17 **200 to 300 feet. They knew -- I guess they knew**  
 18 **something.**  
 19 Q. What did they know?  
 20 **A. I don't know. I'm thinking maybe Range**  
 21 **should have looked to see how were other operators**  
 22 **completing their wells. That's the first thing that I**  
 23 **learned: when you're moving into an area, how are**  
 24 **other operators completing their wells. And if you see**  
 25 **them setting so much more surface casing, there should**

Page 65

1 be a question, well, why is that?  
2 I don't know if Range did that or not.  
3 Q. The purpose of surface casing is to protect  
4 the -- the water aquifer, isn't it?  
5 A. That's true.  
6 Q. And if you want to protect a well from  
7 other producing zones, you would pour your cement from  
8 the longstring casing behind the production casing up  
9 through those zones, not seal it off from surface  
10 casing.  
11 MR. STEWART: Form.  
12 BY MR. SIMS:  
13 Q. Isn't that true?  
14 MR. STEWART: I'm sorry. Form objection.  
15 A. As far as the methods that are used to  
16 comply with the rule, the intent, there are several  
17 items an operator can do. He can set more than  
18 sufficient surface casing. In his longstring, if he  
19 decided not to set more than sufficient surface casing,  
20 he could set a DV tool in his longstring, or -- and  
21 thus do a two-stage cementing job, or he can circulate  
22 his longstring.  
23 BY MR. SIMS:  
24 Q. Why -- why does the state-wide Rule 13  
25 require surface casing not to be set more than 200 feet

Page 66

1 below the Water Board letter?  
2 MR. STEWART: I'm sorry. Objection, form.  
3 A. I know from the rules that -- of physics,  
4 you start having problems with your cement because you  
5 could break down into your formation and not get  
6 circulation. That's why they don't let them -- allow  
7 them to go more than 200 feet without seeking a 13(a)  
8 exception.  
9 BY MR. SIMS:  
10 Q. It all has to do with the integrity of the  
11 cement?  
12 A. That's right.  
13 Q. Does it have anything to do with the fact  
14 that if you drill down significantly below where the  
15 rule allows, that you can get communication back up  
16 into the water zone that they are asking you not to  
17 communicate with and that's why you have the surface  
18 casing?  
19 A. That is partly it, that is correct.  
20 Q. So is it possible that these wells that  
21 you've identified that set their surface casing well  
22 down into 600, 700 feet, that they have created  
23 conduits of communication before they set their surface  
24 casing with the water aquifer?  
25 MR. STEWART: Form --

Page 67

1 A. I don't believe that --  
2 MR. STEWART: Wait. Form objection.  
3 Now you can answer.  
4 THE WITNESS: Sorry.  
5 A. I don't believe that's true. There was a  
6 reason that they set that.  
7 When you are drilling, you are only using  
8 drilling mud. You are not going to break down unless  
9 you're going to go real far down. But, so many times  
10 that they will go ahead and set more than sufficient  
11 surface casing so they don't have to circulate  
12 longstring or set a DV tool. It's an economics factor  
13 in there.  
14 BY MR. SIMS:  
15 Q. But you don't know why any of these wells  
16 were -- set surface casing or why they didn't?  
17 A. Nope, I just know that they did set more  
18 than sufficient and some of them significantly; like  
19 Devon, over a thousand feet.  
20 I would say if I were an operator and I'm  
21 going to go into the area and drill a well, I'm going  
22 to see how my offsets, the people around me in this  
23 field have been completing their wells so I can get an  
24 idea.  
25 Q. Again, the Railroad Commission hearing

Page 68

1 examiners and the Railroad Commission had all this  
2 information available to them when they made their  
3 decision in this case, correct?  
4 A. That information was supplied in I believe  
5 it was Exhibit 48, and I believe there was one page of  
6 transcript on it.  
7 Q. I want to talk to you a little bit about  
8 the -- you've got a statement in your affidavit about  
9 bradenhead pressure?  
10 A. Yes.  
11 Q. Which well had bradenhead pressure?  
12 A. It was the Butler. From what I understand,  
13 the Teal didn't even have originally a method of -- a  
14 valve so you could check it. But the Butler is the one  
15 that had the bradenhead pressure.  
16 Q. And you know from the record that the Teal  
17 was checked and it had no bradenhead pressure, correct?  
18 A. I imagine after they put the valve on, as I  
19 recall, there was something about that, yes, and it had  
20 no pressure.  
21 Q. Okay. And at the time of the hearing, the  
22 Railroad Commission hearing in January of 2011, what  
23 was the bradenhead pressure on the Butler well?  
24 A. I don't recall.  
25 Q. Did you put that in your affidavit?

Page 69

1           **A. I'd have to look. I know the Butler when**  
2 **they first checked it had the 30 psi on it.**  
3           Q. When did they first check it?  
4           **A. I would have to look at the inspection on**  
5 **that. I don't know.**  
6           Q. Have you read the Proposal For Decision --  
7           **A. Yes.**  
8           Q. -- that was issued by the hearing  
9 examiners?  
10          **A. Yes, sir.**  
11          Q. Then you know that they say in the Proposal  
12 For Decision at the time of the hearing, the bradenhead  
13 pressure was 5 pounds per square inch?  
14          MR. STEWART: Form objection. Question or  
15 statement?  
16 BY MR. SIMS:  
17          Q. You know that, don't you, you read the PFD?  
18          **A. I have read it. I don't have it memorized.**  
19          Q. But that doesn't surprise you, though, that  
20 that would be 5 pounds per square inch in January of  
21 this year?  
22          **A. Surprise me? I don't really have a -- an**  
23 **opinion on that. It could have been higher. It could**  
24 **have been lower.**  
25          Q. What is it today?

Page 70

1           **A. I have no idea. I can't go on those kind**  
2 **of properties.**  
3           Q. How -- how does -- how does the issue of  
4 bradenhead pressure play into your opinions in this  
5 case?  
6           **A. Well, my opinions are similar to as even in**  
7 **the testimony and the transcript, Range said that**  
8 **bradenhead pressures is indicative, and they used the**  
9 **word "weeping" zone somewhere between the top of the**  
10 **cement and the base of your surface pipe. And those**  
11 **zones include the Strawn, the various Atokas, Caddos,**  
12 **Marble Falls. And it's an indication that there is**  
13 **some kind of -- and when I use the word "fluid," that**  
14 **means gas or liquid, but gas is a fluid, that there is**  
15 **something going on and you have a bradenhead pressure,**  
16 **which means there's some kind of gas movement between**  
17 **your surface casing and your longstring casing and it's**  
18 **coming somewhere between the uncemented portion of the**  
19 **longstring and the formation.**  
20          Q. What kind of -- what kind of pressure would  
21 be required to move the gas from the Range Butler well  
22 to the Lipsky water well?  
23          **A. I don't know.**  
24          Q. Did you read any testimony in the hearing  
25 about that?

Page 71

1           **A. The only information I recall from the**  
2 **transcript, they were talking about somebody said**  
3 **something about, well, you take 400 foot of surface**  
4 **casing and you use .5 gradient, that would be 200**  
5 **pounds.**  
6           Q. So you do remember that?  
7           **A. I remember that section, yes.**  
8           Q. Has there ever been any 200 pounds of  
9 pressure at the bradenhead on either the Butler or the  
10 Teal wells?  
11          **A. The problem with that is when you take 30**  
12 **psi, and they said it bled off, as I recall, in like 10**  
13 **seconds, that indicates you have a column of fluid or**  
14 **something in your bradenhead, because you cannot bleed**  
15 **off 30 psi of air, gas, whatever, over 400 feet of**  
16 **casing annulus in 10 seconds. So that means there's a**  
17 **fluid level. No fluid levels were ever run.**  
18          **Once you bleed that off, then your bottom**  
19 **hole pressure could come up, and so yes, you have even**  
20 **less head space. So I don't know what the bottom hole**  
21 **pressure is at 400 feet, but it's evident that there is**  
22 **some because you did have bradenhead pressure, and it**  
23 **was natural gas.**  
24          Q. Did you read about what type of natural gas  
25 it was?

Page 72

1           **A. Yes.**  
2           Q. You saw that 50 percent of it was biogenic  
3 gas and 50 percent of it was thermogenic?  
4           MR. STEWART: Form objection.  
5           **A. Whether if it was thermogenic or the -- the**  
6 **other one you stated, it was methane gas, and it was,**  
7 **as testified by Range, probably from some formations**  
8 **that are weeping natural gas.**  
9 BY MR. SIMS:  
10          Q. Are you a geochemist?  
11          **A. No.**  
12          Q. Do you claim to be a geochemist?  
13          **A. Well, no.**  
14          Q. Have you ever held yourself out as an  
15 expert in geochemistry?  
16          **A. No.**  
17          Q. Do you know the people that testified at  
18 the Railroad Commission hearing that were experts in  
19 geochemistry?  
20          **A. I do not know them, no.**  
21          Q. Do you know anything about their  
22 qualifications?  
23          **A. Just what was presented at the Commission,**  
24 **qualifying them.**  
25          Q. Do you have anything, any reason to believe

Page 73

1 that anything they testified to was inaccurate?  
2 **A. Anything they testified to? I would --**  
3 **they were under oath. I believe they spoke what they**  
4 **believed.**  
5 Q. Why does the -- why does the Teal well not  
6 have any bradenhead pressure?  
7 **A. I don't know.**  
8 Q. If gas was migrating from the Butler well  
9 as you seem to opine, wouldn't you expect to see  
10 bradenhead pressure on the Teal well?  
11 **A. It could be migrating from both wells. I**  
12 **don't -- I don't know.**  
13 Q. You just don't know?  
14 **A. Range didn't even say why the Teal didn't**  
15 **have it but the Butler did.**  
16 Q. Do you know what biogenic gas is?  
17 **A. I read the -- the transcript.**  
18 MR. HEAD: Objection, responsiveness.  
19 BY MR. SIMS:  
20 Q. Do you know what it is?  
21 **A. Before that time I had heard of it.**  
22 MR. HEAD: Objection, non-responsive.  
23 BY MR. SIMS:  
24 Q. Do you know what it is today as you sit  
25 here?

Page 74

1 **A. I'd have to look back again, but I didn't**  
2 **make a study of it.**  
3 MR. HEAD: Objection, non-responsive.  
4 BY MR. SIMS:  
5 Q. Do you know what biogenic gas is as you sit  
6 here today?  
7 **A. No.**  
8 Q. Do you have any knowledge about whether  
9 natural gas, methane, can be produced by natural  
10 microbial processes in the earth?  
11 **A. Yes.**  
12 Q. What's your knowledge about that?  
13 **A. It's a bacterial.**  
14 Q. If gas were migrating from the Butler well  
15 as you seem to opine in your affidavit, wouldn't you  
16 expect migrating to the Lipsky water well, wouldn't you  
17 expect to see the same concentration of biogenic and  
18 thermogenic gas in the water well?  
19 **A. I -- I don't know if I opined it was**  
20 **migrating from the Butler well. It could be from**  
21 **either of those wells, just the -- the cause and**  
22 **effect. And I'm -- I'm just basing this on the**  
23 **plumbing system that Range presented to the Commission.**  
24 MR. SIMS: Objection, non-responsive.  
25 BY MR. SIMS:

Page 75

1 Q. If - if - gas were migrating from the  
2 Butler well into the Lipsky water well, would you  
3 expect to see the same ratio of biogenic -- biogenic  
4 and thermogenic gas as shown at the bradenhead of the  
5 Butler well in the Lipsky water well?  
6 **A. I don't believe so.**  
7 Q. Why?  
8 **A. One is just -- it's coming up through your**  
9 **casing annu -- casing, surface casing annulus. The**  
10 **other is going through lots of formation and into a**  
11 **water aquifer. I have no idea what else it could be**  
12 **picking up.**  
13 Q. Have you identified any pathway for gas to  
14 migrate from the Butler well or the Teal well into the  
15 Lipsky water well?  
16 **A. It is based on the presentation by Range at**  
17 **the Commission about what I referred to -- they**  
18 **referred to, rather, as a plumbing system of the tilted**  
19 **beds.**  
20 Q. So you believe that in fact there is  
21 natural pathways between the Strawn formation and the  
22 Cretaceous as testified to at the hearing?  
23 **A. Based on the information that they showed,**  
24 **yes, an angular conform -- unconformity, and that the**  
25 **beds of the Strawn do tilt upward and intersect into**

Page 76

1 **the Trinity.**  
2 **(Marked Deposition Ex. 18)**  
3 BY MR. SIMS:  
4 Q. Let's talk a little bit about the -- some  
5 water wells that have had natural gas in them out in  
6 the area of the Lipsky water well. And what I would  
7 like to do is show you a picture, some pictures that  
8 are marked as Exhibit 18.  
9 Have you ever seen these photographs  
10 before?  
11 **A. I believe so.**  
12 Q. Did you read in the hearing transcript  
13 about a man named Mr. Hurst who had a water well  
14 drilled in 2005 and the water well flared gas for a  
15 lengthy period of time?  
16 MR. STEWART: Objection, form.  
17 **A. If it was in the PFD that -- you said PFD**  
18 **or transcript?**  
19 BY MR. SIMS:  
20 Q. In either one. Did you read it? I mean --  
21 **A. I have read both of them.**  
22 Q. Do you recall reading about testimony about  
23 the Hurst water well and it flaring gas in 2005?  
24 **A. I believe I did.**  
25 Q. What -- what have you determined is the

Page 77

1 source of natural gas in the Hurst water well in 2005?  
 2 **A. That was not part of my study was looking**  
 3 **at the Hurst well.**  
 4 Q. So is it fair to say that as you sit here  
 5 today that you -- you have no opinion about where the  
 6 natural gas in the Hurst water well came from?  
 7 **A. I really don't have an opinion. I do know**  
 8 **that they said right after they completed it, even**  
 9 **before they started producing it, seems like that one**  
 10 **was just a natural gas well almost, whereas the Lipsky**  
 11 **well was a well that had been producing for many years,**  
 12 **or at least three or four years, before it had gas.**  
 13 **If this is the same well, it was a gas well**  
 14 **from the time they completed it.**  
 15 Q. Well, did it produce water?  
 16 **A. I don't know. I don't recall that. Like I**  
 17 **say, I did not do a specific study on the Hurst well.**  
 18 Q. Did Mr. Hurst use this water well for many  
 19 years after this as a water well?  
 20 **A. I don't recall.**  
 21 Q. You just don't know.  
 22 **A. I -- I don't recall.**  
 23 Q. Do you remember reading anything in the  
 24 transcript about a water well by a man named  
 25 Mr. Oujesky?

Page 78

1 **A. Yes.**  
 2 Q. And it had natural gas in it; do you  
 3 remember that?  
 4 **A. I remember there was something about that,**  
 5 **yes.**  
 6 Q. And that was drilled, that water well was  
 7 drilled before Range ever drilled their wells, correct?  
 8 **A. I have no idea.**  
 9 Q. Was the Hurst water well drilled before  
 10 Range ever drilled their wells?  
 11 **A. Since the picture says 2005, I would say**  
 12 **that was before Range.**  
 13 Q. About four years before Range ever drilled  
 14 a --  
 15 **A. It would be more or less, it appears,**  
 16 **because Range drilled theirs or completed theirs in**  
 17 **2009. This shows 2005.**  
 18 Q. These depositions that you put in your  
 19 original affidavit and have now amended your affidavit  
 20 to say some statements in there were erroneous about  
 21 those depositions, did you read those related to the  
 22 Oujesky water well?  
 23 MR. STEWART: Form objection.  
 24 **A. You said "erroneous." You're going to have**  
 25 **to clarify that up. I don't understand.**

Page 79

1 BY MR. SIMS:  
 2 Q. Well, that's what you said in your amended  
 3 affidavit, isn't it, that your statements about those  
 4 depositions were erroneous?  
 5 **A. No.**  
 6 Q. That's your words.  
 7 MR. STEWART: Form. Form objection.  
 8 BY MR. SIMS:  
 9 Q. You didn't --  
 10 **A. No, I didn't say they were erroneous. What**  
 11 **I said was they were not there at the time we went to**  
 12 **the Commission and got that information. I didn't say**  
 13 **the depositions themselves were erroneous.**  
 14 Q. Okay. Well, let's look at Exhibit 3, page  
 15 7. Do you see a paragraph f. up at the top? Page 7.  
 16 Paragraph f. up at the top of page 7.  
 17 **A. Well, I don't ... I don't have paragraph --**  
 18 MR. STEWART: Do you have Exhibit 3?  
 19 THE WITNESS: Oh, that's Exhibit 1.  
 20 MR. STEWART: Yeah.  
 21 THE WITNESS: Sorry.  
 22 **A. Okay.**  
 23 BY MR. SIMS:  
 24 Q. Why don't you read the first sentence of  
 25 paragraph f. for us of your amended affidavit.

Page 80

1 **A. "In my original affidavit, I erroneously**  
 2 **stated in paragraph 13(e) that 'Range did not introduce**  
 3 **either [the Peck or Malone] depositions at the**  
 4 **Commission hearing.'"**  
 5 Q. And then if you look down to paragraph V  
 6 a., why don't you read the first sentence of that  
 7 paragraph for us.  
 8 **A. Again, "In my original affidavit, I**  
 9 **erroneously stated in paragraph V that 'Range also**  
 10 **failed to introduce [the deposition at" -- "of Steven**  
 11 **Lipsky] at the Commission hearing.'"**  
 12 Q. And you know from reading the Peck and  
 13 Malone depositions that there were a number of water  
 14 wells drilled out here close to the Lipsky water well  
 15 long before Range ever drilled its wells that produced  
 16 natural gas, don't you?  
 17 MR. STEWART: Form objection.  
 18 **A. As I recall, yes, because it was not just**  
 19 **in those depositions, but also I believe in one of the**  
 20 **exhibits by Range, I believe they had them by date.**  
 21 BY MR. SIMS:  
 22 Q. And what have you done to determine the  
 23 source of the natural gas in these other water wells in  
 24 addition to the Hurst well that produced natural gas  
 25 prior to the time Range drilled its well?

Page 81

1           A. **I have done no study on these other wells.**  
2 **I take what Range has said that this is not a center**  
3 **point with a radial plume, that it is caused by sand**  
4 **packages channeling this kind of information.**  
5           **So there would be something else, but I**  
6 **haven't performed a study of that on these other wells.**  
7           Q. As you sit here today, you have no opinion  
8 about where the natural gas in these other water wells  
9 in close proximity to the Hurst well came from?  
10          A. **My opinion is that since I haven't done a**  
11 **study, I don't think I can form an opinion.**  
12          Q. How close is the Hurst water well to the  
13 Lipsky water well?  
14          A. **I don't know.**  
15          Q. How close is the Oujesky water well to the  
16 Hurst water well?  
17          A. **I don't know.**  
18          Q. How close is the Guge water well that  
19 Mr. Malone talked about to the Hurst well -- to the  
20 Lipsky water well?  
21          A. **I don't know.**  
22          Q. Are you familiar with some water wells from  
23 a public water supply called Lake Country Acres?  
24          A. **Yes, I recall that, yes.**  
25          Q. Have you seen documents about the Lake

Page 82

1 Country Acres public water supply?  
2          A. **Yes.**  
3          Q. And you know from those documents that  
4 it -- the Lake Country public water supplies had  
5 natural gas in its water dating back to the mid 1990s?  
6          A. **As I recall, yes, they were close to -- I**  
7 **can't remember the name of the field. They're several**  
8 **miles I want to say to the east of this area.**  
9          Q. About 1 mile to the east.  
10          A. **Okay.**  
11          Q. Does that sound about right?  
12          A. **I don't know. I thought it was several**  
13 **miles, but I don't know.**  
14          Q. Where -- where -- where is the -- where  
15 does the natural gas in those water wells come from,  
16 Mr. Richter?  
17          A. **From what I understand, it was from the**  
18 **Strawn. I believe that's correct.**  
19          Q. And where do you gain that understanding?  
20          A. **I believe that was through the testimony in**  
21 **the transcript.**  
22          Q. Testimony of who?  
23          A. **I don't know. It was a Range witness**  
24 **obviously, since they were the only ones there.**  
25          Q. Well, how did it -- how did -- how did the

Page 83

1 natural gas get into the Lake Country Acres water wells  
2 from the Strawn since it was there long before Range's  
3 drilled the Butler or Teal wells?  
4          A. **Since I haven't made a study of the Lake**  
5 **Country Estates (sic) wells, I don't know.**  
6          Q. Is the angular unconformity that you talked  
7 about in the area of the Lake Country Acres public  
8 water supply as well?  
9          A. **Now, I don't know if the information that**  
10 **Range put on that that angular -- angular conformity**  
11 **(sic) exists over there. They didn't state that. I --**  
12          Q. You don't know one way or the other?  
13          A. **I don't know one way or the other.**  
14          Q. Well, what's the significance of the  
15 angular unconformity to your opinions in this case?  
16          A. **Well, as Range testified to, that's part of**  
17 **the plumbing system.**  
18          Q. And what's the significance of the plumbing  
19 system?  
20          A. **Well, the idea of this angular conformity**  
21 **of these sand packages, if they are open to the -- the**  
22 **well bores, the uncemented sections of the well bores,**  
23 **that that would be a path of communication. It's a**  
24 **path of least resistance.**  
25          Q. And when you talk about these -- these

Page 84

1 so-called sand packages, do you have any knowledge of  
2 whether such sand packages exist in the area of the  
3 Butler or Teal wells?  
4          A. **It's strictly based on the testimony that**  
5 **Range provided. They were the ones who came up with**  
6 **this angular conformity and sand packages. It's not**  
7 **something that I dreamed up.**  
8          Q. How much pressure would be required for gas  
9 to migrate through these so-called sand packages as you  
10 talked about?  
11          A. **Range did not put on that kind of data that**  
12 **I know of.**  
13          Q. Have you done any study about that?  
14          A. **I have not done any study.**  
15          Q. Would it take years to get from Range's  
16 wells over to the Lipsky water well, based on what you  
17 are talking about?  
18          A. **I -- I have no idea. Range didn't perform**  
19 **the study. Maybe they don't; maybe they do. I don't**  
20 **know.**  
21          Q. You just don't know; you haven't done that?  
22          A. **I haven't done that.**  
23          Q. What kind of pressure would be required to  
24 get natural gas from the Butler or Teal wells over to  
25 the Lipsky water well through these sand packages that

Page 85

1 you have talked about?  
2 **A. I haven't performed that study.**  
3 Q. Your answer is you don't know?  
4 MR. STEWART: His answer was he hasn't  
5 performed the study. If you want to --  
6 BY MR. SIMS:  
7 Q. As you sit here today you don't know?  
8 **A. As I sit here today, I do not know.**  
9 Q. What would you have to do to find out?  
10 **A. I'd have to know a lot more information,**  
11 **and our study is ongoing. I feel like if - and this is**  
12 **my belief - if Range knew, and I -- and they -- and**  
13 **from where -- I understand it, they believe that, that**  
14 **that is the communication of the Strawn into the**  
15 **aquifer, this angular conformity.**  
16 Q. You will admit that that communication from  
17 the Strawn into the aquifer has been going on long  
18 before Range drilled its wells.  
19 **A. I have no idea on that. I have information**  
20 **on the Lipsky well that it was drilled in 2005. It did**  
21 **not produce any gas until 2010, after Range had**  
22 **completed its wells.**  
23 Q. Do you have information --  
24 **A. That's what I know.**  
25 Q. Do you have information on the Hurst well?

Page 86

1 It was drilled in 2005 and it produced gas.  
2 **A. But I wasn't asked to do a study on that.**  
3 **I was asked to look at the Lipsky well and the possible**  
4 **cause, the most likely cause of gas that got into its**  
5 **well and how.**  
6 Q. What's the most likely cause of gas in the  
7 Hurst well?  
8 **A. Again, I haven't performed a study on that,**  
9 **so I don't know.**  
10 Q. What's the most likely cause of gas in the  
11 Oujesky well?  
12 **A. I haven't performed a study on that.**  
13 Q. What's the most likely cause of gas in the  
14 Lake Country Acres wells?  
15 **A. I haven't performed a study on that.**  
16 Q. Didn't you tell us earlier that you thought  
17 that the reason those wells had natural gas in them was  
18 because of the angular unconformity?  
19 **A. If the angular unconformity goes over**  
20 **there, I don't know. Range did not come up with how**  
21 **system-wide - and when I say "system," I mean**  
22 **area-wide - they believe this angular conformity is.**  
23 Q. But they certainly -- there was certainly  
24 testimony about the fact that the angular unconformity  
25 exists in the area of the Lipsky well, correct?

Page 87

1 **A. Yes.**  
2 Q. And do you think that angular unconformity  
3 existed at the time the Hurst well was drilled?  
4 **A. If --**  
5 MR. STEWART: Objection, form. Where?  
6 **A. From a geologic time, if it was there, it**  
7 **was there.**  
8 BY MR. SIMS:  
9 Q. Do you think that's the most likely cause  
10 of natural gas getting in the Hurst well?  
11 **A. I don't know.**  
12 MR. STEWART: Objection. He's told you he  
13 doesn't know.  
14 BY MR. SIMS:  
15 Q. You just don't know.  
16 **A. I don't know. I haven't performed a study**  
17 **on that.**  
18 Q. What would you have to do to study that,  
19 Mr. Richter?  
20 **A. I'd have to look at a lot more information**  
21 **than I have looked at.**  
22 Q. And what would you -- what information  
23 would you look at?  
24 **A. Well, I'd start looking very closely at the**  
25 **way those wells were drilled.**

Page 88

1 Q. The water wells?  
2 **A. The way they were completed.**  
3 Q. The water wells?  
4 **A. Yes.**  
5 Q. And why would you want to know that?  
6 **A. To see where they are completed, how they**  
7 **were completed, what kind of -- particularly on the**  
8 **Hurst well from -- again, what I understand, it came on**  
9 **gas immediately.**  
10 Q. Well, the truth is you've looked at all  
11 those water well reports, haven't you?  
12 **A. I can say yes, I looked at them. But did I**  
13 **do a research analysis, a detailed analysis of each**  
14 **one? No.**  
15 Q. Truth is you looked -- you looked at -- at  
16 all this back in early January of this year, didn't  
17 you?  
18 **A. The truth is, is what I've told you**  
19 **already. Yes, I looked at them, but I was more**  
20 **concerned about the Lipsky well.**  
21 Q. Who told you not to go down and testify at  
22 the Railroad Commission hearing?  
23 MR. STEWART: Objection, form. Who says  
24 anyone told him not to go down and testify?  
25 BY MR. SIMS:

Page 89

1 Q. I'm asking you. Did someone tell you not  
2 to go?  
3 MR. STEWART: Objection, form. Your --  
4 your -- your question assumes facts that aren't in  
5 evidence anywhere.  
6 BY MR. SIMS:  
7 Q. Did someone tell you not to go down and  
8 testify at the Railroad Commission hearing?  
9 A. No.  
10 Q. You were involved in a phone call on  
11 January 3rd with a lawyer in Austin named Mr. Sewells,  
12 right?  
13 A. Who?  
14 Q. Mr. Sewell? John Sewell?  
15 A. January 3rd, John Sewell. Well, if I was,  
16 I don't remember it.  
17 Q. You don't remember it?  
18 A. I don't --  
19 Q. What about Mr. Stewart, were you involved  
20 in a phone call with him on January 3rd?  
21 A. Oh, gosh, January 3rd, no, I don't know.  
22 Q. Were you ever involved in any conversations  
23 about whether you-all should go down and testify at the  
24 hearing or not?  
25 A. Not to my knowledge; I don't recall any

Page 90

1 kind of call like that.  
2 Q. Do you recall any kind of conversation with  
3 anybody about that?  
4 A. I don't believe so.  
5 Q. Do you recall ever being told that there  
6 was going to be a hearing at the Railroad Commission?  
7 A. Oh, I knew there was going to be a hearing.  
8 I print out the Commission schedule every week to see  
9 what hearings are going on.  
10 Q. And you were looking at all this  
11 information back in early January of 2011, weren't you?  
12 A. Yes. Yes.  
13 Q. And you -- did you -- did you ever ask  
14 anybody, "Hey, are we going to go, are we going to go  
15 present something to the Railroad Commission? I mean,  
16 why are we doing all this in early January?"  
17 A. It's -- my part on this, Mr. Sims, the  
18 contact was through PGH Engineers. It wasn't a direct  
19 content -- contact with me. I was just assisting in  
20 doing things. As far --  
21 Q. Who was -- who was the direct contact with?  
22 A. Oh, Mr. Gore.  
23 Q. Mr. Gore. Okay.  
24 A. Yeah. He's the "G" in PGH.  
25 Q. So -- so when is the first time you had any

Page 91

1 direct contact with Mr. Stewart or Mr. Ritter or  
2 Mr. Lipsky or anybody else related to this case other  
3 than Mr. Gore?  
4 A. It was the latter part, the very latter  
5 part of December.  
6 Q. Of 2010?  
7 A. Yes.  
8 Q. And who did you talk to?  
9 A. I believe -- well, Mr. Gore. He's the one  
10 who --  
11 Q. Okay. I thought I excluded him from the  
12 conversation.  
13 A. Oh.  
14 Q. So -- so let's --  
15 MR. STEWART: That was a long list you had.  
16 BY MR. SIMS:  
17 Q. Let's go back.  
18 A. Yeah, sorry.  
19 Q. Other than Mr. Gore, and we'll get around  
20 to him, but other than Mr. Gore, when is the first time  
21 you ever talked to Mr. Stewart or Mr. Ritter or  
22 Mr. Lipsky or anybody else related to this case?  
23 A. I would think it would be sometime the very  
24 last part of December.  
25 Q. And who did you talk to?

Page 92

1 A. I'm going to assume it was Mr. Stewart.  
2 Q. What did you talk to Mr. Stewart about?  
3 A. Wow. I'll try to recall everything I -- I  
4 guess he laid out --  
5 MR. STEWART: Objection. Responsiveness.  
6 Don't guess. If you can remember, you can tell him.  
7 A. Well, I don't remember. That was --  
8 there's been lots of conversations I've had with lots  
9 of people over the time. It's not like I jot stuff  
10 down.  
11 BY MR. SIMS:  
12 Q. You don't jot anything down?  
13 A. No.  
14 Q. Why not?  
15 A. Don't need to.  
16 Q. What did y'all talk about?  
17 A. Well, I'm sure it was about the Lipsky  
18 matter and about the gas in the water well.  
19 Q. Did he tell you there was a hearing coming  
20 up in January?  
21 A. If he did, I don't remember. I just  
22 remember it showing up on the schedule, the Commission  
23 website schedule that I print out every Monday.  
24 Q. Was there a point in time where you thought  
25 you were going to go testify at the hearing?



Page 93

1       **A. No, because I know in the various**  
2 **conversations we had, and when I say "we," my main**  
3 **contact has always been through Mr. Gore, and --**  
4       Q. Was there a point in time where Mr. Gore  
5 thought y'all were going to go testify at the hearing?  
6       **A. Well, if he did, he never said anything to**  
7 **me about it. I don't know if there was ever any, you**  
8 **know, indication whether we were going to testify.**  
9       Q. Did you ever ask anybody, since you get the  
10 schedule every week and you saw that you're working on  
11 a matter that's coming up for hearing at the Railroad  
12 Commission in January, did you ever ask anybody, "Hey,  
13 are we going to go testify at that hearing?"  
14       **A. Or even go to the hearing? I would say**  
15 **yes, I asked Mr. Gore and he said, "Well, we haven't**  
16 **been directed to."**  
17       Q. That's what he told you?  
18       **A. I don't know if that's what he told me. I**  
19 **just know --**  
20       MR. STEWART: Responsiveness. You need to  
21 answer what you remember.  
22       THE WITNESS: Oh.  
23       MR. STEWART: Don't guess.  
24       **A. Well, I don't remember exactly what he**  
25 **said, then.**

Page 94

1 BY MR. SIMS:  
2       Q. When did you have that conversation with  
3 Mr. Gore?  
4       **A. I have no idea. I would have to say**  
5 **probably the week before when the schedule comes out.**  
6       Q. Did you ever tell Mr. Stewart that you got  
7 information that the Railroad Commission needs to hear  
8 about this matter?  
9       **A. No.**  
10       Q. Did you tell Mr. Gore you've got  
11 information about this that the Railroad Commission  
12 needs to hear?  
13       **A. No.**  
14       Q. Did you tell Mr. Lipsky you've got  
15 information about this matter that the Railroad  
16 Commission needs to hear?  
17       **A. No.**  
18       Q. What involvement has Mr. Gore had with the  
19 work on this matter?  
20       **A. He and I communicate pretty closely. I've**  
21 **been more of the -- the actual digging person on this.**  
22 **I keep him informed of the general overview and we**  
23 **discuss various things as far as what we should be**  
24 **looking at about the casing and items like that.**  
25       Q. How do you communicate with Mr. Gore?

Page 95

1       **A. Verbally. His office is right next to**  
2 **mine.**  
3       Q. Do you ever send him e-mails?  
4       **A. No need to. I just walk down to his**  
5 **office.**  
6       Q. My question is:  
7 Do you ever send him e-mails?  
8       **A. No.**  
9       Q. Never?  
10       **A. Sure I send him e-mails sometimes when --**  
11 **because I will copy.**  
12       Q. Have you sent --  
13       **A. Somebody will send me an e-mail and if it**  
14 **involves a client or something that I think he needs to**  
15 **know about, I will forward it on to him.**  
16       Q. Have you sent him any e-mails related to  
17 this matter?  
18       **A. I don't believe so, because again, it's**  
19 **something I can just walk next door and tell him.**  
20       Q. Have you checked your computer to see?  
21       **A. Since I have a policy of when I get**  
22 **e-mails, I do whatever they say or I start the review**  
23 **and I delete them; otherwise it just keeps on getting**  
24 **bigger and bigger as far as my inbox would be.**  
25       Q. You understand that your e-mails are still

Page 96

1 going to be on your hard drive of your computer, don't  
2 you?  
3       **A. If they are, they are. I don't know. I --**  
4       Q. You haven't done anything to check e-mails  
5 about this matter to produce those as part of this  
6 case, have you?  
7       **A. As I stated earlier this morning, I trashed**  
8 **those; and you asked me about the hard drive, and I**  
9 **told you I don't know anything about the hard drive.**  
10       **(Marked Deposition Ex. 19)**  
11 BY MR. SIMS:  
12       Q. Do you recognize what has been marked as  
13 Exhibit 19 to your deposition?  
14       **A. Yes, sir.**  
15       Q. What is it?  
16       **A. That was the notice of deposition of**  
17 **myself.**  
18       Q. Did you go through all the categories of  
19 documents to be produced for your deposition?  
20       **A. I believe I briefly read through all of**  
21 **them, yes. And nearly all the information that I had,**  
22 **I had already sent to Mr. Al Stewart; I think it was**  
23 **three boxes, and then some supplement, plus what I**  
24 **brought today.**  
25       Q. Okay. We're going to talk in a minute

Page 97

1 about what you brought today.  
2 But you sent Mr. Stewart three boxes of  
3 stuff?  
4 **A. I -- well, I sent it to David Ritter's**  
5 **office, and then from there I think they were going to**  
6 **take over to Steve Jensen with Mr. Stewart's office. I**  
7 **believe it was three boxes.**  
8 **(Marked Deposition Ex. 20)**  
9 BY MR. SIMS:  
10 Q. Let me show you what has been marked as  
11 Deposition Exhibit 20 to your deposition, which is a  
12 DVD that we received from Mr. Stewart's office.  
13 Have you ever seen that before?  
14 **A. No.**  
15 Q. Do you have any idea what's contained on  
16 that DVD?  
17 **A. No.**  
18 Q. Do you know if what's contained on that DVD  
19 matches up with the three boxes that you produced?  
20 **A. Well, since I didn't even know that**  
21 **existed, no, I would -- I wouldn't know.**  
22 Q. Do you know if anything's been withheld out  
23 of the three boxes that you produced, from us?  
24 **A. No.**  
25 Q. You brought another folder with you today.

Page 98

1 Let's mark that as Exhibit 21 to your deposition.  
2 Actually you've got two --  
3 MR. STEWART: Why don't you put that folder  
4 inside and you can mark the Redweld, and if you want to  
5 break them out independently, you can.  
6 **(Marked Deposition Ex. 21)**  
7 BY MR. SIMS:  
8 Q. If you will, explain to us what Exhibit 21  
9 is to your deposition, please, sir.  
10 **A. Exhibit 21 is just the -- the information**  
11 **that I have already sent you but I had kept a copy of,**  
12 **so -- I knew this deposition was going to be coming up,**  
13 **so that's why I kept something, so I would have so I**  
14 **could look at it. And I have the -- just various --**  
15 **the colored documents of what all I have.**  
16 Q. And when you say information you sent me,  
17 that's really -- you're talking about the three boxes  
18 you sent to the lawyers?  
19 **A. Well, the three boxes, and then I sent a**  
20 **subsequent package of stuff.**  
21 Q. And what was in the subsequent package of  
22 stuff?  
23 **A. Basically this right here (indicating**  
24 **Exhibit 21).**  
25 Q. And you don't know to what extent any of

Page 99

1 that has actually been produced to us?  
2 **A. No, I don't. But what is in Exhibit 21 is**  
3 **what I had sent them. This is just my working copy so**  
4 **I could have something to refer to.**  
5 Q. Okay, we'll ask the court reporter to make  
6 a complete copy of everything you've got there exactly  
7 like it is, and we'll get the --  
8 **A. Okay.**  
9 Q. -- originals back to you.  
10 MR. SIMS: Why don't we take a lunch break  
11 at this point and be back say in an hour?  
12 MR. STEWART: That's fine.  
13 VIDEOGRAPHER: We are off the record at  
14 12:22 p.m.  
15 (Break from 12:22 p.m. until 1:32 p.m.)  
16 VIDEOGRAPHER: We are back on the record at  
17 1:32 p.m.  
18 BY MR. SIMS:  
19 Q. Mr. Richter, before our break we were  
20 talking about the Hurst water well, and you are aware  
21 that it's located about 800 feet away from the Lipsky  
22 water well?  
23 **A. Yes, I am aware of that.**  
24 Q. And how far away are the Range gas wells,  
25 the Butler and the Teal, from the Lipsky water well?

Page 100

1 **A. As I recall, the surface location is**  
2 **approximately 2300 feet.**  
3 Q. So the surface location of the Range Butler  
4 and Teal gas wells are about three times as far away  
5 from the Lipsky water well as is the Hurst water well?  
6 **A. You said that the Hurst well was 850 feet?**  
7 Q. It says about 800 feet.  
8 **A. 800 feet. Well, yes, that would be 3 times**  
9 **8 is 2400.**  
10 Q. If the Hurst water well that flared gas in  
11 2005 had been 400 feet away from the Lipsky water well,  
12 would that have changed any of your opinions that you  
13 have given in this case?  
14 **A. I don't know, because like I informed you**  
15 **earlier, I haven't really made a study of that Hurst**  
16 **well. So.**  
17 Q. If the Hurst water well that flared gas in  
18 2005 had been a hundred feet away from the Lipsky water  
19 well, would that have made any difference in your  
20 opinions in this case?  
21 **A. I don't know. I would have to look at it,**  
22 **sir.**  
23 Q. If the Hurst water well that had been --  
24 that flared gas in 2005 had been 50 feet away from the  
25 Lipsky water well, would that have made any difference

Page 101

1 in your opinions in this case?  
2 **A. Since I haven't done a study of the Hurst**  
3 **well, I don't know. I haven't made a study.**  
4 Q. If the Hurst water well that flared gas in  
5 2005 had been 10 feet away from the Lipsky water well,  
6 would that have made any difference in your opinions in  
7 this case?  
8 **A. Again, I'd have to make a study. There's**  
9 **information there.**  
10 Q. Have you made any study about whether there  
11 was actually methane in the Lipsky water well as far  
12 back as 2005, in some amount?  
13 **A. I haven't made such a study.**  
14 Q. You don't have any water tests or head  
15 space gas tests from the Lipsky water well going back  
16 prior to 2010 that you've seen, correct?  
17 **A. I have not seen any such data.**  
18 Q. As you sit here today, you don't know for a  
19 fact whether or not the Lipsky water well had any  
20 amount of methane in it prior to 2010, do you?  
21 **A. I do not know that as a fact because I have**  
22 **seen no data.**  
23 Q. Now, did I understand your testimony  
24 correctly before lunch that it is your opinion that a  
25 geological angular unconformity exists in the area of

Page 102

1 the Lipsky well?  
2 **A. Yes.**  
3 Q. And did I under -- and is it then your  
4 opinion that in the area of the Lipsky well, there are  
5 natural pathways that exist from the Strawn into the  
6 Cretaceous?  
7 **A. Based on the exhibits that Range has**  
8 **presented at the Commission, yes, I agree with them.**  
9 Q. And is it your opinion that natural gas  
10 which naturally occurs in the Strawn can get from the  
11 Strawn into the Cretaceous through natural means?  
12 **A. I believe when you are saying natural gas**  
13 **in the Strawn, you're saying that all Strawn formation**  
14 **has the gas in it? Because I don't know that for a**  
15 **fact.**  
16 Q. Do you know that some Strawn formations --  
17 some of the Strawn formation has natural gas in it  
18 naturally?  
19 **A. Yes, and that is through the field**  
20 **designations by the Commission where operators have**  
21 **completed wells in fields that produce from the Strawn.**  
22 Q. If the Strawn formation in the area of the  
23 Lipsky water well has natural gas in it through natural  
24 processes, is it your opinion that the angular  
25 unconformity provides a natural pathway for that

Page 103

1 natural gas in the Strawn to get into the water aquifer  
2 in the Cretaceous?  
3 **A. As the path may exist, it doesn't**  
4 **necessarily mean it would naturally migrate, though.**  
5 **There has to be some kind of trigger or catalyst for**  
6 **fluids to move.**  
7 Q. Is it true that, generally speaking,  
8 natural gas will rise if given the opportunity to do  
9 so?  
10 MR. STEWART: Form objection.  
11 **A. Natural gas will rise? Well, it depends on**  
12 **the chemical composition of it. Maybe methane might.**  
13 **But as you get into your heavier components, it's not**  
14 **necessary, because it's a matter of function of**  
15 **temperature and pressure.**  
16 BY MR. SIMS:  
17 Q. Okay, well, let's talk about methane. In  
18 this area of angular unconformity, I understand your  
19 opinion to be that there are natural pathways through  
20 which gas, if it exists in the Strawn, could get into  
21 the Cretaceous and the water aquifer.  
22 **A. If there is some kind of catalyst to have**  
23 **it move; otherwise it remains static.**  
24 Q. Have you done any studies to determine  
25 whether there is any natural catalyst to cause methane

Page 104

1 in the area of the Lipsky water well that may exist in  
2 the Strawn to rise up into the Cretaceous?  
3 **A. That is a -- an ongoing study that's based**  
4 **on Range's plumbing system that yes, I plan on doing,**  
5 **but I have not performed at this time.**  
6 Q. What will you do to perform that study?  
7 **A. I'll have to look at all the data for that**  
8 **and see what kind of stimulus there would be for --**  
9 **to -- to change the equilibrium of a static gas column**  
10 **to move upward, downward; there has to be some kind of**  
11 **pressure differential for gas to move.**  
12 Q. And as you sit here today, you have not  
13 done any study to determine what sort of pressure  
14 differential would be required to make the gas move?  
15 **A. Not at this time.**  
16 Q. Do you think 5 pounds per square inch 2300  
17 feet away is going to be sufficient pressure to do  
18 that?  
19 MR. STEWART: Form objection.  
20 **A. As of this time, you've put some**  
21 **assumptions in there that -- you say 5 pounds over 2300**  
22 **feet. I -- I don't know what the 5 pounds is.**  
23 BY MR. SIMS:  
24 Q. You haven't read the Proposal For Decision  
25 that showed that the bradenhead pressure was 5 pounds

Page 105

1 per square inch in January 2011 on the Butler well?  
2 **A. Yes.**  
3 Q. You have read that?  
4 **A. Yes, I have read that.**  
5 Q. Okay. Do you believe it?  
6 **A. Well, I believe I pointed out to you**  
7 **earlier that I don't know what the pressure is at 400**  
8 **feet.**  
9 Q. How would you determine what the pressure  
10 is at 400 feet?  
11 **A. You have to -- again, as I pointed out, I**  
12 **don't know what the fluid level is, if there is a fluid**  
13 **level or what, in the bradenhead of the Butler well.**  
14 Q. When you say "fluid level," are you talking  
15 about a liquid fluid level?  
16 **A. It would have to be, yes.**  
17 Q. And that fluid level would have to be  
18 almost all the way up to the top or close to the  
19 bradenhead for there to only be 5 pounds per square  
20 inch, wouldn't it?  
21 **A. Now, that, I don't know. And the reason I**  
22 **say that is this: Based on what Range testified to**  
23 **that even at 30 psi it would bleed off in 10 seconds,**  
24 **that indicates that there has to be a very small**  
25 **volumetric at the top, because 400 feet of casing**

Page 106

1 **annulus down there between your surface casing and your**  
2 **longstring casing, 30 psi of air, gas, whatever, would**  
3 **take quite a while to bleed off.**  
4 Q. And how is it that any gas 400 feet below  
5 this, this liquid that you say must exist in the  
6 annulus, how is it that -- that any -- any -- any gas  
7 400 feet down is getting beyond or around that liquid?  
8 MR. STEWART: I'm sorry. Objection, form.  
9 **A. It could be liquid, and that includes mud,**  
10 **but Range testified that it is coming from zones below**  
11 **the base of the surface pipe. They used the word,**  
12 **actually, "weeping."**  
13 **I agree with what they testified to, that**  
14 **that's what's happening.**  
15 BY MR. SIMS:  
16 Q. How -- how -- what -- by what pathway is  
17 any gas from the Strawn formation that may be in the  
18 annulus of the well, by what pathway is it -- is it  
19 getting into the Cretaceous at that vertical well  
20 column?  
21 MR. STEWART: Form objection.  
22 **A. I don't believe I -- I can picture your**  
23 **question. Would you try again, please?**  
24 BY MR. SIMS:  
25 Q. Have you identified any specific pathway

Page 107

1 that any gas in the annulus of the Butler well may be  
2 migrating to the Lipsky water well?  
3 **A. In the -- in -- and you said in the**  
4 **annulus. Are you talking in the surface casing**  
5 **longstring annulus, or that area between the top of the**  
6 **cement of the longstring and the base of the surface?**  
7 Q. Have you -- have you opined in this case  
8 that -- that natural gas is migrating from the Butler  
9 well or the Teal well to the Lipsky water well?  
10 **A. I believe that it -- it's a possibility in**  
11 **that the way the well was completed, that the avenue**  
12 **exists.**  
13 Q. You believe it's a possibility that there's  
14 some avenue that exists?  
15 **A. Something had to disturb the equilibrium.**  
16 Q. Doesn't that mean it's also a possibility  
17 that there is no such pathway?  
18 **A. The pathway exists there.**  
19 Q. What pathway exists?  
20 **A. The plumbing system that Range has**  
21 **testified to, the angular, the way the beds of the**  
22 **Strawn come up angularly into the Trinity aquifer. If**  
23 **it were pancake across there, no, it couldn't get in**  
24 **there; you have -- it just doesn't have the pathway.**  
25 Q. Have you identified any specific pathway

Page 108

1 from the Butler or Teal wells to the Lipsky water well  
2 that connects from that to the Lipsky water well?  
3 **A. The pathways that were shown on Range's**  
4 **exhibit.**  
5 Q. Have you identified any pathway that any  
6 gas from the Strawn or lower formations is actually  
7 getting around the surface casing into -- and into the  
8 Lipsky water well?  
9 **A. I don't believe there's been any data from**  
10 **Range on that. So.**  
11 Q. So you don't have any opinion about that?  
12 **A. I haven't done a study on it. I don't --**  
13 **maybe they have done it by now. I -- I have no idea.**  
14 Q. Do you know if methane occurs naturally in  
15 the Strawn formation in the area of the Lipsky water  
16 well?  
17 **A. Methane being a component of natural gas**  
18 **and if the Strawn is productive in that area, in that**  
19 **particular pathway, yes, it probably could migrate if**  
20 **there was a stimulus to do such.**  
21 Q. And as you sit here today, you just -- you  
22 don't know whether there's been any such stimulus?  
23 **A. The only stimulus that I know of was the --**  
24 **the well bores. I didn't see any sections of the well**  
25 **bores that were open to these various other formations**

Page 109

1 that are product -- that are productive in the -- at  
2 least within a 5-mile area.  
3 Q. Are they productive in the area of the Teal  
4 and Butler wells, these other formations you are  
5 talking about?  
6 A. They are within 5 miles, according to the  
7 Commission schedules, completion forms. I pulled 117  
8 wells that had produced from anything from the Atoka,  
9 Marble Falls to Caddo.  
10 Q. What was the closest one to where the Teal  
11 and Butler wells are located?  
12 A. I -- I did not pinpoint those wells. I  
13 just pulled the wells information.  
14 Q. Have there been any commercially productive  
15 natural gas wells in, say, within a thousand feet of  
16 the Butler and Teal wells, where they are drilled --  
17 A. As --  
18 Q. -- in the Atoka or the Strawn or any of  
19 that?  
20 A. As I -- as I stated, I think so, but I  
21 don't know for sure because I have not pinpoint these  
22 on a map. I do know that the Commission has recognized  
23 at least 117 completions, again in the Atoka, the  
24 Marble Falls, the Caddo, that are within 5 miles, and  
25 that's excluding just the Strawn wells and the Barnett

Page 110

1 wells.  
2 Q. Based on everything you have looked at, in  
3 your words, in light of the -- of all of the available  
4 evidence, is the best explanation for the gas in the  
5 Hurst water well that it -- that it occurred naturally?  
6 A. I don't know. I can't make that opinion  
7 because, again, I haven't made a study of the Hurst  
8 well.  
9 Q. And you can't -- you can't give us an  
10 opinion about the best explanation for natural gas in  
11 any of the other water wells that existed prior to the  
12 time Range drilled the Butler or Teal wells; is that  
13 true?  
14 A. I cannot give an opinion because I have not  
15 performed a study of it.  
16 Q. Is it possible that the same source of gas  
17 in the Hurst water well and the Guge water well and the  
18 Oujesky water well and the Lake Country Acres water  
19 wells is all from the same naturally occurring source?  
20 A. As I haven't made a study of it, I don't  
21 have an opinion on it.  
22 Q. May be possible, may not be possible; you  
23 just don't know?  
24 A. Well, "possible," anything is possible.  
25 Q. What have you done to exclude or rule out

Page 111

1 that the source of gas in the Hurst water well in 2005  
2 and these other water wells prior to the time Range  
3 drilled the Butler and Teal is the same source as  
4 what's in Lipsky's water well?  
5 A. I have not performed a study on those  
6 wells, so therefore I don't have an opinion on them.  
7 Q. What is -- what does the phrase "reasonable  
8 degree of engineering certainty" mean?  
9 A. The way I have always used it was that  
10 sometimes the simplest is the best. Range presented a  
11 schematic type scenario that they believed in, that how  
12 gas can migrate from the Strawn into the Trinity. That  
13 creates a pathway, versus the other, again, pancake  
14 geology where I don't believe it would exist.  
15 I agree with Range in their depiction of  
16 how the Strawn interacts with the Trinity.  
17 MR. HEAD: Objection, non-responsive.  
18 BY MR. SIMS:  
19 Q. What is meant by the phrase, "to a  
20 reasonable degree of engineering certainty"?  
21 A. Using the physical properties of the -- of  
22 pressures, the formations being present that have been  
23 productive in the area, the Atoka, the Marble Falls,  
24 the Caddo, the Strawn, and then you give the -- the  
25 plumbing system mechanics of what can happen as far as

Page 112

1 the transmitting gas from a lower level to a higher  
2 level, there is a communication type path present.  
3 Without that path being there, then I would say no.  
4 MR. HEAD: Objection, non-responsive.  
5 BY MR. SIMS:  
6 Q. What do you -- what is meant by the phrase  
7 "to a reasonable degree of engineering certainty" that  
8 you use in your affidavits?  
9 A. Because of the way this pathway exists, the  
10 Lipsky well did not produce gas when it was first  
11 drilled. It was four years later.  
12 Q. Well, you just told us you don't know that  
13 for sure. Right?  
14 A. Well, I --  
15 MR. STEWART: Objection, form. That's not  
16 what he said.  
17 A. I did not say that.  
18 BY MR. SIMS:  
19 Q. You don't have any facts to know that for  
20 sure, do you? You haven't studied.  
21 MR. STEWART: Form.  
22 A. Just the -- the testimony that I have  
23 heard.  
24 BY MR. SIMS:  
25 Q. And none of those people did any actual

Page 113

1 testing to determine whether methane was in the water,  
2 did they?  
3 **A. I don't know.**  
4 Q. Well, in their depositions they said they  
5 didn't; isn't that right?  
6 **A. From what -- the way I understood the**  
7 **transcript that the examiners published and said there**  
8 **was no gas. So I'm assuming just that, there was no**  
9 **gas.**  
10 Q. You've made that assumption.  
11 **A. From the Proposal For Decision, yes.**  
12 Q. Does the Proposal For Decision talk about  
13 when gas first appeared in the Lipsky water well?  
14 **A. As I recall, it does.**  
15 Q. Do you know that for sure?  
16 **A. I would have to look at the Proposal For**  
17 **Decision.**  
18 Q. Aside from whatever you've done in this  
19 case, what does the phrase "to a reasonable degree of  
20 engineering certainty" mean?  
21 **A. To me, here is the mechanics of it, here's**  
22 **the well bores that were drilled, I know that there are**  
23 **formations there that are productive in the area, there**  
24 **could be gas there, I have bradenhead pressures which**  
25 **indicates you have some kind of bottom hole pressure**

Page 114

1 **and that's basically somewhere below the base of the**  
2 **surface pipe. I have an avenue of mechanics that can**  
3 **transfer the gas from this point to this point. The**  
4 **tilts are correct, the directions are correct. So I'd**  
5 **say within reasonable certainty, yes, I believe that is**  
6 **actually what's happened.**  
7 MR. HEAD: Objection, non-responsive.  
8 MR. SIMS: Objection, non-responsive.  
9 BY MR. SIMS:  
10 Q. What does the phrase "to a reasonable  
11 degree of engineering certainty" mean?  
12 MR. STEWART: I'm going to object. You  
13 have asked -- you have asked him four times. If you  
14 are asking for a legal definition, he's not there as a  
15 lawyer to give it to you. He's basically told you now  
16 four different times what he's tried to say what he  
17 means when he has given his affidavit, "within a  
18 reasonable degree of engineering certainty."  
19 BY MR. SIMS:  
20 Q. Did you --  
21 MR. STEWART: So you have had four or five  
22 cracks at him. Why don't you ask another question.  
23 BY MR. SIMS:  
24 Q. Did you come up with that term or did  
25 someone tell you to put that in your affidavit?

Page 115

1 **A. That's some -- that's a term I've used a**  
2 **long time. I've learned that through all the hearings,**  
3 **particularly the protested hearings where they talk**  
4 **about within engineering certain -- certainty.**  
5 Q. Do you have any -- any sort of definition  
6 of it outside the context of this case, or do you know?  
7 **A. That's -- out of that, I'd say when you**  
8 **look at the data that you have and you know -- look at**  
9 **your fluid mechanics, your reservoir engineering and**  
10 **what I know about those things, after looking at them**  
11 **for over 20 years, and that includes the geology of the**  
12 **system, you look at the entire overall thing and say**  
13 **yes, we believe, I believe that this is a most likely**  
14 **scenario.**  
15 Q. And tell me -- tell me if you will what is  
16 that most likely scenario, in your own words. What --  
17 what is it you are saying?  
18 **A. I am looking -- let me start it like this,**  
19 **then.**  
20 **I am looking at the timing, and you have --**  
21 **just like you, you have made some assumptions. I am**  
22 **assuming yes, what was said about the Lipsky well when**  
23 **it was drilled, there was no gas. I believe that's in**  
24 **the deposition of Mr. Peck, who drilled the well.**  
25 Q. That's an assumption you are making.

Page 116

1 MR. STEWART: Object to form. He just said  
2 it's in the Peck deposition.  
3 **A. It's in the Peck deposition.**  
4 BY MR. SIMS:  
5 Q. But you know --  
6 **A. Is that an assumption?**  
7 Q. You know Mr. Peck didn't do any testing to  
8 determine whether there was actually any methane in the  
9 well in 2005 or not.  
10 **A. I don't know that for a fact, no.**  
11 Q. You saw that in the deposition, didn't you?  
12 **A. I believe that is a correct statement.**  
13 Q. Okay.  
14 **A. But I don't have, you know, the deposition**  
15 **memorized.**  
16 Q. All right.  
17 **A. If you assume the timing of it, that Lipsky**  
18 **drilled -- had the well drilled in 2005. In 2009, the**  
19 **Butler and Teal wells were drilled. I look at the way**  
20 **the wells were completed. There are zones that are**  
21 **known to have been or are productive. Now, that**  
22 **doesn't necessarily mean commercial production. That**  
23 **means they could contain gas, and that is just based on**  
24 **looking at the wells within 5 miles, just like Range**  
25 **looked at.**

Page 117

1           And I see all these known fields, and I  
2           only included wells that actually produced and have  
3           some kind of cumulative production that, okay, I know  
4           that the Atoka, the Caddo, and the Marble Falls have  
5           been or are productive; they do contain gas. I do know  
6           where the surface casing is set in these wells. I do  
7           know from Range, and I'm relying on them 100 percent  
8           here of what I've been saying is their plumbing system,  
9           and that's the words they used in the hearing, and the  
10          way they interact at the upper part of the Strawn and  
11          the base of the Trinity in general. So I see an avenue  
12          here.  
13                I believe if Range had set more surface  
14          casing or somehow, you know, covered those areas like  
15          other operators did, probably there wouldn't be this --  
16          this possibility.  
17                But that is the only thing that I have seen  
18          that could have changed the static operation of the  
19          area, was the drilling of those two wells and those  
20          uncemented portions.  
21          Q. Did anything change the static operation of  
22          the area prior to the time Range drilled the Butler and  
23          Teal wells?  
24          A. As far as I know of and have seen, no, the  
25          area, the Lipsky well, no, I don't think so.

Page 118

1          Q. How is it that drilling the Butler or Teal  
2          wells 2300 feet away changed the static operation in  
3          the area?  
4          A. Again, it opened up formations, the Atoka,  
5          the Caddo, the Marble Falls, that could have gas in  
6          them.  
7          Q. And where would --  
8          A. And it starts pressuring up.  
9          Q. And where would that gas go? Into the  
10         annulus of the well?  
11         A. Partly it could. The other is -- is going  
12         to the point of least resistance, which is the  
13         permeability of the formation of the Strawn. We know  
14         it's very permeable. It's transmissive.  
15         Q. And -- and where in the Strawn, or where is  
16         that gas getting -- getting into the Strawn, if it is?  
17         A. It has to be somewhere in the area of the  
18         vertical well bore sections of these two wells.  
19         Q. And if that were the case, you would see  
20         pressure on the bradenhead of the Teal, wouldn't you?  
21         MR. STEWART: Objection, form.  
22         A. I don't know that, now.  
23         BY MR. SIMS:  
24         Q. Why -- I mean, you would -- you, to a  
25         reasonable degree of engineering certainty you would

Page 119

1          think you would, wouldn't you?  
2          A. Well, if you wanted to say engineering  
3          certainty, you would say every water well out there  
4          ought to be producing gas. And that's not happening.  
5          Q. Most of them are; you know that.  
6          MR. STEWART: Objection, form. He doesn't  
7          know that, and that's not true.  
8          He just said something the record doesn't  
9          support anywhere.  
10         BY MR. SIMS:  
11         Q. Have you looked at the survey of all the  
12         water wells that were -- was done out there?  
13         A. I briefly looked at them, yes.  
14         Q. How many of them are -- actually have  
15         methane in them?  
16         A. I don't know.  
17         Q. If what -- your theory were accurate,  
18         wouldn't you expect to see some sort of plume of gas  
19         closer to the Butler and Teal wells than what you see?  
20         A. I believe - and Range stated this, too -  
21         there is no radial plume.  
22         Q. But if the gas were migrating from the  
23         Butler or Teal wells as you surmise, you would expect  
24         to see one, wouldn't you, higher concentrations closer  
25         to those wells?

Page 120

1          A. Not neces --  
2          MR. STEWART: Form objection.  
3          Let me just put the form objection. Now  
4          you can answer.  
5          A. Not necessarily.  
6          BY MR. SIMS:  
7          Q. Why?  
8          A. Because again you are assuming - at least  
9          I -- I guess that's what you are doing - a radial  
10         plume, and Range has already stated very clearly it's  
11         not radial.  
12         Q. Well, is there any sort of plume that  
13         you've identified?  
14         A. No.  
15         Q. You are confident that whatever gas is --  
16         is being -- is in the Lipsky water well is not from the  
17         Barnett Shale, correct?  
18         A. The Barnett Shale was the source of all the  
19         gases, and that was testified by Range and I believe  
20         that it's a true statement.  
21         Q. Did you say in your -- well, let me just  
22         ask you:  
23         In your affidavit that's Exhibit 3, page 4,  
24         you have a parenthesis in there at the bottom of that  
25         paragraph that says, "(but not the Barnett Shale)."

Page 121

1 What does that mean?  
2 **A. I don't believe the Barnett Shale through**  
3 **that well bore, as far as the way that well is**  
4 **completed as there is cement up to 4850, I don't think**  
5 **there's any communication there. In addition, they ran**  
6 **casing integrity tests, so we know there's no leaks in**  
7 **the longstring casing.**  
8 Q. Let me ask you again just so I've got it  
9 right. You say you're going to do some more work.  
10 What is it you're going to -- what is it you are going  
11 to do to determine if the Butler or Teal wells actually  
12 have enough pressure or have created enough pressure to  
13 cause gas to migrate into the Lipsky water well?  
14 **A. I have to look at, I believe at this time,**  
15 **and like I say it's ongoing as to what these other**  
16 **formations, what kind of pressures they had in them, or**  
17 **have in them, can I obtain some of these -- this**  
18 **information from the records of these wells and see**  
19 **just what kind of pressures we are dealing with. Are**  
20 **they depleted, or they're gradient?**  
21 **If you assume gradient, .465 psi per foot,**  
22 **then it's easy enough for a math -- mathematical. But**  
23 **some of these have been produced. So I don't know what**  
24 **the actual reservoir pressure is or should be in these**  
25 **formations, and that is the kind of information I'd be**

Page 122

1 **looking at.**  
2 Q. And you won't know until you do that study  
3 whether the Butler or Teal wells have actually caused  
4 or contributed to any natural gas in the Lipsky water  
5 well.  
6 MR. STEWART: Form objection.  
7 BY MR. SIMS:  
8 Q. Is that right?  
9 **A. The only thing to say actually, I think**  
10 **that is just -- I don't know if that can be done, to**  
11 **say 100 percent this is what it is. It's like saying,**  
12 **oh, there's Strawn gas pockets. Maybe there are. I**  
13 **don't know that much about the geology at this time.**  
14 Q. So this study you are planning to do may or  
15 may not tell you whether the Butler or Teal wells have  
16 actually caused or contributed to any natural gas in  
17 the Lipsky water well.  
18 MR. STEWART: Object to the form of that  
19 question.  
20 BY MR. SIMS:  
21 Q. Is that true?  
22 **A. Mr. Sims, would you ask that again?**  
23 Q. The study that you have told us you're  
24 going to try to do about the pressures in these various  
25 formations may or may not tell you whether the Butler

Page 123

1 or Teal wells have caused or contributed to natural gas  
2 in the Lipsky water well.  
3 MR. STEWART: Form objection.  
4 **A. Well, part of the reason to do a study is**  
5 **you're looking for answers. They could go one way;**  
6 **they could go the other way. They can also lead you**  
7 **down other trails to look at. So until I start**  
8 **actually reviewing it and digging out data, I can't**  
9 **really say what it's going to find.**  
10 BY MR. SIMS:  
11 Q. It's possible that your study will -- will  
12 lead you to conclude that Range did not cause or  
13 contribute to natural gas in the Lipsky water well,  
14 isn't it?  
15 MR. STEWART: I will object to the form.  
16 You are asking him to speculate. He's here to talk  
17 about what he's done now. If you want to talk to him  
18 about what he's done now, great. Now you are asking  
19 him about the future, what the future holds. He's not  
20 that good.  
21 MR. SIMS: I'm asking about his opinions.  
22 MR. STEWART: He can't --  
23 MR. SIMS: And I object to you --  
24 MR. STEWART: He can't give --  
25 MR. SIMS: -- coaching the witness on

Page 124

1 the --  
2 MR. STEWART: He can't give you opinions  
3 about the future. "Your study might do X." Well, how  
4 can he do that?  
5 MR. SIMS: He just told me --  
6 MR. STEWART: He's not Nostradamus.  
7 MR. SIMS: He just told me that it may or  
8 may not lead to a conclusion. I'm asking him about  
9 that.  
10 MR. STEWART: That's what he just said.  
11 That's exactly right.  
12 **A. The word "possible" is just like everything**  
13 **else. Means anything is possible.**  
14 BY MR. SIMS:  
15 Q. So this study that you have told us you're  
16 going to do may lead you to conclude that the Butler  
17 and Teal wells did not cause or contribute to any  
18 natural gas in the Lipsky water well, correct?  
19 **A. It could lead me to show that it did or at**  
20 **least contributed.**  
21 Q. And it may lead you to show that it didn't.  
22 True?  
23 **A. That is true.**  
24 Q. But you -- as you sit here today, you  
25 haven't done that study.



Page 125

1       **A. Yeah, I believe I've made that clear.**  
 2       Q. But yet you can swear under oath to a  
 3 reasonable degree of engineering certainty that Range's  
 4 wells did cause or contribute to something; is that  
 5 what you are telling us?  
 6       **A. I'm saying that that, the data that I have**  
 7 **found, I don't see that it was presented at the**  
 8 **Commission.**  
 9       Q. And let's talk about that.  
 10       What -- what data have you found was not  
 11 presented to the Railroad Commission? Let's -- let's  
 12 itemize that. Is that -- is that what you are talking  
 13 about on -- at the bottom of page 3 and over onto page  
 14 4, "The Evidence Indicating That Range's Drilling  
 15 Activities Contributed to Contamination of the Lipskys'  
 16 Water"?  
 17       **A. As far as fully showing what the Commission**  
 18 **did -- I mean, that Range put on, and I go back to**  
 19 **Exhibit 48 to show where all these other wells set more**  
 20 **than sufficient surface casing; and when I say "more**  
 21 **than sufficient," I think that they did this in**  
 22 **accordance with state-wide Rule 13, to mitigate any**  
 23 **kind of fluid vertical migration.**  
 24       Q. Have you looked at the exceptions they  
 25 obtained to -- to -- as to why they actually set them

Page 126

1 where they did?  
 2       **A. The exceptions wouldn't state that. They**  
 3 **just request it, the Commission puts a stamp of 13(a)**  
 4 **on there.**  
 5       Q. So you don't know why they set it where  
 6 they did?  
 7       **A. I do not.**  
 8       Q. Are there instances, are there mechanical  
 9 reasons for surface casing to be set lower than what  
 10 the Rule 13 normally requires?  
 11       **A. Well, Rule 13 requires that you set casing**  
 12 **to make sure that your fresh water won't be adversely**  
 13 **affected.**  
 14       Q. Right. And Range did that. Right?  
 15       MR. STEWART: Form objection.  
 16       **A. No, I don't think Range did do that.**  
 17 BY MR. SIMS:  
 18       Q. You think the surface casing is too  
 19 shallow, too short to protect it from the groundwater?  
 20       **A. Based on the information that they -- they**  
 21 **know.**  
 22       Q. What information is that?  
 23       **A. Well, again, it goes back to the dip of**  
 24 **these Strawn sands coming up. They knew there was a**  
 25 **possibility, at least that was what I came away with**

Page 127

1 from the information that they put on at the  
 2 Commission, and they went to great lengths to show that  
 3 through various things -- I mean through various  
 4 exhibits. So I don't know, did -- did they come up  
 5 with this idea after all this came about or did they  
 6 look at it before they drilled the wells?  
 7       Q. You know, I'm not -- I'm not -- I'm just  
 8 not following you. Are you saying that all this  
 9 evidence was not before the Railroad Commission?  
 10       MR. STEWART: Form objection.  
 11 BY MR. SIMS:  
 12       Q. About the -- the un -- the unconformity,  
 13 the geology and all that, the plumbing system, are you  
 14 telling us that that wasn't before the Railroad  
 15 Commission in this hearing in January?  
 16       MR. STEWART: Form objection. Compound.  
 17       **A. No. I'm saying that's what was relied on.**  
 18 **I don't believe that the Commission got the**  
 19 **full gist of all the wells where more casing was set**  
 20 **than what was normally required.**  
 21 BY MR. SIMS:  
 22       Q. Well, if you had been there, you could  
 23 have -- you could have provided them with that  
 24 information, couldn't you?  
 25       MR. STEWART: Objection, argument.

Page 128

1       **A. If I had been there. But why would I have**  
 2 **been there?**  
 3       **I'm sorry. I didn't mean to ask a question**  
 4 **of you.**  
 5       **What it amounts to is I wasn't there.**  
 6 **(Marked Deposition Ex. 22)**  
 7 BY MR. SIMS:  
 8       Q. If you will, please, look at Exhibit 22.  
 9 Have you seen this document before?  
 10       **A. I do not believe so.**  
 11       Q. Do you know who Mr. Ritter is?  
 12       **A. Who's he with?**  
 13       Q. David Ritter.  
 14       **A. Oh. I didn't know what Ritter you're**  
 15 **talking about. Yes. I know who David Ritter is.**  
 16       Q. Who is David Ritter?  
 17       **A. David Ritter now works for Mr. Stewart.**  
 18       Q. Okay. And he -- he's one of the lawyers  
 19 for the -- for the plaintiff, Mr. Lipsky; is that  
 20 right?  
 21       **A. That's my understanding, yes.**  
 22       Q. And he's been Mr. Lipsky's lawyer all the  
 23 way back since at least December of 2010 as far as you  
 24 know; is that right?  
 25       **A. I don't know.**

Page 129

1 Q. Okay. Well, do you recognize Exhibit 22 as  
2 a letter from David T. Ritter to Mr. Scott McDonald of  
3 the United States Environmental Protection Agency?  
4 A. **At least that's who this letter is**  
5 **addressed to.**  
6 Q. If you would, look at the last paragraph on  
7 the first page, and let me just read that out loud and  
8 ask you if I read this correctly.  
9 "In late 2009, however, the Lipskys noted  
10 problems with their water system. Part of their  
11 purification system included a," quote, "'purging'  
12 cycle in the holding tank. The Lipskys noticed that  
13 the cycle was taking progressively longer to fill up  
14 their holding tank, especially after agricultural  
15 watering was completed, a process which typically used  
16 2000-3000 gallons."  
17 Did I read that correctly?  
18 A. **That's exactly what the sentence says, yes,**  
19 **sir.**  
20 Q. Okay. What -- now, what agricultural  
21 watering were the Lipskys doing out of their water well  
22 in 2009?  
23 A. **I have no idea, having never seen this**  
24 **letter.**  
25 Q. Well, on page 7 of your affidavit that is

Page 130

1 Exhibit 3, you say that you've "reviewed the deposition  
2 testimony of Steven Lipsky," and, "Mr. Lipsky testified  
3 that he had not routinely watered his landscaping from  
4 his domestic water supply."  
5 Do you see that?  
6 A. **Yes, that I did read in the deposition.**  
7 Q. What -- what -- what did you rely on that  
8 statement for?  
9 MR. STEWART: Form objection.  
10 A. **In reading Mr. Lipsky's deposition, it was**  
11 **asked, when he was watering, where he was getting the**  
12 **water from. He said he had some flower beds, I believe**  
13 **it is, that yes, he did use the well water some, but he**  
14 **was using the water from the river instead.**  
15 **I remember in the Proposal For Decision and**  
16 **the transcript that it was alluded that -- and it led**  
17 **one to believe that all the watering was coming from**  
18 **the water well. There was never any mention at all**  
19 **about a river permit and that Mr. Lipsky was really**  
20 **irrigating grasses, I guess, and shrubs or whatever,**  
21 **trees, mainly from the river permit.**  
22 BY MR. SIMS:  
23 Q. Well, this agricultural watering that  
24 Mr. Ritter says was occurring in 2009, you don't know  
25 what that was that was using 2' to 3,000 gallons at

Page 131

1 time -- at a time?  
2 A. **I have no idea. It says 2' to 3,000**  
3 **gallons, but I don't know, is it daily? Weekly?**  
4 **Monthly? I don't know. And just reading what you just**  
5 **read, it doesn't say. It just says 2,000 to 3,000**  
6 **gallons.**  
7 Q. Well, let's look up above in -- in the  
8 prior paragraph. It says that, "The well was  
9 constructed in 2005; and at the ... time, a  
10 state-of-the-art purification system and 5000-gallon  
11 holding tank was installed to meet the anticipated  
12 water needs of the primary residence."  
13 Do you see that?  
14 A. **I see that sentence, yes, sir.**  
15 Q. Do you have any reason to believe that  
16 wasn't true?  
17 A. **Seems like I read that, yes, they do have a**  
18 **5,000-gallon tank there.**  
19 Q. Let's look at the last sentence of that  
20 paragraph. It says, "In addition, the well water was  
21 used while relatives of the Lipskys' lived on site, and  
22 was used for irrigation and filling of the primary  
23 residence pool without issues."  
24 Do you see that?  
25 A. **Yes, sir.**

Page 132

1 Q. So what irrigation was being used in 2009  
2 from the water well?  
3 A. **Since I have never seen this letter and I**  
4 **don't know where Mr. Ritter got this information from,**  
5 **I don't know. I'm just going by what -- the Lipsky**  
6 **deposition, and it says that he was using river water.**  
7 Q. Would you agree with me that there  
8 certainly appears to be an inconsistency between  
9 Mr. Ritter's letter to the EPA and what Mr. Lipsky  
10 testified to in his deposition?  
11 MR. STEWART: Objection, form. That's  
12 argument.  
13 A. **I have no opinion on it because I have not**  
14 **seen this letter. I don't know under the circumstances**  
15 **or how or what Mr. Ritter got the information from.**  
16 **That would be something I would say you would have to**  
17 **ask Mr. Ritter.**  
18 BY MR. SIMS:  
19 Q. Have you ever been out to the property?  
20 A. **No.**  
21 Q. Have you ever seen the swimming pool that's  
22 out there?  
23 A. **I don't believe so.**  
24 Q. You know how -- you don't know how big it  
25 is?

Page 133

1       **A. No, I don't.**  
 2       Q. Do you know how often these water wells,  
 3 what sort of cycles they run on, how often they run  
 4 cycles?  
 5       **A. I imagine the tank probably has a high-low**  
 6 **switch to where when the water level gets to a certain**  
 7 **level, the pump will kick on.**  
 8       Q. Okay.  
 9       MR. HEAD: Objection, non-responsive.  
 10 BY MR. SIMS:  
 11       Q. Do you know?  
 12       **A. No.**  
 13       Q. On page 4 of your affidavit that is Exhibit  
 14 3, paragraph 10, it says, "The available records  
 15 provide several pieces of evidence that tend to  
 16 demonstrate that Range's activities contributed to the  
 17 contamination of the Lipskys' water supply. This  
 18 evidence includes," and you've got a., b. and c. there.  
 19 Is that right?  
 20       **A. Yes, sir.**  
 21       Q. Is there any other evidence as you sit here  
 22 today that you would say is included in anything that  
 23 tends to demonstrate that Range's activities caused or  
 24 contributed to the contamination of the Lipsky water  
 25 well other than what you list in a., b. and c.?

Page 134

1       **A. As I sit here today, I don't know of**  
 2 **anything. However, as I pointed out to you earlier,**  
 3 **I'm -- I'm looking also.**  
 4       Q. In paragraph a., "The timing of the  
 5 Lipskys' water problems."  
 6       I mean, the timing -- the timing of when  
 7 the Lipskys say they began having problems and all that  
 8 was before the Railroad Commission, wasn't it?  
 9       **A. Before the Railroad Commission?**  
 10       Q. At the hearing.  
 11       **A. Oh, did they have problems before the**  
 12 **hearing? Yes. That's what caused the hearing.**  
 13       Q. I'm -- so -- so the evidence about the  
 14 timing of the Lipskys' water problems was in front of  
 15 the hearing examiners during the Railroad Commission  
 16 hearing; they knew about that.  
 17       **A. Yes, they were aware of it because we**  
 18 **had -- that was kind of what initiated it, and as the**  
 19 **record shows, numerous inspections had been performed**  
 20 **out there. So.**  
 21       Q. Where the wells -- where the Butler and  
 22 Teal wells were cemented and cased was before the  
 23 hearing examiners at the Railroad Commission, correct?  
 24       **A. Yes, the G-1's. I'm not -- maybe the -- I**  
 25 **can't remember if the entire well file was there or**

Page 135

1       **not. Could be --**  
 2       Q. You know they took judicial notice of the  
 3 entire contents of the file, and there was lots of  
 4 testimony about where the wells were cased and cemented  
 5 and all that.  
 6       **A. I would think that besides the G-1's, and I**  
 7 **think they were included, there was other evidence**  
 8 **also. But I was saying that I don't know if the W-15's**  
 9 **were attached, but I have no doubt that the information**  
 10 **that was included on the G-1 accurately reflects the**  
 11 **W-15's, the cementing affidavits.**  
 12       Q. And the exhibit that you have attached as  
 13 3A to your affidavit, we've talked about that before,  
 14 and you now know that that was before the Railroad  
 15 Commission, before -- before the hearing.  
 16       **A. Yes. It was in that notebook.**  
 17       Q. Yes, sir. As of December 14th.  
 18       **A. Yes.**  
 19       Q. Okay.  
 20       **A. Now, whether if the examiners looked at it**  
 21 **or not, I don't know.**  
 22       Q. And in terms of item c. that you talk  
 23 about, the bradenhead pressure on the Butler well, all  
 24 that information was before the Railroad Commission at  
 25 the hearing as well?

Page 136

1       **A. Yes.**  
 2       Q. So from a factual standpoint, there's  
 3 nothing that you've itemized in paragraph 10 a., b. or  
 4 c. that wasn't before the Railroad Commission at the  
 5 hearing in January, correct?  
 6       **A. I would say that, yes.**  
 7       Q. In paragraph 11 of your affidavit that's  
 8 Exhibit 3, 11 a., b., c. and d., do you see that, where  
 9 I am there?  
 10       **A. Yes.**  
 11       Q. Why is it that you don't make any  
 12 statements about all the testimony from the geochemists  
 13 in terms of summarizing the testimony presented by  
 14 Range?  
 15       **A. I didn't feel it was necessary. I was**  
 16 **looking at the various things that I felt like Range**  
 17 **was emphasizing more than others. If I left something**  
 18 **out, it wasn't because of maliciousness, because yes,**  
 19 **the geophysical went on for quite some time in the**  
 20 **transcript.**  
 21       Q. And the geochemists had a lot to say about  
 22 the kinds of arguments you are making in this case,  
 23 didn't they?  
 24       MR. STEWART: Objection, form.  
 25       **A. I don't know if he did that. He was going**

Page 137

1 more for, you know, the -- trying to counter, as I  
2 recall, the EPA and their way -- the methods that they  
3 used to determine gas versus the methods that he  
4 believes that should have been used.  
5 BY MR. SIMS:  
6 Q. Well, you also recall him testifying  
7 that -- that at the bradenhead 50 percent of the gas  
8 collected was biogenic and 50 percent was thermogenic?  
9 A. Yes.  
10 Q. And wouldn't you expect to see, if your  
11 theory is correct, that the gas in the Lipsky water  
12 well would be 50 percent biogenic and 50 percent  
13 thermogenic?  
14 MR. STEWART: Objection, form. Cumulative.  
15 You asked that the first hour.  
16 BY MR. SIMS:  
17 Q. You can go ahead and answer.  
18 A. As far as what he testified to, I believe  
19 that was his testimony.  
20 Q. Do you have any opinion about whether  
21 that's accurate or not?  
22 A. I have no opinion.  
23 Q. Why didn't you include that in your  
24 affidavit? I mean, did you just go through and  
25 cherry-pick things that you thought would maybe support

Page 138

1 Mr. Lipsky? I mean, isn't that what you've done here?  
2 A. No, I --  
3 MR. STEWART: Objection, form. Argument.  
4 Go ahead.  
5 A. I looked at the areas that I felt were the  
6 most active type systems. He -- I looked at gas in the  
7 bradenhead. It was gas. It might be 50 percent  
8 something else also, but it was also natural gas in  
9 there, and that's what he testified to.  
10 Now, as to other kind of bacterial type  
11 gases that were in there, I can believe that.  
12 BY MR. SIMS:  
13 Q. Well, if it's -- if it's methane from a  
14 bacterial source or methane from a thermogenic source,  
15 it's still methane, right?  
16 A. It's still methane, that's true.  
17 Q. And you don't have the expertise to  
18 distinguish between the two?  
19 A. I would say no.  
20 (Marked Deposition Ex. 23)  
21 BY MR. SIMS:  
22 Q. I show you what I have marked as Exhibit  
23 23, please, sir.  
24 Being a Hearing Examiner, you are -- or  
25 former Hearing Examiner, you are familiar with the

Page 139

1 definitions and procedures of the Texas Railroad  
2 Commission, are you not?  
3 A. I believe so.  
4 Q. Let's look at page 1 of Exhibit 23, and a  
5 "Contested case" before the Texas Railroad Commission  
6 is defined as "A proceeding in which the legal rights,  
7 duties, or privileges of a party are to be determined  
8 by the commission after an opportunity for an  
9 adjudicative hearing."  
10 Did I read that correctly?  
11 A. You have read that correctly.  
12 Q. The hearing that was held on this matter in  
13 January of 2011 was a contested case, wasn't it?  
14 MR. STEWART: Form objection.  
15 A. All cases are contested. There's  
16 unprotested and there's protested.  
17 BY MR. SIMS:  
18 Q. So you agree with me that this was a  
19 contested -- the hearing before the Railroad Commission  
20 was a contested case?  
21 A. A contested unprotested case, yes, sir.  
22 Q. Let's look over at the next page of Exhibit  
23 23, and there is a definition of a "Protested contested  
24 case."  
25 A. Yes.

Page 140

1 Q. Right?  
2 It's defined as "A contested case in which  
3 a party appears and contests or opposes the relief  
4 sought in the application, petition, or complaint."  
5 Right?  
6 A. That's correct.  
7 Q. Okay. Now, in the Railroad Commission  
8 proceeding, was there any application pending?  
9 A. It was a Commission-Called Hearing.  
10 Q. Okay. So there wasn't an application.  
11 A. Not an application.  
12 Q. There wasn't a petition.  
13 A. That, I don't know. I'm not an attorney,  
14 so when we get into the petitions, that's why we always  
15 had a legal.  
16 Q. Was there a complaint?  
17 A. Again, I don't know.  
18 Q. Was Range protesting a petition or  
19 complaint in the hearing?  
20 A. No, they were a respondent, as I recall  
21 from the PFD. I believe that's what they were stated.  
22 Let me get that.  
23 Q. If you will, look back with me to -- it's  
24 Exhibit 23, it's the actual - one, two, three, four,  
25 five, sixth - the seventh page back, and at the top it

Page 141

1 says "16 TAC section 1.62."  
 2 **A. Yes.**  
 3 MR. STEWART: Wait. Wait. Can you read  
 4 that one more time? 16 ...  
 5 MR. SIMS: "TAC section 1.62."  
 6 MR. STEWART: Okay. I'm with you.  
 7 BY MR. SIMS:  
 8 Q. There's actually a definition for  
 9 "Protestant," right?  
 10 **A. Yes.**  
 11 Q. And the definition of a "Protestant" before  
 12 the Railroad Commission is "A person or agency,  
 13 including the agency staff, opposing an application or  
 14 petition submitted to the commission."  
 15 Correct?  
 16 **A. Yes.**  
 17 Q. Was the agency staff in the January hearing  
 18 a protestant?  
 19 **A. No.**  
 20 Q. So if Mr. Lipsky had appeared at the  
 21 hearing and presented evidence, he wouldn't have been a  
 22 protestant either?  
 23 **A. But he wasn't a party to the hearing. The**  
 24 **commission didn't even list him as a party.**  
 25 Q. Well --

Page 142

1 **A. I believe the PFD is clear, it says, "The**  
 2 **notice of this hear --" I'm sorry. Reading from the**  
 3 **PFD, page 3, "The notice of this hearing was sent to**  
 4 **Range, the owners of two domestic water wells at issue,**  
 5 **and three EPA officials."**  
 6 Q. Mr. Lipsky was one of those water well  
 7 owners, wasn't he?  
 8 **A. Yes. "The notice stated the commission**  
 9 **encourages the participation of EPA in the hearing and**  
 10 **presentation by EPA of evidence in its possession**  
 11 **supporting the findings of fact and conclusions of law**  
 12 **of emergency administrative order. Range appeared at**  
 13 **the RRC hearing and presented evidence in support of**  
 14 **its positions that the operations of its Teal well and**  
 15 **Butler well are not contributing to the production of**  
 16 **methane in domestic gas wells. There was no appearance**  
 17 **at the hearing by any representative of the EPA or by**  
 18 **owners of the wells identified."**  
 19 (Marked Deposition Ex. 24)  
 20 BY MR. SIMS:  
 21 Q. Okay. Have you seen Exhibit 24 before?  
 22 **A. No, I have not.**  
 23 Q. Is this a Notice of Appearance of Counsel  
 24 by lawyers for Mr. Lipsky to --  
 25 MR. STEWART: Is this Exhibit 24?

Page 143

1 MR. SIMS: Yes.  
 2 BY MR. SIMS:  
 3 Q. -- to appear in the Railroad Commission  
 4 hearing on behalf of Mr. Lipsky?  
 5 **A. Let me read it first, since I haven't seen**  
 6 **it.**  
 7 **Yes, I have read it now.**  
 8 Q. Is this an appearance by Mr. Lipsky's  
 9 counsel in the Railroad Commission hearing?  
 10 **A. It -- it does state, "... hereby enter**  
 11 **their appearance in the above-entitled proceeding as**  
 12 **legal counsel for Steven and Sheila (sic) Lipsky."**  
 13 MR. STEWART: Shyla.  
 14 THE WITNESS: Shyla. I'm sorry.  
 15 **A. But it says "proceeding as legal counsel."**  
 16 **This is not saying they're going to show up at the**  
 17 **hearing. This says they would like to -- since they**  
 18 **are kind of concerned about this, that they would like**  
 19 **to have "All correspondence, pleadings and motions,**  
 20 **discovery requests, and the like should be mailed or**  
 21 **served on said counsel at the following address."**  
 22 BY MR. SIMS:  
 23 Q. And you know for a fact that they did in  
 24 fact participate in depositions.  
 25 **A. Of?**

Page 144

1 Q. Mr. Malone. Mr. Peck.  
 2 **A. Okay.**  
 3 Q. Mr. Lipsky.  
 4 **A. Yes.**  
 5 Q. Ms. Rich. You've seen all of that.  
 6 **A. I haven't seen Rich's.**  
 7 Q. You haven't seen her deposition?  
 8 **A. No.**  
 9 Q. Go back to Exhibit 23, the first page, for  
 10 me. Do you see the definition of an "Authorized  
 11 representative"?  
 12 **A. Yes.**  
 13 Q. Was Mr. Stewart and the other folks listed  
 14 in this Notice of Appearance of Counsel, were they  
 15 authorized representatives of Steven and Shyla Lipsky?  
 16 **A. According to what they state here, they**  
 17 **were saying that yes, their appearance is entitled to**  
 18 **the legal counsel for the Lipskys and would like copies**  
 19 **of all the correspondence.**  
 20 Q. If Mr. Lipsky or his lawyers or you had  
 21 shown up on his behalf and presented evidence during  
 22 the Railroad Commission hearing, Mr. Lipsky would not  
 23 have been a protestant, would he --  
 24 MR. STEWART: Objection.  
 25 BY MR. SIMS:

Page 145

1 Q. -- under the definition of "Protestant"  
2 that we've looked at?  
3 MR. STEWART: I'm sorry. Objection, form.  
4 A. **I -- I don't know.**  
5 BY MR. SIMS:  
6 Q. Well, the definition of a "Protestant" is  
7 "A person or agency, including the agency staff,  
8 opposing an application or petition submitted to the  
9 commission." Correct?  
10 A. **Correct.**  
11 Q. So if he had showed up and presented  
12 evidence, it wouldn't have been in opposition of an  
13 application or a petition, would it?  
14 A. **But he wasn't party. He wasn't required to**  
15 **show up.**  
16 Q. That's not my question.  
17 If he had showed up and presented evidence,  
18 he would not have been a protestant. That's my  
19 question. Simple.  
20 MR. STEWART: Objection, form. I think it  
21 calls for a legal conclusion.  
22 A. **I can't answer that --**  
23 BY MR. SIMS:  
24 Q. You just --  
25 A. **-- Mr. Sims.**

Page 146

1 Q. You just don't know.  
2 A. **At this point, again, that's a legal call,**  
3 **and not being an attorney, one of my legal cohorts at**  
4 **the Commission would have to make that decision.**  
5 MR. STEWART: When you find a good time to  
6 take a bathroom break.  
7 MR. SIMS: Okay. Just give me a minute  
8 here.  
9 MR. STEWART: Sure.  
10 BY MR. SIMS:  
11 Q. Do you know anything about the collateral  
12 attack doctrine?  
13 MR. STEWART: Objection, form. He's not a  
14 lawyer.  
15 A. **I would have to say very little, if any. I**  
16 **have always heard it's a collateral attack on**  
17 **Commission rules, and that would be when someone**  
18 **disagrees with a Commission order and they decide to**  
19 **take it to the Travis County Courthouse.**  
20 BY MR. SIMS:  
21 Q. This -- this stuff that you put in here in  
22 paragraph 13 of your affidavit about this being a  
23 protested versus unopposed case, who -- I mean, is  
24 that -- is that something you normally give opinions  
25 about?

Page 147

1 A. **Yes. Did it for 20 years.**  
2 Q. Well, since you've been out on -- in -- in  
3 the -- working for this company you work for now, have  
4 you -- have you given this kind of opinion before?  
5 A. **Hadn't been necessary; hadn't been involved**  
6 **in this kind of case.**  
7 Q. Who asked you to come up with this?  
8 A. **This is the information that I just saw**  
9 **that in an unopposed case, it's my understanding that**  
10 **just because the Commission orders something, it**  
11 **doesn't prevent someone to going to District Court. I**  
12 **saw this happen a lot as an examiner that operators**  
13 **would come to the Commission and get an order, and that**  
14 **way they could go to the courthouse and say, "Well, the**  
15 **Commission has already ruled on this."**  
16 **And the legal examiners that I have worked**  
17 **with over all these years, they said, "No, anyone can**  
18 **always take a Commission order to District Court, but**  
19 **it's not involving the Commission, it's just the order.**  
20 **They're not attacking what the Commission ordered or**  
21 **didn't order."**  
22 **Did that make sense?**  
23 Q. Not -- not to me, but are you aware of any  
24 case law where the courts have said if the Railroad  
25 Commission issues a final order, a final decision, that

Page 148

1 that is binding and the party can't, in District Court,  
2 can't attack that order?  
3 A. **I have never seen such information. I just**  
4 **know, working with the legal examiners over all these**  
5 **years, they had always said it would be awfully hard to**  
6 **go to a District Court against a Commission order,**  
7 **saying that the Commission did not have sufficient**  
8 **evidence to prove its point, and that's the only way**  
9 **someone can attack a Commission order.**  
10 **But I know I have had cases before me and**  
11 **it was argued by both sides. One would say, "All they**  
12 **want is an order from the Commission" - hopefully I**  
13 **guess in their favor - "that they could take to the**  
14 **courthouse and wave that."**  
15 **And I know the Commissioners have always**  
16 **said, "We don't necessarily have to agree with what a**  
17 **District Court does," because most of the time the**  
18 **District Court will say, "I really don't care what the**  
19 **Commission does, this is a different matter."**  
20 **So you're getting into a -- a legal thing**  
21 **there that I don't have that much expertise. It's just**  
22 **based on the 20 years that the legal examiners have**  
23 **told me.**  
24 Q. You're not -- you're not purporting to be a  
25 lawyer?

Page 149

1           A.   **No.**  
 2           Q.   You're not purporting to tell the district  
 3 judge in this case what he should do with respect to or  
 4 how he should treat the Railroad Commission order in  
 5 this case as it relates to this lawsuit?  
 6           A.   **As far as what the district judge looks at,**  
 7 **the District Court looks like in this, I'm saying that**  
 8 **yes, here are some facts, and they are relevant facts,**  
 9 **too, because here's the information that is presented**  
 10 **to the public.**  
 11           MR. SIMS: Objection, non-responsive.  
 12 BY MR. SIMS:  
 13           Q.   I'm asking you --  
 14           A.   **I'm sorry.**  
 15           Q.   -- about the final order of the Railroad  
 16 Commission. And you agree with me that the Railroad  
 17 Commission issued a final order in this case?  
 18           A.   **Oh yes.**  
 19           Q.   And it's -- it's -- it's non-appealable at  
 20 this point; do you agree with that?  
 21           A.   **Yes, because more than 90 days have gone**  
 22 **by.**  
 23           Q.   Okay. You're not -- you're not sitting  
 24 here telling the district judge in this case what kind  
 25 of legal position he should take with respect to that

Page 150

1 final order in this case, are you?  
 2           A.   **No, I am not.**  
 3           Q.   Okay. And you really don't know whether  
 4 this paragraph 13 in your affidavit talking about  
 5 precedential value has anything to do with the  
 6 arguments to be made in front of the district judge  
 7 regarding the final Railroad Commission order, do you?  
 8           A.   **I don't know what arguments will be made**  
 9 **before the District Court.**  
 10           Q.   Okay.  
 11           A.   **So.**  
 12           MR. SIMS: Let's take a break.  
 13           VIDEOGRAPHER: We are off the record at  
 14 2:45 p.m.  
 15           (Break from 2:45 p.m. until 3:08 p.m.)  
 16           VIDEOGRAPHER: We are back on the record at  
 17 3:08 p.m.  
 18           (Marked Deposition Ex. 25)  
 19 BY MR. SIMS:  
 20           Q.   Mr. Richter, can you identify what's been  
 21 marked as Exhibit 25 to your deposition?  
 22           A.   **Yes, it's a letter to Wayman Gore from**  
 23 **Maricela Rosas, paralegal for Allen Stewart.**  
 24           Q.   What is the date on this letter?  
 25           A.   **It says January 5th, 2011.**

Page 151

1           Q.   Have you seen this letter before?  
 2           A.   **No.**  
 3           Q.   Look at the next page of Exhibit 25. Do  
 4 you recognize this document?  
 5           A.   **It's off IHS data retrieval service.**  
 6           Q.   What is IHS data retrieval service?  
 7           A.   **It's like drilling info. They track**  
 8 **Railroad Commission filings. And I -- I say just**  
 9 **Railroad Commission; it could be in other states also.**  
 10           Q.   What is the -- you see above the -- down in  
 11 the bottom right-hand -- bottom corner, right-hand  
 12 corner, there is a date, 1/12/2011?  
 13           A.   **Yes.**  
 14           Q.   Was this document pulled off the Internet  
 15 or this service, IHS service, on January 12, 2011?  
 16           A.   **I -- I don't know. I don't use IHS. I use**  
 17 **Drillinginfo or Lasser.**  
 18           Q.   Whose handwriting is on the second page of  
 19 Exhibit 25?  
 20           A.   **I don't know.**  
 21           Q.   It's not your handwriting?  
 22           A.   **No.**  
 23           Q.   Do you know what any of this means?  
 24           A.   **No. Like I say, I've never seen it and I**  
 25 **don't use IHS as a data retrieval. I use mainly**

Page 152

1 **Lasser.**  
 2           Q.   What is the next page of Exhibit 25?  
 3           A.   **It looks like the same thing. It's**  
 4 **another, apparently, a retrieval from IHS.**  
 5           Q.   And it's dated January 13, 2011?  
 6           A.   **At least that's what it says down there. I**  
 7 **don't know where that comes from.**  
 8           MR. STEWART: Excuse me. Can you explain  
 9 why these aren't in Bates stamped order? We have  
 10 Lipsky 1512, attached to Lipsky 2522, attached to  
 11 Lipsky 2612, attached to Lipsky 6249.  
 12           MR. SIMS: I don't know that there's any  
 13 significance to how they're -- they're just documents  
 14 that I wanted to ask him about.  
 15           MR. STEWART: Okay. Well, you've put them  
 16 together in one exhibit. At least I initially, when I  
 17 got this exhibit, inferred that they were related to  
 18 one another. Are you attempting to infer that?  
 19           MR. SIMS: No. I'm -- I'm asking him what  
 20 they are, what he knows about it. That's what I'm  
 21 doing.  
 22 BY MR. SIMS:  
 23           Q.   Is the third page of Exhibit 25 an IHS  
 24 screen print dated January 13, 2011?  
 25           A.   **The third page, that's what it states, yes.**

Page 153

1 Q. And it says at the top, "Welcome Wayman  
2 Gore, to the US Online Application"?

3 A. Yes.

4 Q. And prior to that, the second page of  
5 Exhibit 25 says, "Welcome Wayman Gore, to the US Online  
6 Application"?

7 A. Yes, that's what it says.

8 Q. What is the fourth page of Exhibit 25?

9 A. I don't know.

10 Q. Do you know whose handwriting this is?

11 A. No, I don't.

12 Q. Do you see the date in the top right-hand  
13 corner of January 3, '11?

14 A. That appears to be what it says, yes.

15 Q. And it says "Lipsky - Parker County"?

16 A. For the title it does, yes.

17 Q. And it says, "Phone conference call  
18 11:00 a.m."?

19 A. Yes.

20 Q. And there's a notation, "John Sewell,  
21 David," and looks like "Allen - Lipsky attorney"?

22 A. "All" or something, yeah. "Allcal"?  
23 "Lipsky attorney."

24 Q. Do you know what any of this, any of these  
25 notations are in the handwritten note that's the fourth

Page 154

1 page of Exhibit 25?

2 A. No, I don't.

3 Q. Have you ever talked to anyone about what  
4 this information is?

5 A. Well, it's the first time I've ever seen  
6 it. So, no.

7 Q. Do you recall any testimony about some sort  
8 of tracer or iodine?

9 A. No. Testimony as through either deposition  
10 or the Railroad Commission transcript, I don't remember  
11 ever seeing the word "radioactive gas - Texas A&M,"  
12 or "Gray Wireline." I don't know.

13 Q. You just don't know what any of that means?

14 A. No.

15 Q. Do you know who this Ken Luig is at  
16 940-631-1701?

17 A. I've never heard of his name.

18 Q. Down at the bottom there is a notation  
19 about "Amy, Debra Rabel (sic), Ramone - open records  
20 request"; do you see that?

21 A. Yes.

22 Q. Do you know anything about that?

23 A. I know who Debra Ravel is.

24 Q. Who is that?

25 A. She is an attorney there at the Railroad

Page 155

1 Commission, and she's the one that does all the open  
2 records requests. Though "Ramone" is spelled wrong,  
3 the only Ramon I know of is Ramon Fernandez, or it  
4 could be Ramona which is a secretary there.

5 Q. Is today the first day you've seen that  
6 handwritten document?

7 A. Yes.  
(Marked Deposition Ex. 26)

9 BY MR. SIMS:

10 Q. Okay. I am going to mark what's put  
11 together as Exhibit 26, which again are just -- they're  
12 pages from documents that were produced on that DVD.

13 A. Mm-hmm.

14 Q. Okay?

15 A. Yes, sir.

16 Q. I want to ask you about these.  
17 Do you know what the first page of  
18 Exhibit 26 is which has Lipsky06248 in the bottom  
19 right-hand corner?

20 A. It appears to be a water well data sheet.  
21 I know that -- that's what it says, and that the well  
22 numbers look highlighted there. I'm going to assume  
23 those must be water wells.

24 Q. Were all these documents produced as backup  
25 to the information that's in your affidavit?

Page 156

1 A. Were all these documents? Like this entire  
2 stack?

3 Q. All, everything on that DVD that was  
4 provided to us.

5 A. No, there would be a lot more information  
6 than that, because there was research data, too.

7 Q. Research data that's not on the DVD?

8 A. No, I mean everything that was done, you  
9 know, I did not use for my part of the affidavit --  
10 affidavit, yeah. This was all the information we had  
11 gathered.

12 Q. Is the next page, Lipsky06249, the same  
13 handwritten document we saw before?

14 A. It appears to be, yes.

15 Q. Let me back up. The first page of  
16 Exhibit 26 is dated January 6, 2011; is that right?  
17 Down in the right-hand corner?

18 A. Yes.

19 Q. The next page is dated January 3rd, 2011,  
20 Lipsky06249?

21 A. Yes, up there in the top right it says.

22 Q. The next document is Lipsky06250 and it's  
23 another IHS document, says "Welcome Wayman Gore" at the  
24 top. Is that right?

25 A. That's what it says, yes.



Page 157

1 Q. And it says -- it's dated January 13, 2011.  
 2 A. **Yes.**  
 3 Q. And whose handwriting is on this document?  
 4 A. **I have no idea.**  
 5 Q. It's not yours?  
 6 A. **No.**  
 7 Q. Does it look like Mr. Gore's?  
 8 A. **I -- I don't know.**  
 9 Q. What is the next page of Exhibit 26?  
 10 A. **It says 5 mile radius Parker and Hood**  
 11 **County.**  
 12 Q. And this document is dated January 6, 2011;  
 13 is that correct?  
 14 A. **That is correct.**  
 15 Q. And does this list -- what does this list?  
 16 A. **What this list is that I know of is we**  
 17 **pulled every well completion data through I guess this**  
 18 **is his, their system, with an API number within 5 miles**  
 19 **radius so that's just a tabulation of every well**  
 20 **location or anything that ever happened there.**  
 21 Q. And all this information was pulled on  
 22 January 6, 2011?  
 23 A. **I guess. Again, I don't use the his so I**  
 24 **guess if it says 1/6/2011, that's the date that it was**  
 25 **printed out.**

Page 158

1 Q. Okay. The second -- the next page, Lipsky  
 2 06252 over on the left-hand side, says dry holes or  
 3 something like that, do you see that?  
 4 A. **06 ...**  
 5 Q. Very next page. Lipsky 06252.  
 6 A. **I've got 253 and 251 but I don't have a**  
 7 **252.**  
 8 Q. Okay. Here's -- I'll tell you what. Let  
 9 me just -- I'll just -- yes. See if that one's in  
 10 there. What number is on that exhibit, and I think  
 11 that page must have just gotten left out. Is that 26?  
 12 Exhibit 26?  
 13 A. **Yes, I think so.**  
 14 **(Marked Deposition Ex. 26-A)**  
 15 BY MR. SIMS:  
 16 Q. Let's make this one 26-A.  
 17 A. **Okay.**  
 18 Q. And in 26-A, there's a page Lipsky 06252.  
 19 Are you with me?  
 20 A. **Yes.**  
 21 Q. And over on the left-hand side there's some  
 22 handwriting. Do you know whose handwriting that is?  
 23 A. **No.**  
 24 Q. Do you know what that says?  
 25 A. **It looks like it says dry holes.**

Page 159

1 Q. There's some handwriting over on the  
 2 right-hand side of the page. Do you know whose that  
 3 is?  
 4 A. **No.**  
 5 Q. And do you know what that says?  
 6 A. **It says 85 86. I don't know what that**  
 7 **signifies, though.**  
 8 Q. If you will, flip back through all these  
 9 pages all the way back to the page that's Lipsky 06259,  
 10 which I think is the last page of this 5 mile radius  
 11 well printout. Every single page on this has a date of  
 12 January 6, 2011; is that correct?  
 13 A. **Yes, that's what it says.**  
 14 Q. Let's look at the next page of Exhibit 26  
 15 or 26-A, which is Lipsky 06260. Are you with me?  
 16 A. **Yes, sir.**  
 17 Q. And up at the top it says "Welcome Wayman  
 18 Gore to the US Online Application," another his  
 19 document.  
 20 A. **Yes, it says his.**  
 21 Q. And this document is dated January 6, 2011,  
 22 correct?  
 23 A. **That's what it says there, yes.**  
 24 Q. The next page, Lipsky 06261, is dated  
 25 January 6, 2011; correct?

Page 160

1 A. **That's what the date says.**  
 2 Q. The next document is Lipsky 06457, and it  
 3 is a water well report, is that correct?  
 4 A. **Yes.**  
 5 Q. And it's dated January 14, 2011?  
 6 A. **Yes.**  
 7 Q. And the next page, Lipsky 06458, is the  
 8 second page of that water well report and it is dated  
 9 January 14, 2011, correct?  
 10 A. **Yes.**  
 11 Q. The next document in Exhibit 26 and 26-A is  
 12 Lipsky 06459, correct?  
 13 A. **Correct.**  
 14 Q. It's a water well report dated January 6,  
 15 2011?  
 16 A. **Yes.**  
 17 Q. And it's in Parker County?  
 18 A. **Well, county, Parker.**  
 19 Q. And the first one, first water well report  
 20 we looked at was also in Parker County?  
 21 A. **That's what it says, Parker.**  
 22 Q. Did you have any involvement in pulling  
 23 these water well reports?  
 24 A. **No.**  
 25 Q. Do you know what criteria was used to pull

Page 161

1 these water well reports?  
2 **A. I am not familiar with the State of Texas**  
3 **Well Report Tracking System, so I don't know the input**  
4 **data that you give it to pull these. It appears that**  
5 **they are an online since there's a web address at the**  
6 **bottom of each page. So I don't know.**  
7 Q. Do you know if certain water wells were  
8 pulled in Parker County within a certain radius, or you  
9 just -- do you know?  
10 **A. I do not know.**  
11 Q. Were these water well reports pulled  
12 through or generated by someone in your office?  
13 **A. I don't know for a fact.**  
14 Q. Do you believe that they were?  
15 **A. I don't know.**  
16 Q. Is it reasonably certain that they were?  
17 MR. STEWART: Well, he's already said "I  
18 don't know." Are you going to get reasonable certainty  
19 out of that?  
20 MR. SIMS: I don't know. I might.  
21 MR. STEWART: All right. I'll object to  
22 the form of the question. I think it's argumentative.  
23 He's already told you he doesn't know.  
24 **A. I really don't know, Mr. Sims.**  
25 BY MR. SIMS:

Page 162

1 Q. Okay. Look at the document that's Lipsky  
2 06461. It's a water well report.  
3 MR. STEWART: I'm sorry. Could you say the  
4 number again?  
5 MR. SIMS: Lipsky 06461.  
6 MR. STEWART: Okay. Thank you.  
7 BY MR. SIMS:  
8 Q. Up at the top it's got a handwritten  
9 notation with a 3 in it with a circle around it?  
10 **A. Could be a 3, I guess, or a B, or a**  
11 **sideways M, wrong ways W.**  
12 Q. Well, if we look back at the prior two that  
13 we have looked at, we see that there's a circle with a  
14 1 in it on the first one and then the next one has a  
15 circle with a 2 on it, correct?  
16 **A. Yes.**  
17 Q. And if we move through these water well  
18 reports, that's consistent throughout there; each one  
19 has a number with a circle around it in handwriting up  
20 at the top, correct?  
21 **A. Yes.**  
22 Q. And these are all water wells that were  
23 from Parker or Hood County; is that accurate?  
24 **A. Well, at least through this one it shows**  
25 **either Parker or Hood.**

Page 163

1 Q. Okay. Look at the last page of Exhibit 26  
2 or 26-A, which is Lipsky 06456.  
3 **A. 6456. All right.**  
4 Q. And it's dated January 16, 2011, correct?  
5 **A. Yes.**  
6 Q. And I notice that it's a map that has some  
7 circles with numbers in them. Do you know if those  
8 circles with numbers correspond to the water well  
9 reports that have circles with numbers on them?  
10 **A. I would say so.**  
11 Q. Is Lipsky 06456 a document that was  
12 generated from your office?  
13 **A. I don't know because, again, this is a site**  
14 **that I don't go to. This is the Texas Water**  
15 **Development Board site. So I -- I haven't gone there.**  
16 Q. Were you involved in any discussion about  
17 whether to take or present any of this information to  
18 the Texas Railroad Commission at the Commission Called  
19 Hearing?  
20 **A. State the very beginning of that again?**  
21 Q. Were you involved at any time in any  
22 discussion about whether to take all the information  
23 that had been generated prior to the Commission Called  
24 Hearing and present it as evidence at the hearing?  
25 **A. No.**

Page 164

1 Q. You've never been involved in any  
2 discussion like that with anyone?  
3 **A. To the best of my knowledge, no.**  
4 Q. The only person you've ever talked to about  
5 whether you or anyone else with your firm would testify  
6 at the Railroad Commission hearing was with Mr. Gore,  
7 is that --  
8 **A. Yes, he's my boss.**  
9 Q. And you never had a conversation like that  
10 with anyone else?  
11 **A. No.**  
12 Q. When you had that conversation with  
13 Mr. Gore, he told you that you all had not been  
14 directed to show up and testify?  
15 **A. I believe that is correct.**  
16 Q. You certainly -- you certainly could have  
17 shown up and testified had Mr. Lipsky or his lawyers  
18 directed you to do so, there's no -- there was no  
19 impediment legally or procedurally for you doing that,  
20 was there?  
21 MR. STEWART: Objection, form.  
22 **A. The only thing is we were still collecting**  
23 **data, as this shows, and there was still a lot of data**  
24 **to collect. And obviously -- I say obviously. Let me**  
25 **back up on that. Range was preparing for this so they**

Page 165

1 had their data, but this was all the very beginning of  
2 January and, as I recall, the Commission hearing was  
3 January 17th I believe. So we were still collecting  
4 data.  
5 BY MR. SIMS:  
6 Q. Was there any discussion about telling the  
7 hearing examiners that you need more time to collect  
8 data?  
9 A. **If there was, I didn't know about it.**  
10 Q. As a former hearing examiner, that happens,  
11 doesn't it? I mean, parties come in and say they need  
12 more time for a hearing?  
13 A. **As an examiner, you get letters every so**  
14 **often there will be a reason why, but they were always**  
15 **parties to the hearing and would send in a letter**  
16 **saying, you know, "I'd like to postpone the hearing**  
17 **date until such-and-such a date so we can get more**  
18 **information," or something like that, "or go through**  
19 **discovery," so, yeah, we got those kinds of letters I'd**  
20 **say all the time in the protested cases. Even on the**  
21 **unprotested ones we'd get that occasionally.**  
22 **Mr. Sims, was this yours? That's the one**  
23 **you added 26-A to.**  
24 MR. STEWART: They're both.  
25 MR. SIMS: They're both part of the

Page 166

1 exhibits.  
2 MR. STEWART: You just need to stack them  
3 over here.  
4 THE WITNESS: Oh.  
5 BY MR. SIMS:  
6 Q. Why did the Railroad Commission issue the  
7 notice of the hearing to Mr. Lipsky to begin with?  
8 MR. STEWART: Form objection.  
9 A. **I don't know why the Commission did. I**  
10 **never asked them the question, so I don't know what**  
11 **their thinking was.**  
12 BY MR. SIMS:  
13 Q. If Mr. Lipsky or any of his representatives  
14 wanted to show up and testify at the hearing, the  
15 examiners would have allowed them to do that, wouldn't  
16 they?  
17 A. **The examiners will basically allow anyone**  
18 **to show up at a hearing and testify if they can show**  
19 **they're an affected party.**  
20 Q. And Mr. Lipsky was clearly an affected  
21 party related to the Commission Called Hearing in  
22 January?  
23 MR. STEWART: Form objection. Calls for a  
24 legal conclusion.  
25 A. **I -- I don't know for a fact on that. I**

Page 167

1 mean, there was the Commission inspections. I can't  
2 even remember if there was an actual complaint, or  
3 Mr. Lipsky called the Railroad Commission and they  
4 started the investigation. I don't know if that  
5 necessarily makes it a complaint.  
6 BY MR. SIMS:  
7 Q. I didn't say complaint. I said he was an  
8 affected person?  
9 MR. STEWART: Same objection. Calls for a  
10 legal conclusion.  
11 A. **Much of the data source, since it was his**  
12 **well, I guess he could be affected.**  
13 BY MR. SIMS:  
14 Q. Do you know Donna Chandler?  
15 A. **Yes.**  
16 Q. Have you worked with Donna Chandler?  
17 A. **Yes.**  
18 Q. How long did you work with Donna Chandler?  
19 A. **Since 1988.**  
20 Q. Who is Donna Chandler?  
21 A. **Well, she was an examiner.**  
22 Q. Was she a Technical Hearing Examiner?  
23 A. **Yes, she was a petroleum engineer like**  
24 **myself.**  
25 Q. Just like you were a Technical Hearing

Page 168

1 Examiner while you were there?  
2 A. **Yes.**  
3 Q. Is Donna Chandler competent?  
4 A. **Yes.**  
5 Q. Would you classify her as very competent?  
6 A. **She's competent.**  
7 Q. Would you say that she knows a tremendous  
8 amount about oil and gas drilling in the State of Texas  
9 by virtue of her being a petroleum engineer and her  
10 experience on the Railroad Commission?  
11 A. **I would say this, that Donna, like myself,**  
12 **we have been exposed to lots of hearings in 20 some**  
13 **years, at least while I was there. She was an examiner**  
14 **maybe a year or two before I came in 1988. So as to**  
15 **how much she took notice of all the drilling activity**  
16 **and things, I can't say. We always reviewed each**  
17 **other's Proposals For Decisions and Examiner's Report.**  
18 Q. Do you think that she did a good job as a  
19 hearing -- as a Technical Hearing Examiner at the Texas  
20 Railroad Commission?  
21 A. **Yes.**  
22 Q. Can you tell us any instance in which you  
23 know that she did not do a good job as a Technical  
24 Hearing Examiner at the Texas Railroad Commission?  
25 A. **I did not see all of the proposals for**

Page 169

1 decision. In those years, we had anywhere from eight  
 2 technicals down to three and we would trade off  
 3 proposals for one person to look at another technical  
 4 just to make sure. And in the last years with Donna,  
 5 there was just the three of us, Margaret, myself and  
 6 Donna. And then Margaret left and Andy came on, he was  
 7 new, and did -- so did Richard Atkins.  
 8 Q. As you sit here today, are you aware of any  
 9 instance in which Donna Chandler did not do a good job  
 10 as a Technical Hearing Examiner on any case at the  
 11 Texas Railroad Commission?  
 12 A. In the 20 years that I worked with Donna, I  
 13 think they were good, we would talk, sometimes we could  
 14 change each other's minds.  
 15 Q. Have you talked to Donna Chandler about  
 16 anything you are doing in this matter?  
 17 A. No.  
 18 Q. What involvement has Mr. Gore had in any of  
 19 the opinions you have put in your affidavit?  
 20 A. I would say they would be opinions that we  
 21 have a consensus on because we discuss this matter with  
 22 each other.  
 23 Q. Has he written any reports or prepared any  
 24 affidavits, to your knowledge, related to this matter?  
 25 A. Not to my knowledge, no.

Page 170

1 Q. And to the extent that anyone's had any  
 2 conversations with the lawyers about whether to go and  
 3 testify at the Commission Called Hearing, that would  
 4 have been Mr. Gore, not you?  
 5 A. That's right. He's the principal.  
 6 Q. Other than you and Mr. Gore, has anyone  
 7 else in your firm been involved in this matter?  
 8 A. In the data collection, yes.  
 9 Q. And who is that?  
 10 A. There would be Jeff Hawkins, Matt --  
 11 Matthew Arthur. I don't know if Stuart Newton was  
 12 involved. And Tedi Gill.  
 13 Q. I'm a little curious, those -- you attached  
 14 a couple of Chesapeake related matters to your  
 15 affidavit and I noticed on there that Donna Chandler  
 16 was one of the hearing examiners, as were you, but you  
 17 didn't sign off on the PFD. Why was that?  
 18 A. That's because I had retired and so she had  
 19 to pick up where I had left off.  
 20 Q. Okay. And when you retired from the  
 21 Railroad Commission, you went to work with Mr. Gore?  
 22 A. Yes.  
 23 Q. And Mr. Gore was actually an expert witness  
 24 in that, in that proceeding, wasn't he?  
 25 A. I -- yes, I think he was.

Page 171

1 Q. Is that ethical, to be a hearing examiner  
 2 on a matter that -- and then -- and then leave and go  
 3 to work for a person that testified in that matter?  
 4 A. I can't remember the exact timing on that  
 5 when the hearing was held versus when I left. But  
 6 though I was the examiner, Donna had the entire record.  
 7 Q. Do you know Peter Pope?  
 8 A. Yes, he's down in I believe UIC.  
 9 Q. What's UIC?  
 10 A. Oh, I'm sorry. Underground Injection  
 11 Control.  
 12 Q. Is Mr. Pope competent?  
 13 A. I don't know. I just know his name.  
 14 Q. Do you know Bill Merchant? Marshant?  
 15 Marchant?  
 16 MR. STEWART: Which one?  
 17 MR. SIMS: I don't know.  
 18 MR. STEWART: Three different people?  
 19 A. That name doesn't sound that familiar to  
 20 me.  
 21 BY MR. SIMS:  
 22 Q. Do you know Monte Newton?  
 23 A. Again, the name doesn't sound familiar to  
 24 me.  
 25 Q. Gill Bujano?

Page 172

1 A. I know Gill.  
 2 Q. Is he competent?  
 3 A. He was the Assistant District Director of  
 4 the Houston District for many years. I would like to  
 5 think so.  
 6 Q. Do you have any facts or reason to believe  
 7 that he's not?  
 8 A. I don't know. I've never interacted with  
 9 Gill, so I don't know.  
 10 Q. Do you know Ramon Fernandez?  
 11 A. Yes.  
 12 Q. Who is Ramon Fernandez?  
 13 A. Ramon Fernandez is now the Director Of Oil  
 14 And Gas. He was a technical examiner for some years  
 15 and then went over to Site Remediation, I believe it  
 16 is.  
 17 Q. Is he competent?  
 18 A. I never talked to Ramon that much, so I  
 19 don't know.  
 20 Q. Do you know David Cooney?  
 21 A. Yes, he is the attorney - staff attorney,  
 22 so to speak - in the Office of General Counsel.  
 23 Q. Is he competent?  
 24 A. I don't know.  
 25 Q. Do you know Keith Barton?

Page 173

1       A.   **I know the name. He's in Field Ops, as we**  
 2 **call it.**  
 3       Q.   Is he competent?  
 4       A.   **Like I say, I just know the name.**  
 5       Q.   Do you know Gene Montes?  
 6       A.   **Yes.**  
 7       Q.   Who is Gene Montes?  
 8       A.   **He is a legal examiner in the Office of**  
 9 **General Counsel.**  
 10      Q.   He was a hearing examiner along with Donna  
 11 Chandler in the Commission Called Hearing that we've  
 12 been talking about today; is that right?  
 13      A.   **Yes.**  
 14      Q.   Is Mr. Montes competent?  
 15      A.   **I only worked with Gene for maybe a few**  
 16 **months. He was gas -- I believe it was gas utilities**  
 17 **attorney and they were beginning to cross the bounds**  
 18 **for the gas utility people to start learning more about**  
 19 **oil and gas.**  
 20      Q.   Is the only person that you ever worked  
 21 with at the Texas Railroad Commission that you can say  
 22 for sure was competent, is that Donna Chandler?  
 23      A.   **Yes, because we worked together for so**  
 24 **long.**  
 25      Q.   This additional work that you have told us

Page 174

1       you need to do, how long will it take you to do that?  
 2      A.   **Oh, Mr. Sims, I have no idea. I have other**  
 3 **cases I'm working on.**  
 4      Q.   Have you talked to Mr. Gore about that?  
 5      A.   **Just in general discussion. He and I talk.**  
 6      Q.   When is the first time you talked to him  
 7 about the need to do this additional work?  
 8      A.   **Oh, that was -- I don't know. If I were to**  
 9 **say two weeks or I could say two months, I -- I don't**  
 10 **know.**  
 11      Q.   At least two weeks ago?  
 12      A.   **And that was just an estimate on my part.**  
 13 **I don't know.**  
 14      Q.   Clearly before you filed or signed either  
 15 one of these affidavits in this case?  
 16      A.   **Yes, I would think so.**  
 17      Q.   Why didn't you put in either one of your  
 18 affidavits, either the original one or the amended one,  
 19 that there's additional work that you need to do before  
 20 you can determine whether Range has caused or  
 21 contributed to any gas in the Lipsky well?  
 22           MR. STEWART: Objection, form. He has not  
 23 testified that -- to that here today.  
 24           BY MR. SIMS:  
 25      Q.   You can answer my question.

Page 175

1       A.   **I based the information that's in the**  
 2 **affidavit based on the information as of the time I did**  
 3 **that, that this is the most likely possibility, the**  
 4 **most likely that is happening, and that was based on**  
 5 **the information that I had at that time.**  
 6      Q.   And this most likely possibility that  
 7 you've told us about doesn't do anything to exclude or  
 8 rule out the source of gas in all these other water  
 9 wells that occurred before Range drilled their wells;  
 10 is that right?  
 11      A.   **Again, the affidavit reflects my opinions**  
 12 **of the most likely cause as of that time, and that's**  
 13 **the way it still is, the most likely or not that this**  
 14 **is -- this is what's happening.**  
 15      Q.   How can you know what the most likely cause  
 16 of gas is in the Lipsky water well until you've  
 17 determined what the most likely cause of gas in all  
 18 these other water wells was before the Butler and Teal  
 19 wells were drilled?  
 20      A.   **Again, it was just based on the information**  
 21 **that I had, the data I collected, the information and**  
 22 **the evidence that Range presented that as of this time,**  
 23 **this is what I knew.**  
 24           MR. SIMS: Object to the responsiveness of  
 25 your answer.

Page 176

1       BY MR. SIMS:  
 2      Q.   How can you -- how can you give an opinion  
 3 about the most likely cause of gas in the Lipsky water  
 4 well until you have determined the most likely cause of  
 5 gas in these other water wells that existed before the  
 6 Butler and Teal wells were drilled?  
 7      A.   **Again, it goes back to the information that**  
 8 **Range presented to the Commission. I had their cases.**  
 9 **They didn't consider mine. They were looking at the**  
 10 **problem with this gas was that it was Barnett Shale**  
 11 **gas.**  
 12      Q.   Who was looking at that?  
 13      A.   **Range. That was the whole thing of the**  
 14 **Commission hearing was was Barnett Shale gas getting**  
 15 **into the Lipsky well? I'm not here to advocate that**  
 16 **it's Barnett Shale gas that's getting in the Lipsky**  
 17 **well. I think the most probable cause, the most likely**  
 18 **cause is all these formations that are uncemented**  
 19 **between the surface -- between the longstring casing**  
 20 **and the formation.**  
 21      Q.   Well, you say that the whole hearing was  
 22 about whether Barnett Shale gas was in -- was getting  
 23 into the Lipsky water well. I mean, the -- the  
 24 Commission Called Hearing said they were going to look  
 25 at whether Range's operations had caused or contributed

Page 177

1 to gas in the Lipsky well?  
2 **A. That's right.**  
3 Q. And they determined, the Railroad  
4 Commission determined that Range's -- Range's  
5 operations have not caused or contributed to that --  
6 MR. STEWART: Object --  
7 BY MR. SIMS:  
8 Q. -- correct?  
9 MR. STEWART: I'm sorry. Objection, form  
10 of the question. There's a document that sets out what  
11 they say.  
12 **A. That's right, the Proposal For Decision, it**  
13 **gives the findings of facts and the conclusions of law,**  
14 **and based on the way this -- the wells are cemented,**  
15 **there is -- that I can see and the casing inspection**  
16 **log or casing pressure, MIT tests and all of that,**  
17 **there's no indicating of channeling that the Barnett**  
18 **Shale gas is getting outside the well bore, but based**  
19 **on the information that I have of all these other**  
20 **producing type formations, the Atoka, the Caddo, the**  
21 **Marble Falls, they're all present, and that has not**  
22 **been crossed off.**  
23 BY MR. SIMS:  
24 Q. And they were all present when these other  
25 water wells had gas in them before the Butler and Teal

Page 178

1 wells were drilled, weren't they?  
2 **A. I don't --**  
3 MR. STEWART: Objection, form.  
4 **A. Yes, I would assume that yes they would be.**  
5 BY MR. SIMS:  
6 Q. Okay. And --  
7 **A. I mean, the -- those fields have existed**  
8 **for years and years.**  
9 Q. Okay.  
10 **A. So.**  
11 Q. And you've done -- you've done nothing to  
12 determine -- or let me scratch that.  
13 How can you -- how can you say that the  
14 most likely cause of gas in the Lipsky water well is  
15 from the Butler and Teal wells when you have done  
16 nothing to determine how gas got into these other water  
17 wells before Range ever drilled the Lipsky -- I mean  
18 the Butler and Teal wells?  
19 **A. Well, one, I don't represent those other**  
20 **people; two, as I pointed out before and I guess I have**  
21 **not made it clear, Lipsky's well was not producing gas**  
22 **when it was drilled. It wasn't until 2010 after the**  
23 **Butler wells had been drilled that Lipsky's water well**  
24 **started making gas, and that's what I have focused on.**  
25 BY MR. SIMS:

Page 179

1 Q. Why have you -- why have you intentionally  
2 just disregarded the evidence of the other water wells  
3 and not factored that in to your opinions?  
4 MR. STEWART: Objection, form. It's  
5 argumentative. You don't have to answer that question.  
6 You can ask him a question that asks for his opinions  
7 on things. You just accused him of something. You  
8 don't have to answer that question.  
9 BY MR. SIMS:  
10 Q. Have you -- have you factored in the other  
11 water wells that had gas in them, before the Butler and  
12 Teal wells were drilled, into any of your opinions?  
13 **A. No.**  
14 Q. Why not?  
15 **A. I don't see a need to. Right now it is the**  
16 **Lipsky well. Am I aware of those? Yes. As to how gas**  
17 **got into those wells, I don't know.**  
18 Q. And it makes no difference whatsoever to  
19 your opinion in this case?  
20 **A. Because I'm working on the Lipsky well**  
21 **only.**  
22 MR. SIMS: Mr. Head, questions?  
23 MR. HEAD: Can I do it from here? I don't  
24 have a mic. Do I need one?  
25 MR. SIMS: Yeah, I'll switch with you.

Page 180

1 MR. HEAD: He's got one.  
2 EXAMINATION  
3 BY MR. HEAD:  
4 Q. Mr. Richter, my name is Albon Head. We  
5 haven't ever met before, have we?  
6 **A. No, sir, I don't believe.**  
7 Q. Okay. I just have a few questions for you,  
8 but I was not involved in this stuff that you all have  
9 been talking about for the Railroad Commission so you  
10 may consider some of my questions redundant or not very  
11 smart but I apologize in advance for that, but I do  
12 have some questions for you.  
13 You were talking about the qualifications  
14 or the competence of people at the Railroad Commission.  
15 Do you -- do you know the Commissioners, Mr. Williams  
16 and Ms. Ames Jones, Mr. Porter?  
17 **A. Do I know them?**  
18 Q. Yes, sir.  
19 **A. I knew them, yes.**  
20 Q. So you do know them?  
21 **A. Yes.**  
22 Q. Okay. And do you consider them to be  
23 competent people?  
24 **A. They're elected officials.**  
25 Q. What does that mean? With regard to my

Page 181

1 question.  
2 **A. With regard to your -- I know them, yes.**  
3 **Are they competent? I would have to say yes.**  
4 Q. Okay. So they are competent individuals,  
5 Mr. Michael Williams, Ms. Susan Ames Jones and  
6 Mr. Michael Porter, right?  
7 **A. David Porter.**  
8 Q. David Porter. Okay. I'm sorry. You  
9 consider them to be competent people?  
10 **A. Yes.**  
11 Q. You've seen I guess -- have you seen any of  
12 the news reports or any of the news articles that were  
13 written about this case about the Railroad decision,  
14 the Railroad Commission decision?  
15 **A. Oh, as far as their decision is concerned?**  
16 **No, I haven't. The only thing that I have read was I**  
17 **think there was a news release, it's on the Commission**  
18 **website.**  
19 Q. Okay. So you didn't see the news article  
20 where Mr. Lipsky was reported as -- I think he referred  
21 to as the Commission as a corrupt system with regard to  
22 his decision -- the decision in this case?  
23 **A. If it wasn't in the Austin**  
24 **American-Statesman or on the Commission website, I**  
25 **didn't see it.**

Page 182

1 Q. Okay. So your testimony is you didn't see  
2 that?  
3 **A. No.**  
4 Q. You would not agree with that, I assume?  
5 **A. I don't know what was said in the article.**  
6 Q. Just what I said, just the words that I  
7 said, you wouldn't agree with that if he said that  
8 quoted in a newspaper article correctly?  
9 **A. Again, I would have to see the article**  
10 **because otherwise I'd be taking things out of context.**  
11 **I'd like to see the entire article.**  
12 Q. Okay. Do you know anything about the  
13 quality of the water in the Lipsky well, whether it's  
14 potable, drinkable?  
15 **A. I do not have any knowledge of that.**  
16 Q. Okay.  
17 **A. I know it still makes gas, I -- it's my**  
18 **understanding it still makes gas. I don't know.**  
19 Q. I was talking about the water. Not the  
20 gas.  
21 **A. Oh. I don't know if the water is or not.**  
22 **I don't know.**  
23 Q. And do I understand it correctly that you  
24 have not been to the site?  
25 **A. I have never been there, no.**

Page 183

1 Q. All right. I was going to ask you with  
2 whom you have talked about this case? I think we know  
3 that you have spoken with the attorneys and with  
4 Mr. Gore and with -- there was an assistant you said  
5 did some legwork for you. Now, who is that?  
6 **A. Oh, as far as it -- at PGH? Yes, our staff**  
7 **there. Some are engineering technicians, some of them**  
8 **are like Railroad Commission retrieval people.**  
9 Q. Okay. So tell us who you have talked to,  
10 anyone, about this case or the work that you have done  
11 on this case?  
12 **A. The people who have retrieved day --**  
13 **retrieved data, as I told Mr. Sims, was Greg Hawkins, I**  
14 **know Matt Arthur, I don't know if Stuart Newton was**  
15 **involved in it, and Tedi Gill, she was the one who did**  
16 **the retrievals from the Commission.**  
17 Q. I wasn't asking you what they did or what  
18 they were involved in.  
19 **A. Oh.**  
20 Q. I'm asking you who you have talked to?  
21 **A. Oh, outside PGH?**  
22 Q. Anybody anywhere.  
23 **A. Oh. Anybody. Nobody. That -- those would**  
24 **be the only people.**  
25 Q. The people you have mentioned --

Page 184

1 **A. Yes.**  
2 Q. -- in PGH?  
3 **A. Yes.**  
4 Q. And the lawyers?  
5 **A. Yes.**  
6 Q. Mr. Stewart?  
7 **A. Mr. Ritter.**  
8 Q. And Mr. Ritter?  
9 **A. Yes.**  
10 Q. Both?  
11 **A. I'm -- I have talked to them probably two,**  
12 **three times.**  
13 Q. What about mister --  
14 **A. I don't interact that much with them.**  
15 Q. Okay. What about Ms. Brooks?  
16 **A. Oh, as far as those people? No, I don't**  
17 **believe -- wait a minute. Ms. Brooks?**  
18 Q. With Mr. Stewart's office. Stephanie?  
19 **A. I don't know that name.**  
20 Q. Okay. When did you first talk with any of  
21 the lawyers about this case?  
22 **A. I think the first time, as I told Mr. Sims,**  
23 **was the latter part of December.**  
24 Q. Two thousand ...  
25 **A. 2010.**

Page 185

1 Q. That's what I -- I'm sorry. I'm sorry  
2 that's what I meant. 2010.  
3 A. Yes.  
4 Q. Not 2010 -- not 2011, but a year ago last  
5 December.  
6 A. Yes, sir.  
7 Q. Okay.  
8 A. I believe that's correct.  
9 Q. Okay. And was there any document  
10 exchanged? Were you given any material?  
11 A. I recall it being a telephone call.  
12 Q. Okay.  
13 A. It was a conference call, I believe.  
14 Q. You didn't receive any documents or any  
15 materials from them?  
16 A. No, at that time we hadn't even been hired.  
17 Q. Did you ever receive any materials or  
18 documents from them?  
19 A. Yes.  
20 Q. All right. And what was it?  
21 A. That was that huge binder that I thought  
22 was discovery that the -- Range had given the Railroad  
23 Commission.  
24 Q. Okay. And what was Mr. Gore's part in  
25 these discussions and in the work that you did?

Page 186

1 A. Well, he's the, you know, leader of the  
2 company.  
3 Q. You called him the principal, I think.  
4 A. The principal, yes.  
5 Q. All right. Well, what was his involvement  
6 in this matter?  
7 A. In this matter?  
8 Q. Yes.  
9 A. Well, he was the initial contact and I work  
10 for him and he gives me the assignments and I go.  
11 Q. Okay. And you said he's the -- I guess the  
12 "G" in PGH Engineers?  
13 A. Yes.  
14 Q. Is that correct? All right. Are you an  
15 owner --  
16 A. No.  
17 Q. -- of the company? You're an employee?  
18 A. Yes.  
19 Q. And when were you hired?  
20 A. I started January 2nd, 2008. I left the  
21 Commission December 31st, 2007.  
22 Q. Okay. And you had previously been employed  
23 by the Railroad Commission for 20-something years?  
24 A. 20-something years, yes.  
25 Q. How many years? Twenty what?

Page 187

1 A. It was twenty -- I went to work for them in  
2 '88.  
3 Q. All right.  
4 A. And before that, I went to work for them  
5 in '72 to '81. I was in the district office.  
6 Q. What district?  
7 A. Kilgore.  
8 Q. That's District 5 and 6?  
9 A. 5, 6, and 6-E.  
10 Q. 6-E? And then you came back and you were  
11 Assistant District Director in the same office?  
12 A. Well, I didn't come back. While I was  
13 there, I got promoted; the last four years I was there,  
14 I was the Assistant District Director.  
15 Q. Okay. So you have worked for the Railroad  
16 Commission continuously?  
17 A. No.  
18 Q. Well, what's the gap? What did do you in  
19 the gap?  
20 A. The gap was from 1981 to 1985, I was  
21 working for First National Bank of Longview which was  
22 part of Bank of the Southwest, and then I left the bank  
23 and started my own firm and I was doing evaluations for  
24 the various area banks, reserve evaluations.  
25 Q. Is that what you did at the bank in

Page 188

1 Longview, you were a reserve analyst?  
2 A. Yes.  
3 Q. Okay.  
4 A. And then I left them. Oil prices went bad  
5 in 1986 and I went to work for the FDIC in Bossier City  
6 closing banks.  
7 Q. Okay. You weren't doing reserve analysis  
8 or anything like that?  
9 A. No.  
10 Q. How long did you work for the FDIC?  
11 A. About a year and a half, I would say.  
12 Q. Okay.  
13 A. And that's when I came back to the  
14 Commission in April of 1988 as a Hearing Examiner.  
15 Q. In Austin?  
16 A. Yes.  
17 Q. All right. And as a Hearing Examiner, you  
18 conducted hearings on what matters?  
19 A. All matters that concerned the various  
20 rules of the Commission. Typically it would be field  
21 rule hearings, field consolidations, unitization,  
22 secondary recovery, net GOR's, MER's, enforcement  
23 hearings, we call them Rule 37/38, these are getting  
24 too close to the lease line.  
25 Q. Spacing?



Page 189

1       **A. Spacing and density.**  
2       Q. And then you retired, that's what you were  
3 doing when you retired?  
4       **A. Yes, for twenty years that's what I did.**  
5       Q. All right. And then was there any gap  
6 between when you went to work for Mr. Gore?  
7       **A. That's what I mean. There was like two**  
8 **days.**  
9       Q. Okay.  
10      **A. I left the Commission and, for lack of**  
11 **better words, the wife wasn't going to have me at home**  
12 **so I had to go to work.**  
13      Q. All right. The -- before you were with the  
14 Commission initially, by whom were you employed?  
15      **A. I was a student at Texas A&M. When I got**  
16 **out of petroleum engineering at A&M, I went to work**  
17 **directly for the Railroad Commission in Kilgore.**  
18      Q. Okay. So you have an undergraduate degree  
19 from Texas A&M in petroleum engineering?  
20      **A. Yes.**  
21      Q. Would you explain for me what a petroleum  
22 engineer does?  
23      **A. Well, it's like so many professions, you**  
24 **finally get into drilling, production, research and**  
25 **development, and that was the good thing about the**

Page 190

1      **Railroad Commission in the district office, I got to**  
2 **see all of them: Drilling, production techniques,**  
3 **measurements.**  
4      Q. Have you ever worked for a production  
5 company?  
6      **A. I did summer work for PanAmerican which**  
7 **later became Amoco.**  
8      Q. When you were in school?  
9      **A. Yes.**  
10     Q. Doing what?  
11     **A. Working in the field -- well, basically it**  
12 **was the Edgewood Gas Plant.**  
13     Q. Okay. You worked at a gas plant?  
14     **A. Yes.**  
15     Q. As a roughneck or a roustabout or --  
16     **A. No, it was more of engineering --**  
17     Q. -- gang member or what?  
18     **A. -- training, in-training type thing.**  
19     Q. Okay. So you worked with engineers --  
20     **A. Yes.**  
21     Q. -- at the gas plant? Summer job?  
22     **A. Yes.**  
23     Q. Have you ever, since you graduated, worked  
24 for a drilling company or a production company or a  
25 mid-stream company, any, any private sector company?

Page 191

1       **A. No.**  
2       Q. All right. You've been essentially, except  
3 for your stint with the banks, you have worked for the  
4 government?  
5       **A. Yes.**  
6       Q. Until retiring and going with Mr. Gore's  
7 company?  
8       **A. Yes.**  
9       Q. How do you all get paid when the company  
10 gets hired in a matter like this to provide expert  
11 testimony or litigation support, how do you -- how do  
12 y'all get paid?  
13      **A. You get paid by the hour and invoices are**  
14 **sent out I think either once a month or twice a month.**  
15      Q. Are you in charge of any of that?  
16      **A. No.**  
17      Q. Do you know what's being charged in this  
18 case per hour?  
19      **A. I only know my time.**  
20      Q. Okay. What is that?  
21      **A. My time is 215 an hour.**  
22      Q. All right. Do you know how much has been  
23 spent with your company on this case --  
24      **A. No, I do not.**  
25      Q. -- up through today?

Page 192

1       **A. Because I don't see the others who do work.**  
2 **I do not see their invoices, so I don't know.**  
3       Q. All right, now, when -- when you were  
4 hired, you were given the assignment by Mr. Gore; is  
5 that correct?  
6       **A. Yes.**  
7       Q. Can you tell us what he told you the charge  
8 was, what you were charged with doing?  
9       **A. The charge that I was advised of and my**  
10 **whole aim has been what are -- what is the like -- most**  
11 **likely source, the most likely source of the gas**  
12 **getting into the Lipsky well.**  
13      Q. Okay. Did this report, this affidavit, I  
14 think it's Exhibit 1 was the original and Exhibit 3 is  
15 the amended affidavit --  
16      **A. Yes, sir.**  
17      Q. -- to your deposition, you stated that you  
18 typed these yourself?  
19      **A. Yes, I do. I type them myself.**  
20      Q. All right. Do you have a laptop computer  
21 that you use?  
22      **A. I do not own a laptop. I have there at the**  
23 **office --**  
24      Q. A desktop then?  
25      **A. Desktop, yes, sir.**

Page 193

1 Q. Okay. So that's where this was typed?  
 2 A. Yes.  
 3 Q. And you said -- I think you said there were  
 4 five or six iterations or drafts?  
 5 A. Yes.  
 6 Q. All right. And was there any input by  
 7 anyone else into any of those drafts between those  
 8 drafts or that you changed as your drafting was going  
 9 on to your final report?  
 10 A. I would speak to Mr. Gore about, you know,  
 11 what I was intending, he would give me advice, I have  
 12 talked to I believe it was -- I don't know if it was  
 13 David Ritter or Steve Jensen I believe it is, and it  
 14 seems like I spoke to them and said, "This is what I'm  
 15 saying," and they said, "It sounds good so far," and I  
 16 said, "Well, I'm still refining it," you know, because  
 17 I get wordy sometimes.  
 18 Q. Did he -- did you read any of your drafts  
 19 to Mr. Gore or to Mr. Ritter or Mr. Jensen?  
 20 A. Oh, Mr. Gore saw my drafts, yes.  
 21 Q. Okay. And then he had input into it?  
 22 A. Yes.  
 23 Q. What changes did he make in the drafting  
 24 procedure?  
 25 A. It was more sentence structure than

Page 194

1 anything else. As far as the actual information that I  
 2 was drafting in there, that was what I was believing.  
 3 Q. Okay. And there are no copies of these  
 4 drafts?  
 5 A. No, because I --  
 6 Q. Paper copies?  
 7 A. I just used type over.  
 8 Q. All right.  
 9 A. If ...  
 10 Q. Now, the -- do you have a form or a  
 11 template or a go-by that you use in preparing your  
 12 affidavits or opinions in matters like these?  
 13 A. Yes, I've had previous affidavits and so,  
 14 you know, since all the wording is kind of there and  
 15 the formatting is already there, it's very easy to --  
 16 like items 1 and 2, which is my background, and I  
 17 believe item -- well --  
 18 Q. Well, why didn't -- why didn't you mention  
 19 being an Aggie in your report here? Was that something  
 20 you don't usually say?  
 21 A. Because I work for a Tea Sip, that's why.  
 22 Q. Yeah, okay, well, I can understand that.  
 23 You use three different terms in here and I  
 24 didn't -- I don't think at least I didn't understand an  
 25 explanation earlier in your deposition where you -- you

Page 195

1 state under your summary of opinions on page 2 of your  
 2 report in paragraph 5, you say first in I guess above  
 3 that in Paragraph 1, sub 3 on the top of page 2, that  
 4 you have reached the following conclusions and opinions  
 5 to a reasonable degree of petroleum engineering  
 6 certainty.  
 7 Now, did you get that terminology from  
 8 somewhere else?  
 9 A. No, I've used that in others before. I've  
 10 used that in -- even at the Railroad Commission in my  
 11 pro -- reports that I would write. I've seen that in  
 12 documents that were presented in, particularly,  
 13 protested hearings, and that's where I came up with  
 14 that terminology.  
 15 Q. Let me ask you a question. You seem to be  
 16 proficient as to knowing what is a protested and an  
 17 unprotested --  
 18 A. Yes.  
 19 Q. -- hearing. Why is it you can't define  
 20 whether or not an individual is a protestant?  
 21 A. Well, I can define who is a protestant.  
 22 But when it's a Commission Called Hearing, everybody is  
 23 a respondent.  
 24 Q. Well, perhaps even an invitee?  
 25 A. You're getting into the -- the legal thing

Page 196

1 and I'm not an attorney and that's why we always had  
 2 legals with us.  
 3 Q. But you know what a protested hearing is as  
 4 opposed to an unprotested hearing?  
 5 A. Yes.  
 6 Q. But you cannot zero in on who is a  
 7 protestant or not a protestant, correct?  
 8 A. Well, in a -- I can do that in a protested  
 9 hearing because they fill out the sheet and says,  
 10 "Applicant Protestant," and in a Commission Called  
 11 Hearing, it's a Respondent. Now, does that mean is  
 12 there a legal ramification to that? Based on the way  
 13 us Examiners look at it, no.  
 14 Q. Now, further down on your -- on the second  
 15 page of your report under summary of opinions in  
 16 paragraph 5, you say that you have determined "to a  
 17 reasonable degree of reservoir engineering and  
 18 completion engineering certainty, Range's failure to  
 19 submit," et cetera.  
 20 What is the difference between a reasonable  
 21 degree of reservoir engineering and completion  
 22 engineering and plain old petroleum engineering  
 23 certainty as used above? Those are three different  
 24 degrees of certainty that you have set forth there.  
 25 What is the difference?

Page 197

1           A. Well, as far as obviously the completion  
2 engineering, that is like the operations of the well,  
3 how did you complete the well, that is what we call --  
4 I always call completion engineering.  
5           The other falls under drilling engineering,  
6 and then there's reservoir engineering, which kind of  
7 gets into the geology side - what are the formations  
8 that are out there? - and that's what I found in this  
9 instance. So therefore I used the term "completion  
10 engineering" is the way the wells were actually  
11 completed, or any well was actually completed  
12 as "completion engineering."  
13           Q. All right. And have you ever been involved  
14 in the completion of wells yourself?  
15           A. Actually no. From the Commission  
16 standpoint and all the hearings, yes, I have reviewed I  
17 would say hundreds if not thousands of completions.  
18           Q. I understand that. But you've never done  
19 it yourself?  
20           A. No.  
21           Q. And reservoir engineering is not the same  
22 thing as reservoir analysis, is it?  
23           A. I think the terms are somewhat  
24 interchangeable. When you look at reservoirs, you say  
25 reservoir engineering, it includes the analysis because

Page 198

1           you're looking at what all is in the formation, is  
2 there sour gas, is there nitrogen. To me, that's --  
3 now, that's what it means to me. I don't see a  
4 difference in them.  
5           Q. Have you done any analysis of the gas in  
6 the Lipsky well?  
7           A. No.  
8           Q. All right. But you still have a reasonable  
9 degree of reservoir engineering as to where it came  
10 from?  
11           A. I do believe, in what Range presented at  
12 the Commission and they seem to have a reasonable  
13 degree.  
14           Q. I'm talking about your own independent  
15 personal knowledge.  
16           A. No, I have not made such an analysis.  
17           Q. Okay. Now, at the very start of your  
18 affidavit, you state that you are personally acquainted  
19 with the facts stated herein and the facts stated  
20 herein are true. Is that correct?  
21           A. Yes.  
22           Q. All right, but I think we have determined  
23 that some of these facts you really don't know as facts  
24 today. Is that -- is that a fair statement?  
25           A. There's facts and there's opinions.

Page 199

1           There's like the hard data, how wells were completed,  
2 where formations are, where fields are, this kind of --  
3 those are -- those are facts, those are not disputed.  
4           Q. Is the word "failure" as used in your  
5 opinion, your report here several times where you talk  
6 about Range's failure to do something before the  
7 Commission, is that statement stated as a fact or as an  
8 opinion?  
9           A. That's an opinion.  
10           Q. All right. And was there any failure on  
11 your part to not come forward with this information  
12 that you may have known before the Railroad Commission?  
13           A. I wasn't a party to the hearing.  
14           Q. So the answer is no, correct?  
15           A. That's right.  
16           Q. All right.  
17           A. We were still -- number one, we were still  
18 gathering data at the time of the Commission hearing.  
19           Q. Okay. The statement at III on page 2 says  
20 "Range's drilling activities contributed to  
21 contamination at the Lipsky property."  
22           That's stated here as a fact, correct?  
23           A. No. That's an opinion.  
24           Q. It doesn't say so. It says, "Range's  
25 drilling activities contributed to contamination at the

Page 200

1           Lipsky property."  
2           MR. STEWART: I'm sorry. Where are you at?  
3           MR. HEAD: Page 2. III.  
4           MR. STEWART: III. Okay.  
5           A. Yes, that's my opinion the --  
6 BY MR. HEAD:  
7           Q. All right. So to clear this up because  
8 it's a declaratory statement, this is not stated by you  
9 on this paper as a fact; this is your opinion?  
10           A. That's my opinion, yes, that's what leads  
11 me to that.  
12           Q. Okay. The -- several times in your report  
13 you use the word "tend" or "may," or "could." Again,  
14 are these statements of possibilities in your opinion?  
15           MR. STEWART: Sorry. Objection, form.  
16           A. You know, as far as the word -- this  
17 affidavit as possibilities, my conclusions, the  
18 information that leads me to this is what I believe is  
19 most likely.  
20 BY MR. HEAD:  
21           Q. Well, look at page 3, Paragraph 10 at the  
22 bottom there. I guess it's page 3 on both of them,  
23 Exhibit 1 and 3.  
24           A. Okay.  
25           Q. No, it would be at the top of page 4 on

Page 201

1 Exhibit 3, but bottom of page 3 on Exhibit 1.  
2 It says, "The available records provide  
3 several pieces of evidence that tend to demonstrate  
4 that Range's activities contributed to contamination of  
5 the Lipsky's water supply."  
6 What do you mean by that word "tend" in  
7 a -- in a -- in a statement under oath that every  
8 statement in here is a fact, a fact as true, again, is  
9 this just --  
10 **A. Most likely.**  
11 Q. -- sort of an opinion on your part here?  
12 **A. It is most likely. These pieces of**  
13 **evidence, A, B, C, promote to me the most likely fact.**  
14 **A lot of this is fact, just like it says they drilled**  
15 **the well in 2005. That's fact. Range drilled its well**  
16 **in 2009. That's fact. And it was these facts that**  
17 **lead me to a conclusion.**  
18 Q. What do you mean by "tend to demonstrate"  
19 as opposed to "demonstrate"?  
20 **A. To me, it means it's most likely. This is**  
21 **what it demonstrates. I -- I'm an engineer. I'm not**  
22 **an English major. So --**  
23 Q. Okay.  
24 **A. -- if "tend" raises some kind of legal**  
25 **flag, I'm -- I'm sorry.**

Page 202

1 Q. Well, you've been a Hearing Examiner where  
2 you've taken testimony under oath for years?  
3 **A. Yep.**  
4 Q. And so you know what that means, correct?  
5 **A. Yes.**  
6 Q. All right. Well, I'm just trying to clear  
7 up to what me is very vague and ask you to explain it.  
8 Okay?  
9 **A. And I'm trying my best to explain it to**  
10 **you.**  
11 Q. I understand that.  
12 Look at the next page, if you will, at  
13 the -- on Exhibit 1, it would be the top of page 4  
14 under paragraph "a."  
15 MR. STEWART: 10.a. Is that where you are?  
16 MR. HEAD: Yeah. 10.a.  
17 BY MR. HEAD:  
18 Q. It says, "The Lipskys did not experience  
19 natural gas contamination problems with the well until  
20 more than four years later."  
21 Do you see that statement?  
22 **A. Yes.**  
23 Q. That's a statement of fact, isn't it, that  
24 you've sworn to?  
25 **A. Based on the deposition, that's what it**

Page 203

1 **said.**  
2 Q. No, I'm talking about your personal  
3 knowledge that you can swear to in an affidavit under  
4 oath.  
5 **A. Well, I --**  
6 Q. You either know or don't know.  
7 **A. I believe that since the deposition is**  
8 **sworn testimony, I have to assume it is the truth. So**  
9 **yes, I --**  
10 Q. You have no personal -- you have no  
11 personal knowledge that the Lipskys did not experience  
12 natural gas contamination problems with the well until  
13 more than four years later, do you? Personal  
14 knowledge, of your own personal knowledge?  
15 **A. Personal knowledge, no.**  
16 Q. Okay. What you are basing that on is what  
17 you have been told by Mr. Stewart and/or Mr. Ritter and  
18 what you've read in Mr. Lipsky's deposition; is that  
19 correct?  
20 MR. STEWART: Form objection.  
21 **A. I would say that, as well as the Commission**  
22 **hearing, and the information is there.**  
23 BY MR. HEAD:  
24 Q. All right, but that's not your own personal  
25 knowledge. That's what you based it on, correct?

Page 204

1 **A. Yes.**  
2 Q. Okay. In the next paragraph you are using  
3 these words of possibilities again where you say that  
4 the "regional faulting in the area," which we have  
5 already discussed at length today, "of the Butler and  
6 the Teal wells that may have become conduits."  
7 Again, is that just a word you use for a  
8 possibility?  
9 **A. Yes.**  
10 Q. And then you say a --  
11 **A. In this case, though, it's probably a more**  
12 **than likely.**  
13 Q. All right. You're -- you're going to stick  
14 with this testimony about faulting in the area being,  
15 like in the next sentence, "independently creating an  
16 environment in which gas could migrate through  
17 formations"?  
18 **A. And that is a "could."**  
19 Q. You're convinced that there's faulting in  
20 the area of these wells?  
21 **A. Yes.**  
22 Q. And how close?  
23 **A. I don't know.**  
24 Q. And how deep?  
25 **A. Again, don't know.**

Page 205

1 Q. Okay.  
2 A. **The published literature says it's there.**  
3 Q. And in the last sentence from where it  
4 could ultimately reach the Lipskys' water supply,  
5 again, that's again a possibility?  
6 A. **Poss --**  
7 Q. You don't -- you don't know?  
8 A. **It is a possibility that I based on Range's**  
9 **information evidence that they submitted at the**  
10 **hearing.**  
11 Q. Is there any other information that you  
12 have haven't told us about or listed in your affidavit  
13 by which you know that there was no gas in the Lipsky  
14 well for those four years?  
15 A. **Everything I know is right there.**  
16 Q. Okay. So nothing else, correct?  
17 A. **Nothing else that I know of.**  
18 Q. And the -- do you know about this term,  
19 "gas locking," or are you familiar with what that's  
20 about?  
21 A. **I read that in the, what was -- cavitation**  
22 **or something in the transcript of the Commission when**  
23 **they were --**  
24 Q. Do you have any expertise in that area?  
25 A. **I do not.**

Page 206

1 Q. All right. Don't have any opinion as to  
2 whether or not it caused the failure in the pumping  
3 system or anything of the --  
4 A. **I do not.**  
5 Q. -- of the -- of the Lipskys? All right.  
6 Have you testified since you went to work  
7 for the engineering firm that you are with now --  
8 A. **Yes.**  
9 Q. -- in -- in --  
10 MR. STEWART: Let him finish.  
11 BY MR. HEAD:  
12 Q. In trial?  
13 A. **Yes, I have.**  
14 Q. All right. On how many occasions?  
15 A. **Once.**  
16 Q. And where was that?  
17 A. **This was in Littlefield, Texas, in District**  
18 **Court.**  
19 Q. All right. What was the matter? Do you  
20 recall?  
21 A. **It had to do with Rule 37/38.**  
22 Q. Spacing?  
23 A. **Density.**  
24 Q. All right. And so that you were testifying  
25 for the company or for the landowners or what?

Page 207

1 A. **From what I -- it was two companies, one**  
2 **was the working interest own -- the operator. The**  
3 **other was a minor working interest owner and --**  
4 Q. All right. An individual?  
5 A. **No, because it was a company.**  
6 Q. All right. Do you know what -- who were  
7 the parties? Do you recall that?  
8 A. **I remember the people we represented was**  
9 **Petroleum Synergy, and I can't remember who the**  
10 **operator was of it.**  
11 Q. Company was on the other side?  
12 A. **Yeah.**  
13 Q. Okay.  
14 A. **And he was the operator of all the leases,**  
15 **but on this one tract, there was two wells but on all**  
16 **the surrounding tracts he was giving himself his own**  
17 **37/38 exception so there was two wells. So the main**  
18 **tract was getting drained by about 10 wells and of**  
19 **course him being the operator, he could give himself**  
20 **his own offset waiver.**  
21 Q. And when was this?  
22 A. **This was 2008 I believe.**  
23 Q. Okay. And you were hired to opine as to  
24 spacing or density requirements under Rule 37 and/or 38  
25 of the Railroad Commission Rules, correct?

Page 208

1 A. **Yeah, my specific was the Railroad**  
2 **Commission.**  
3 Q. And it didn't have anything to do with  
4 anything like in this case, gas migrating into water  
5 aquifers or anything?  
6 A. **No. No.**  
7 Q. Have you ever been retained in such a case  
8 involving gas contamination or alleged contamination in  
9 water aquifers?  
10 A. **No.**  
11 Q. This is the first time?  
12 A. **Yes.**  
13 Q. I think you testified that you're -- you  
14 used the word digging, that you do the digging in a  
15 case like this. Do you recall saying that?  
16 A. **Well, as far as the digging like running**  
17 **Railroad Commission records or using Lasser or**  
18 **something like that, I usually do that. We have other**  
19 **people in the office who are less expensive than I am**  
20 **on an hourly basis that can do that kind of**  
21 **information.**  
22 Q. Has PGH been involved as an expert witness  
23 in a case like this or similar to this involving gas  
24 migration or water aquifers?  
25 A. **I don't know. I've only been there, like I**

Page 209

1 say, going on four years and that company's been in  
2 existence I think 16 or 20 years.  
3 Q. I understand that. But --  
4 A. **So what they did before, I don't know.**  
5 Q. Nobody's told you or no one has said, "This  
6 is like a case we worked on, maybe we can get some  
7 information here," you have no knowledge of anything  
8 like that?  
9 A. **No.**  
10 Q. Do you have any knowledge about whether  
11 Mr. Gore has been similarly involved as an expert  
12 witness?  
13 A. **As an expert witness?**  
14 Q. In a case involving aquifers and gas like  
15 this?  
16 A. **I don't know.**  
17 Q. All right. But as far as -- as far as you  
18 know, you don't know, you all haven't talked about any  
19 such thing?  
20 A. **No.**  
21 Q. Okay. And again, you are the principal  
22 opinion giver in this case; is that correct?  
23 A. **I --**  
24 Q. Is there a report by Mr. Gore that we  
25 haven't seen or anything?

Page 210

1 A. **No, there's not a report by Mr. Gore.**  
2 Q. So his input into your opinion is the input  
3 of the company, this is the opinion of the company, not  
4 just you individually, but of your employer?  
5 A. **Yes, I think so.**  
6 Q. Okay. And you say you communicate  
7 regularly with him so I assume that he has approved  
8 this opinion that you have written?  
9 A. **He has seen that, yes.**  
10 Q. And approved it?  
11 A. **Well, I mean, I signed it. Otherwise it**  
12 **wouldn't have gone out if he hadn't seen it.**  
13 Q. And approved it?  
14 A. **I guess approved it. I don't know what you**  
15 **mean by say approve.**  
16 Q. You don't?  
17 A. **I mean, it's like does he have a stamp or**  
18 **something that he puts on it?**  
19 Q. Well, no, let me use -- I'll just make some  
20 words up. Did he say, "This looks good, send it out"?  
21 A. **That's good enough for me.**  
22 Q. He did, something like that?  
23 A. **Yes.**  
24 MR. STEWART: Objection to the  
25 responsiveness.

Page 211

1 If that's what he said, you can say. If  
2 you're just guessing, you don't get to guess.  
3 THE WITNESS: I'm just guessing.  
4 MR. STEWART: Then don't guess.  
5 BY MR. HEAD:  
6 Q. Well, then, tell us what he said.  
7 A. **I don't recall what he said.**  
8 Q. Did he use words to that effect, "this is  
9 okay, send it out"?  
10 A. **I don't remember.**  
11 Q. You -- this was just last week, wasn't it?  
12 A. **Yes.**  
13 Q. Did you talk to him at all about it before  
14 it went out?  
15 A. **Well, yes, he -- he has seen it.**  
16 Q. He has seen the final draft of this  
17 document?  
18 A. **He has seen it, yes.**  
19 Q. Before it went out.  
20 A. **Before it went out.**  
21 Q. And he saw the draft of the amended report  
22 also?  
23 A. **Yes.**  
24 Q. The affidavit, right?  
25 A. **Yes.**

Page 212

1 Q. Before it went out?  
2 A. **Yes.**  
3 Q. Did he say anything like, "Don't send it  
4 out"?  
5 A. **No.**  
6 Q. Okay. You just don't remember what he  
7 said?  
8 A. **I don't remember what he said, those exact**  
9 **words I cannot say he said, yeah, no, maybe, I ... no,**  
10 **I don't remember the words.**  
11 Q. I, I --  
12 A. **But if there was a problem with it, he**  
13 **would have told me, "Wait a minute, go look at this."**  
14 Q. Okay. Don't what?  
15 A. **He would have said something like, "Wait a**  
16 **minute, have you looked at this."**  
17 Q. Okay.  
18 A. **Or "you've got a spelling error here," or**  
19 **something like that.**  
20 Q. All right. So you don't remember the  
21 effect of his words then; I asked you, did he say words  
22 to the effect of the words that I used.  
23 MR. STEWART: Okay. I'll object to the  
24 form of the question. He's telling you he doesn't  
25 remember what he said and you've done this like four or

Page 213

1 five times. You can try and answer it this time, but  
2 this has got to be it.  
3 **A. I can only say I don't remember.**  
4 BY MR. HEAD:  
5 Q. Okay, well, we -- I think he says we're out  
6 of tape. If we can take five minutes, maybe you can  
7 think about the last week or ten days and maybe come  
8 back to you and I'll ask you one last time and we'll  
9 move to something else.  
10 MR. STEWART: Not going to ask him one last  
11 time. Ask him now. You've asked him five.  
12 MR. HEAD: Counsel, I can ask him as many  
13 times as I want to and you -- you can't --  
14 MR. STEWART: You can.  
15 MR. HEAD: And that's not a proper  
16 objection.  
17 MR. STEWART: Yes, it is. Actually it --  
18 it is. The objection is asked and answered. You've  
19 tried to answer that five times. I am instructing you  
20 not to answer it again if he asks the question because  
21 he's had five cracks at it. There you go.  
22 MR. HEAD: Okay. Fair enough. Do you want  
23 to change the tape?  
24 VIDEOGRAPHER: We are off the record at  
25 4:27 p.m.

Page 214

1 (Break from 4:27 p.m. until 4:31 p.m.)  
2 VIDEOGRAPHER: We are back on the record at  
3 4:31 p.m.  
4 BY MR. HEAD:  
5 Q. Okay. Thank you.  
6 Mr. Richter, your Exhibit Number 1, your  
7 original affidavit was signed by you it appears on the  
8 3rd day of November 2011 in front of a notary by the  
9 name of Tedi Gill, correct?  
10 **A. Correct.**  
11 Q. Okay. And that was last Wednesday; is that  
12 right, something like that? Thursday I think?  
13 MR. STEWART: Question?  
14 BY MR. HEAD:  
15 Q. Is that right? Last Thursday?  
16 MR. STEWART: Which part? You've said  
17 Wednesday, Thursday.  
18 MR. HEAD: Either one. He can answer  
19 either one. He understands it.  
20 **A. Whatever day that is.**  
21 BY MR. HEAD:  
22 Q. You don't remember?  
23 **A. Whether it was a Wednesday or a Thursday,**  
24 **no.**  
25 Q. Okay. And then your amended affidavit was

Page 215

1 signed on the 8th day of November, 2011, before someone  
2 named Brooke Johnson?  
3 **A. Yes.**  
4 Q. Is that a notary also in your office?  
5 **A. Yes.**  
6 Q. Okay. And that was yesterday, correct?  
7 **A. Correct. That's the 10th.**  
8 Q. Okay. Now, do you remember anything that  
9 Mr. Gore said to you with regard to these two documents  
10 before they went out?  
11 **A. No, I don't.**  
12 Q. Okay. But you do, you do remember there  
13 was discussion about it and he saw it?  
14 **A. Yes.**  
15 Q. All right. You -- strike that.  
16 Oh, I wanted to ask you about this  
17 additional study you said you're going to do. Do you  
18 recall that, that testimony?  
19 **A. Yes, there could be more, more study, yes.**  
20 Q. All right. Well, when was that decision  
21 made to do additional study?  
22 **A. As far as doing it when it was going to be**  
23 **made, when it was made, I don't know, it could have**  
24 **been two weeks ago, it could have been four weeks ago.**  
25 **I don't know.**

Page 216

1 Q. Has anything been done in that regard?  
2 **A. Not so far, no.**  
3 Q. All right.  
4 **A. I have other cases I'm working on.**  
5 Q. And what exactly is it that you are going  
6 to do?  
7 MR. STEWART: Sorry. Objection. Asked and  
8 answered in detail for about an hour.  
9 You can answer.  
10 **A. As far as what I was -- I plan on doing was**  
11 **taking the information that I've gained from these --**  
12 **this depositions and looking at it and going forward**  
13 **with that. There's information that was in the Range**  
14 **hearing that I -- I am thinking I may go and look at.**  
15 **I don't know at this time. It's not like I have made a**  
16 **list and said this, this, this. I haven't done, done**  
17 **that. So I can't give you a specific item or items**  
18 **that I'm going to look at, sir.**  
19 BY MR. HEAD:  
20 Q. Are you going to issue an additional  
21 affidavit or report?  
22 **A. At this time I don't plan on it.**  
23 Q. Okay.  
24 MR. HEAD: Mr. Richter, I believe that's  
25 all the questions I have. Thank you.

Page 217

1 MR. SIMS: I've got a few more.  
2 MR. CARLTON: Can I get a turn?  
3 MR. SIMS: Sure.  
4 VIDEOGRAPHER: Will you pass that  
5 microphone?  
6 MR. HEAD: Yes. Here you go.  
7 EXAMINATION  
8 BY MR. CARLTON:  
9 Q. My name is George Carlton. One of the  
10 advantages or perhaps disadvantages of going last is  
11 most of the questions I thought were so great have  
12 already been answered so I'll be pretty short with you.  
13 Is there anything that's been asked today  
14 or any information you've got out of this deposition  
15 that would cause to you think you need to change  
16 anything about your opinion?  
17 A. **Until I read everything that's been said in**  
18 **deposition form, I can say at this point I don't know.**  
19 Q. Okay.  
20 A. **From what my -- based on the questions that**  
21 **everyone has asked so far, my belief is still the same:**  
22 **I wouldn't change anything.**  
23 Q. Okay. Other than what's in your amended  
24 affidavit and these things attached to it, did you get  
25 information from any other source other than what's in

Page 218

1 here and been mentioned in here?  
2 A. **No. From the time -- you're saying from**  
3 **the time of the first one to the amended one did any**  
4 **other information come in?**  
5 Q. At any time. From the time you first  
6 started on this project until today have you gotten  
7 information from any source other than what you  
8 mentioned in your affidavit?  
9 A. **Only those sources.**  
10 Q. Okay. And are those sources the kinds of  
11 sources and information that an expert in your field  
12 would rely on in giving opinion like you've given?  
13 A. **Yes.**  
14 Q. Okay. And including yourself in those type  
15 experts?  
16 A. **Yes, I believe that's right because one of**  
17 **the things you do look at is published information**  
18 **data.**  
19 Q. Okay, now, I'm not a geologist or a  
20 geophysicist or an engineer of any type so I'm going to  
21 try to reduce my questions to laymen's terms and maybe  
22 get a layman's response so I can go home and say,  
23 "Well, I think I understand it." Is that all right?  
24 A. **That's fine, sir.**  
25 Q. And can I say that all of your answers are

Page 219

1 based on that reasonable engineering probability to my  
2 questions?  
3 MR. SIMS: Objection, form.  
4 MR. STEWART: You can answer.  
5 A. **Yes.**  
6 BY MR. CARLTON:  
7 Q. Okay.  
8 A. **As far as I'm concerned, it's based on the**  
9 **information I have looked at.**  
10 Q. Okay.  
11 A. **And what that information has taken me to.**  
12 Q. And if you answer a question that's not  
13 based on reasonable engineering probability, would you  
14 tell me that, "Hey, I'm guessing at this"?  
15 A. **At that point, you know, even a**  
16 **professional can give an opinion; that opinion has to**  
17 **be based on the information he has available to derive**  
18 **that opinion.**  
19 MR. SIMS: Objection, non-responsive.  
20 BY MR. CARLTON:  
21 Q. You said you did reserve analysis for the  
22 bank; is that correct?  
23 A. **That is correct.**  
24 Q. All right. Is that sort of the same thing  
25 as you did in this case, you're looking at something

Page 220

1 that's oil and gas related underground and you're  
2 trying to determine where it is and how big it is and  
3 what's in it, that sort of thing?  
4 MR. SIMS: Objection, form.  
5 A. **No. The reserve based lending that I did**  
6 **was not on possible probable reserves. It was based on**  
7 **current existing producing reserves.**  
8 BY MR. CARLTON:  
9 Q. Okay. You want to know what was left in  
10 there in other words?  
11 A. **That's right, because we were looking to**  
12 **see is there enough revenue stream to pay the loan**  
13 **back.**  
14 Q. Okay. Now, as I understand what you said  
15 earlier, you believe that there was gas already in  
16 place in what formation in relation to the Lipsky well?  
17 A. **As from what I could see from the**  
18 **Commission records, the designated fields and the wells**  
19 **I looked at, Strawn, the Caddo, the Atoka and the**  
20 **Marble Falls were all productive within five miles.**  
21 Q. Okay. And it could have come from any of  
22 those?  
23 A. **Yes, because those are the formations that**  
24 **are open above the cement which keeps the Barnett.**  
25 Q. What do you mean "open"?



Page 221

1       **A. I'm sorry?**  
2       Q. What do you mean by "open"?  
3       **A. Open, that means the casing, the longstring**  
4       **casing is exposed to the formation and, thus, all the**  
5       **formations from the top of the cement in both of these**  
6       **wells at about 4850 all the way up to the surface to**  
7       **where the surface pipe is.**  
8       Q. And tell us what you mean when you say  
9       "longstring"?  
10      **A. Longstring is your production casing.**  
11      Q. And that is different from what?  
12      **A. Well, your surface casing is usually your**  
13      **shorter string that's supposed to protect to the base**  
14      **of the fresh water.**  
15      Q. When you say "string," you mean pipe that  
16      screws together?  
17      **A. Yes.**  
18      Q. Straight up?  
19      **A. Like ten and three-quarters, nine and**  
20      **five-eighths. Your longstring is four-and-a-half-inch**  
21      **casing.**  
22      Q. Okay.  
23      **A. This goes down all the way to your**  
24      **formation and then this particular case it actually**  
25      **goes out the horizontal length. This is cemented back.**

Page 222

1       **Then inside that, you typically run tubing.**  
2       Q. Okay. And the -- when it is producing,  
3       then the oil or gas or whatever comes up the tubing; is  
4       that correct?  
5       **A. That is -- that is normally correct, yes.**  
6       Q. Okay, now, I understand that your opinion  
7       is, your belief is that there was a pocket of gas in  
8       some shape in one of these formations under  
9       equilibrium; is that correct?  
10      **A. I don't think I would use the**  
11      **word "pocket."**  
12      Q. All right. A -- a shape of some sort  
13      containing gas?  
14      **A. But it was static, yes, sir.**  
15      Q. Is there a difference between static and  
16      equilibrium?  
17      **A. As far as in equilibrium, I don't believe.**  
18      **I would say equilibrium means there's no movement.**  
19      **That's why I'm saying static.**  
20      Q. Okay. Kind of like Newton's Law of Motion,  
21      things at rest tend to stay at rest unless acted on by  
22      an outside force; is that correct?  
23      **A. That's correct.**  
24      Q. Now, when you say equilibrium or static, it  
25      could be that that gas is under no pressure to move

Page 223

1       anywhere, or it could be under thousands of pounds per  
2       square inch, but as long as that is equal on all sides,  
3       that gas is going to stay there?  
4       **A. As long as there's not a pressure drop**  
5       **somewhere, then gas will not flow to the lower pressure**  
6       **area.**  
7       Q. So the gas could be under extreme pressure,  
8       it's just not moving because it's in equilibrium?  
9       **A. There's nothing to activate it to move, no**  
10      **catalyst.**  
11      Q. All right. Then is it your opinion, then,  
12      that gas, somehow due from the drilling operations,  
13      pressure -- put pressure on that gas in equilibrium and  
14      started it to move?  
15      **A. I won't say put pressure on the gas.**  
16      **Created an avenue that this gas could move.**  
17      Q. Okay. So that the pressure on the -- that  
18      the gas that came from the outside, let's say from  
19      the -- from the drilling operation you're talking  
20      about, didn't necessarily have to be high pressure gas,  
21      did it?  
22              MR. SIMS: Objection, form.  
23      BY MR. CARLTON:  
24      Q. Or does it?  
25      **A. I'm not sure that you are looking at -- you**

Page 224

1       **said from the producing formation, and it's not my**  
2       **contention that the producing formation is doing it.**  
3       Q. Then I used the wrong word.  
4       It's your -- is it your opinion that the  
5       drilling formation or the drilling caused the  
6       equilibrium to go out?  
7       MR. SIMS: Objection, form.  
8       **A. I was --**  
9       BY MR. CARLTON:  
10      Q. "Equilibrium to be broken," might be a  
11      better way.  
12      **A. It created a hole in the ground.**  
13      Q. Okay. And --  
14      **A. Thus a lower pressure area.**  
15      Q. And then the gas would flow through that  
16      area of least resistance?  
17      **A. It would --**  
18              MR. SIMS: Objection, form.  
19      **A. It would flow to a lower pressure area,**  
20      **which would be up.**  
21      BY MR. CARLTON:  
22      Q. And what was your testimony with regard to  
23      how that gas would then get into the Lipsky well?  
24      **A. Because of the way that the formations, the**  
25      **Strawn formation specifically is laid down - and I**

Page 225

1 believe this is what Range has stated and I believe it  
 2 - instead of being flat, it's at an angle and thus it  
 3 comes up and hits an unconformity and the unconformity  
 4 is just an erosional surface between where the Strawn  
 5 hits - we'll call it - the Trinity.  
 6 Q. Okay. So whatever caused this gas to go  
 7 out of equilibrium did not necessarily have to be a  
 8 very high pressure force itself; is that a fair  
 9 statement?  
 10 MR. SIMS: Objection, form.  
 11 A. I'm not sure I understand your question.  
 12 BY MR. CARLTON:  
 13 Q. Okay. You get say a big tree balanced,  
 14 it's cut, it's just balanced, weighs many tons. But  
 15 you can put something on the side and push it with just  
 16 a few pounds and get it to start moving and once it  
 17 starts moving, then you've got a tremendous force.  
 18 Would you agree with that?  
 19 A. I can't picture that in my mind.  
 20 Q. Okay.  
 21 A. I'm thinking fluid mechanics now.  
 22 Q. When it gets solid, it gets out of your  
 23 territory; is that correct?  
 24 A. Sir.  
 25 Q. I say when it gets out of fluids, it gets

Page 226

1 out of your --  
 2 A. Yes, sir.  
 3 Q. When it gets solids, it gets out of your  
 4 territory?  
 5 A. Yes.  
 6 Q. All right.  
 7 MR. STEWART: George, when you find a spot  
 8 for like a 60 second break so I can --  
 9 MR. CARLTON: Sure. Take a break.  
 10 VIDEOGRAPHER: We are off the record at  
 11 4:44 p.m.  
 12 (Break from 4:44 p.m. until 4:48 p.m.)  
 13 VIDEOGRAPHER: We are back on the record at  
 14 4:48 p.m.  
 15 BY MR. CARLTON:  
 16 Q. With regard to your opinion about that --  
 17 can I just call it a pocket of gas just to call it  
 18 something that you say went into the Lipsky well?  
 19 A. I'll understand it as that.  
 20 Q. Okay. Is there a better word to use?  
 21 A. Well, it's just a -- a migration of gas.  
 22 Q. Okay. That migration of gas, because of  
 23 the reasons that you stated and through the method that  
 24 you've stated got into the Lipsky well, did that have  
 25 anything whatsoever to do with gas that may or may not

Page 227

1 have gotten in any other well around the area?  
 2 MR. SIMS: Objection, form.  
 3 A. I believe as I do with Range's exhibits the  
 4 way they describe their plumbing system that it is not  
 5 blanket across everywhere, that there are sand packages  
 6 - that's the words they used - and channels that go  
 7 through I'm going to say the Strawn in the updip  
 8 fashion to where not all wells would experience any  
 9 kind of gas migration. If it were blanket, then I  
 10 would say all gas wells -- I mean, all the water wells  
 11 would be producing gas and they would continue to  
 12 produce gas until it's depleted.  
 13 BY MR. CARLTON:  
 14 Q. That gas could have gotten in the Lipsky  
 15 well without simply finding a pathway to the other  
 16 wells; is that correct?  
 17 A. That's correct.  
 18 Q. Okay. So to find out what gas if any got  
 19 into any other well, does that have any bearing on your  
 20 opinion that gas followed the pathway that you said it  
 21 did into the Lipsky well?  
 22 MR. SIMS: Objection, form.  
 23 A. I would say at this point I haven't  
 24 performed a study on the other wells. I'm only looking  
 25 at the Lipsky well.

Page 228

1 BY MR. CARLTON:  
 2 Q. Okay. But even if gas got into those  
 3 wells, would that change your opinion about how and why  
 4 gas got into Lipsky wells?  
 5 A. I don't know until I do that analysis and  
 6 do that research.  
 7 Q. Okay. If you find that gas got into the  
 8 other wells, would you tell us how that affects the  
 9 mechanism of gas getting into the Lipsky well, if it  
 10 does?  
 11 A. Could you repeat that?  
 12 Q. Sure. If do you a study and find out that  
 13 gas did get -- from some source got into another well,  
 14 would that have any effect on the mechanism of how and  
 15 why gas got into the Lipsky well?  
 16 A. If I understand your question correctly, if  
 17 it got into another well and that could be determined,  
 18 would that assist in helping the Lipsky? I would say  
 19 not necessarily.  
 20 Q. Okay. In other words, gas could have  
 21 gotten into the lip -- or could gas have gotten into  
 22 the Lipsky well and another well or no other well? All  
 23 we know is it went into the Lipsky well?  
 24 A. That's the only thing that I am looking at,  
 25 that's the only thing my investigation has been really

Page 229

1 on.  
2 Q. Perhaps I'm not getting it quite across.  
3 My question is:  
4 The fact that gas did or did not get into  
5 Lipsky well, how would that affect -- I mean to other  
6 wells, how would that affect your opinion as to why and  
7 how gas got into the Lipsky well?  
8 MR. SIMS: Objection, form.  
9 BY MR. CARLTON:  
10 Q. If it would at all?  
11 MR. SIMS: Objection, form.  
12 A. I'm sorry, I'm just not understanding the  
13 question.  
14 BY MR. CARLTON:  
15 Q. Okay.  
16 A. I'm sorry.  
17 Q. Let me try again.  
18 Gas got into the Lipsky well by the  
19 mechanism that you have described; is that correct?  
20 MR. SIMS: Objection, form.  
21 A. Yes.  
22 BY MR. CARLTON:  
23 Q. Okay. The fact that gas got into another  
24 well also, does that make it more or less likely that  
25 gas got in the Lipsky well in the method that you have

Page 230

1 described?  
2 A. I don't believe it makes any more or less  
3 likely.  
4 Q. Finally got it across.  
5 And trust me, it's the question and not the  
6 answer that -- that's at fault here.  
7 All right. Do you know my client, Alisa  
8 Rich?  
9 A. No.  
10 Q. Have you ever met her?  
11 A. No.  
12 Q. Have you ever talked to her?  
13 A. No.  
14 Q. Have you ever read anything that she's  
15 written?  
16 A. No.  
17 Q. Okay. Would it be a fair statement to say  
18 that none of your opinions are based on anything that  
19 she may or may not have said?  
20 A. That's true.  
21 Q. Okay. One other thing. You said the  
22 purpose of the Railroad Commission was to determine  
23 whether the gas came from the Barnett Shale. Is that  
24 correct?  
25 A. Yes.

Page 231

1 Q. Did they address in any manner the issue  
2 that you brought up that it came from other formations  
3 into the Lipsky well?  
4 MR. SIMS: Objection, form.  
5 A. As to the information I -- I don't believe  
6 they did a full analysis of it in the sense that yes  
7 they said the bradenhead pressure in the Butler was  
8 weeping up from other productive formations. And I  
9 think that's probably about the most of it. I did not  
10 see an analysis where like I looked at five miles of  
11 all the Commission fields that were producing from  
12 those formations, the Atoka, the Caddo, the Marble  
13 Falls, and indeed even the Strawn itself. So I don't  
14 believe they addressed that.  
15 BY MR. CARLTON:  
16 Q. Okay. So their, in your opinion, their  
17 opinion addressed purely the issue of whether or not  
18 gas came from the Barnett?  
19 MR. SIMS: Objection, form.  
20 MR. HEAD: Objection, form.  
21 A. In my opinion, I think that was the primary  
22 thing that the Railroad Commission was looking at  
23 because they were talking about like the fracking; no,  
24 fracking is not going to create a vertical fracture  
25 5,000 feet up and it's going to be a direct conduit.

Page 232

1 MR. CARLTON: Okay. That's all I have.  
2 Thank you very much.  
3 RE-EXAMINATION  
4 BY MR. SIMS:  
5 Q. Mr. Richter, this Exhibit 3 that you've  
6 got, your amended affidavit, what did you do when you  
7 signed this document?  
8 A. I went to Brooke, who is a notary there at  
9 the office, she works in the office.  
10 Q. Okay. And when you -- when you -- and you  
11 signed this yesterday, right?  
12 A. 8th. Today is the 9th. That's correct,  
13 sir.  
14 Q. And when you -- you -- did you print this  
15 document off of your computer?  
16 A. Yes.  
17 Q. And you took it down to her and what did  
18 you do at that point?  
19 A. I said, "Brooke, I need you to notarize my  
20 affidavit."  
21 Q. And what did she say?  
22 A. She said, "All right." She got the book  
23 out, filled it out, I had to sign my name, she said,  
24 "This is subscribed and sworn to before this on the 8th  
25 day, 2011, yes?" I said yes.

Page 233

1           **She then signed it, put the notary seal on**  
 2 **it. She wrote the "8th" day in herself.**  
 3           **All the other handwriting on there was**  
 4 **mine.**  
 5       Q. Did she administer any oath to you before  
 6 you signed it?  
 7       **A. I don't know. I --**  
 8       Q. Did she ask you to raise your right hand  
 9 and swear to anything about the document?  
 10       **A. No.**  
 11       Q. And that's true on Exhibit 1 when you  
 12 signed it, nobody asked to you -- administered an oath  
 13 to you before you signed it either, did they?  
 14       **A. I don't recall that, no.**  
 15       Q. Okay. Did you ever preside over any matter  
 16 as a hearing examiner involving natural gas  
 17 contamination of a water well?  
 18       **A. I don't believe so. In those 20 years, I**  
 19 **don't believe there was a case of that. There was a**  
 20 **case of oil getting into the water.**  
 21       Q. Who made a decision that more study was  
 22 needed in this matter? You, or Mr. Gore?  
 23       **A. I believe it was me. There was items I**  
 24 **think I want to go look at, but I have not had time.**  
 25       Q. These questions that Mr. Carlton asked you

Page 234

1 about, if I understand your testimony correctly, you've  
 2 done no calculations and you have no idea as you sit  
 3 here today as to what sort of pressure would be  
 4 required to move gas or to cause gas to move within the  
 5 Strawn or any of these other formations; is that true?  
 6       MR. STEWART: Objection, form. Compound.  
 7       **A. I haven't performed any specific**  
 8 **calculations.**  
 9 BY MR. SIMS:  
 10       Q. Have you performed any general calculations  
 11 as to what pressures would be required to cause gas to  
 12 move within any of the formations that you've  
 13 determined are natural gas bearing within five miles of  
 14 the Butler and Teal wells?  
 15       **A. I have not.**  
 16       Q. As you sit here today, do you have any  
 17 idea, can you tell us any idea of what kind of  
 18 pressures might be required to cause gas to move within  
 19 any of those formations?  
 20       **A. I can determine empirically what the**  
 21 **current reservoir pressures are.**  
 22       Q. My question is: As you sit here today,  
 23 have you made any such determination?  
 24       **A. No.**  
 25       Q. As you sit here today, do you have any idea

Page 235

1 what sort of pressures would be required to cause gas  
 2 to move within any of those formations?  
 3       **A. I know the calculations that -- which would**  
 4 **be necessary to do it. But do I have that data right**  
 5 **now? No, I don't think I do.**  
 6       Q. What calculations would be necessary to  
 7 make that determination?  
 8       **A. It's what we call pressure front**  
 9 **calculations. You take into account permeability,**  
 10 **porosity, your volume.**  
 11       Q. Distance?  
 12       **A. Distance is the result of it. When you do**  
 13 **your calculation, then you can calculate what your "R"**  
 14 **is.**  
 15       Q. Where will you get the information to make  
 16 these calculations?  
 17       **A. Well, that would be part of the research,**  
 18 **you'd have to look at some of these OG1's and G2's and**  
 19 **see what those pressures were and that's going to give**  
 20 **you an idea of what the formation pressure is going to**  
 21 **be.**  
 22       Q. And -- and just so I'm -- I understand what  
 23 you are saying, will the pressure within the annulus of  
 24 the well bore have to be greater than whatever those  
 25 pressures are in order to actually move the gas?

Page 236

1       **A. Depends on how quickly the gas is coming**  
 2 **out of the formation because that's going to build up**  
 3 **volume which builds up your pressure.**  
 4       Q. And how will you determine how quickly gas  
 5 is coming out of formation?  
 6       **A. That's going to be something I'm going to**  
 7 **have to look into.**  
 8       Q. And where will you make that determination  
 9 of how quickly gas is coming out of formation? Where  
 10 will you do that?  
 11       **A. Where will I do that?**  
 12       Q. Yes.  
 13       **A. It's going to have to depend on a lot of**  
 14 **sources to see where I can get the information from.**  
 15       Q. What kind of sources will you look to?  
 16       **A. I'm going to look at completions to begin**  
 17 **with.**  
 18       Q. Is it likely -- scratch that.  
 19 Is it more likely than not that the natural  
 20 gas in the Hurst water well that we've seen the  
 21 pictures and talked about came from some source other  
 22 than the Butler and Teal wells?  
 23       **A. I don't know.**  
 24       Q. Even though the Butler and Teal wells  
 25 weren't drilled until four years later, you don't know?

Page 237

1           **A. I don't know. I haven't done research on**  
2 **that.**  
3           Q. I'm just trying to make sure I understand  
4 this. So -- so you, you can't tell us that something  
5 that didn't exist in 2005 is not a likely source of  
6 something that did exist in 2005?  
7           MR. STEWART: Objection, form. That's not  
8 what you asked him.  
9 BY MR. SIMS:  
10          Q. Is that your testimony?  
11          MR. STEWART: That's not what you asked him  
12 earlier. You didn't put a time frame on that, your  
13 previous question.  
14          **A. Ask your question again, Mr. Sims.**  
15 BY MR. SIMS:  
16          Q. The natural gas that appeared in the Hurst  
17 water well in 2005 that we have looked at pictures for  
18 - are you with me?  
19          **A. Yes, I've seen the pictures.**  
20          Q. Okay. Is it more likely than not that the  
21 natural gas in that water well came from some source  
22 other than the Butler and Teal wells?  
23          **A. I don't know.**  
24          Q. You don't know?  
25          **A. I don't know.**

Page 238

1           Q. What about the natural gas in the Hurst  
2 water well in 2005, that appeared in the well in 2005,  
3 is it more likely than not that that natural gas  
4 appeared there from some source other than the Butler  
5 and Teal wells that were drilled in 2009?  
6           **A. I don't know. I haven't performed that**  
7 **analysis. I haven't looked at it. Haven't researched**  
8 **it.**  
9           Q. Would you agree with me that if the Butler  
10 and Teal wells did not exist in 2005, that the Butler  
11 and Teal wells could not have been the source of any  
12 natural gas in any water wells in 2005?  
13          **A. If they didn't exist, they could not be a**  
14 **source. They weren't in existence.**  
15          Q. Isn't that what I just asked you about the  
16 Hurst well?  
17          MR. STEWART: No, you asked him a different  
18 question. Now that you have framed the question  
19 correctly, he's giving you a logical answer. The  
20 problem wasn't his question -- his answers; the problem  
21 was your question. It was confusing.  
22 BY MR. SIMS:  
23          Q. Well, let me try it again.  
24                You are familiar with the Hurst well in  
25 2005 that flared natural gas?

Page 239

1           **A. Yes, I saw the picture.**  
2           Q. Yes, sir. And you're familiar with the  
3 fact that it was about 800 feet away from the Lipsky  
4 water well?  
5           **A. I don't know if it's 850 feet.**  
6           Q. Do you know if it's about 800 feet away?  
7           **A. I don't know. I don't have it in front of**  
8 **me. I can't see it. If it's 850, 800, so be it. I**  
9 **remember you going through the questions about 400 and**  
10 **200 and 50. Those are -- are what-if's to me and I**  
11 **don't know how much plainer I can make it than to say I**  
12 **haven't performed a study on those.**  
13          Q. All right.  
14          **A. I was looking at the Lipsky well.**  
15          Q. Okay. Well, did you read the testimony  
16 from Mr. Peck that the Hurst water well flared natural  
17 gas in 2005?  
18          **A. Yes.**  
19          Q. Do you believe that testimony?  
20          **A. Yes.**  
21          Q. Do you have any reason to disbelieve it?  
22          **A. It was sworn testimony.**  
23          Q. Do you know when the Teal and Butler wells  
24 were drilled?  
25          **A. Yes.**

Page 240

1           Q. When?  
2           **A. 2009.**  
3           Q. Is it more likely than not that the natural  
4 gas that was flared off the Hurst well in 2005 was from  
5 some source other than the Butler and Teal wells?  
6           **A. It would have to be, yes.**  
7           Q. Okay. If the Oujesky well was drilled  
8 prior to the Butler and Teal wells and that -- the  
9 Oujesky water well flare -- or had natural gas in it,  
10 is it more likely than not that the gas in that water  
11 well was from some source other than the Butler and  
12 Teal wells?  
13          **A. My acquaintance with the waj -- how do you**  
14 **pronounce it? "Wa gets kee"?**  
15          MR. STEWART: We don't know. "Wa jes kee"  
16 is as close as all of us can get.  
17          **A. "Wa jes kee."**  
18                **Well, I haven't reviewed it like I had what**  
19 **knowledge I have of the Hurst.**  
20 BY MR. SIMS:  
21          Q. Assume with me that that water well was  
22 drilled before the Butler and Teal wells were drilled.  
23 Okay?  
24          **A. All right.**  
25          Q. All right. And if you make that

Page 241

1 assumption, you read the testimony that that water well  
2 had natural gas in it, right?  
3 **A. Yes, I don't know when it came in, but yes.**  
4 Q. And if you assume with me that it had  
5 natural gas in it before the Butler and Teal wells were  
6 drilled, is it more likely than not that the source of  
7 that natural gas was something other than the Butler  
8 and Teal wells?  
9 **A. Butler and Teal weren't drilled, there were**  
10 **no holes there, so they can't be.**  
11 Q. They can't be the source?  
12 **A. Can't be the source.**  
13 Q. The Guge well that was testified to by  
14 Mr. Malone in his deposition, do you remember reading  
15 about that?  
16 **A. No.**  
17 Q. You don't remember that?  
18 **A. I -- the Guge? No, I don't remember that.**  
19 Q. Okay.  
20 **A. The other two names I remember.**  
21 Q. Assume with me that he testified about a  
22 water well that he drilled in Silverado in 1995 that  
23 flared gas; that would be before the Butler and Teal  
24 wells were drilled, correct?  
25 MR. STEWART: Objection. I'm going to

Page 242

1 object to the form of that question. It  
2 mischaracterizes Mr. Malone's testimony. He said he  
3 didn't know the difference between silver gas and  
4 natural gas so that was pretty clear in his deposition  
5 so I would say you are mischaracterizing that testimony  
6 in your assumption.  
7 MR. SIMS: I object to your side-bar.  
8 MR. STEWART: Hey, you're the guy who is  
9 asking misleading questions. So objection, misleading  
10 question. Don't answer misleading questions.  
11 BY MR. SIMS:  
12 Q. Do you have any --  
13 MR. STEWART: If you want to frame it  
14 differently, I'm fine with you asking --  
15 BY MR. SIMS:  
16 Q. Do you have any reason to disbelieve the  
17 testimony of Mr. Malone about the Guge well?  
18 **A. I don't recall the testimony of Mr. Malone**  
19 **on the Guge well.**  
20 Q. If that water well contained natural gas  
21 prior to the time the Butler and Teal wells were  
22 drilled, would you agree that that gas was from some  
23 source other than the Butler and Teal wells?  
24 **A. If the wells were drilled -- if the well**  
25 **was drilled prior to the drilling of the Butler and the**

Page 243

1 **Teal, that's right.**  
2 Q. And you told me earlier that it's important  
3 to consider all the data when you are coming up with  
4 opinions, correct?  
5 **A. Yes.**  
6 Q. You believe that?  
7 **A. When it comes to the completion forms and**  
8 **the like, yes, I do.**  
9 Q. And would you agree that these water wells  
10 that were drilled before the Butler and Teal wells and  
11 that contain natural gas is important information for  
12 trying to determine what the cause of natural gas in  
13 this area is in these water wells?  
14 **A. In this area in these water wells, but I'm**  
15 **only looking at the one water well, Mr. Sims.**  
16 Q. I know, you -- you've told us that many  
17 times. And my -- my question to you is:  
18 As someone who is being presented as an  
19 expert in this case, isn't that important information  
20 to try to understand where the natural gas came from in  
21 these other water wells before the Butler and Teal  
22 wells were drilled?  
23 **A. I believe that Range has performed an**  
24 **analysis on that. But now whether if that is a direct**  
25 **connection with the Lipsky well, I don't see it. Those**

Page 244

1 **wells had gas right off the bat. Is that not correct?**  
2 **Lipsky produced for almost four years with no gas. If**  
3 **there was natural gas there, it would have shown up in**  
4 **Mr. Lipsky's well upon completion or shortly**  
5 **thereafter. So no I can't see the connection.**  
6 Q. So -- so a water well 800 feet away that  
7 had natural gas in it is just irrelevant to you?  
8 MR. STEWART: Objection, form. He didn't  
9 say that.  
10 **A. Well, the problem would be why didn't, when**  
11 **Lipsky had his well drilled, why didn't it hit gas?**  
12 BY MR. SIMS:  
13 Q. Have you answered that question?  
14 **A. I think so. Because the gas wasn't there.**  
15 Q. And you base that on some non -- non  
16 scientific testimony?  
17 MR. STEWART: Objection, form. It's a  
18 fact. The gas wasn't there.  
19 MR. HEAD: Objection, side-bar.  
20 MR. STEWART: The facts in this case.  
21 MR. SIMS: Side-bar.  
22 **A. I have no reason to think otherwise to have**  
23 **as a fact that there was no gas. If there was gas in**  
24 **that well, I would think somebody would have said that**  
25 **by now.**

Page 245

1 BY MR. SIMS:  
2 Q. Are you aware of a new water well that was  
3 drilled on Mr. Lipsky's property within the last few  
4 months?  
5 A. No.  
6 Q. Nobody's told you about that?  
7 A. No.  
8 Q. Have you looked at any water well reports  
9 to see if there's been a new water well drilled on his  
10 property?  
11 A. **Mr. Sims, if I didn't know about it, I**  
12 **wouldn't know to even go to look for water well**  
13 **reports.**  
14 Q. Do you know if Mr. Lipsky is making any  
15 claims about natural gas in that water well?  
16 A. **Well, since I didn't even know about the**  
17 **well, no.**  
18 Q. Would that be important for you to know in  
19 trying to figure out your opinions in this case?  
20 A. **I don't know. I don't know anything about**  
21 **the well, where it is. You say his property. Okay. I**  
22 **don't know. You're asking me to make assumptions I**  
23 **can't because I have no knowledge. No knowledge.**  
24 Q. Nobody's told you about that?  
25 A. **No knowledge.**

Page 246

1 Q. Is that something you'd want to know about?  
2 A. **Well, I don't know. You just hit me right**  
3 **now with it and maybe it will be, maybe it's not. I**  
4 **don't know that much about the well yet, if it's there,**  
5 **and I don't know if it is there. You tell me would I**  
6 **be surprised? Well, yes, I didn't know about it.**  
7 **Would it have any impact? I don't know. I have to**  
8 **look at the information on it.**  
9 Q. If the water well report shows that  
10 there's -- there's no, nothing unusual, no gas, would  
11 that impact your decision-making in this case at all?  
12 A. **Until I get it all, I'm not going to base**  
13 **it on one report.**  
14 Q. What would you base it on?  
15 A. **I want to see all the data I can collect on**  
16 **it first. The water well report. Was there an**  
17 **analysis on it? Is there gas being produced?**  
18 Q. Why would you want to see an analysis on  
19 the water?  
20 A. **To see if petroleum products are in it I**  
21 **would think. Is it good quality water? Is it the same**  
22 **kind of water that was coming out of the well, his**  
23 **other well?**  
24 Q. Is an analysis on the water more reliable  
25 than just somebody saying, "Well, there's no methane in

Page 247

1 the water"?  
2 A. **Well, as Range pointed out, some wells are**  
3 **up in the Paluxy, some are down into the Twin Mountain,**  
4 **I don't know where -- anything about the well and**  
5 **you're asking me to make assumptions; I just can't go**  
6 **there.**  
7 Q. Is performing an analysis on the water to  
8 determine if there's methane in the water, dissolved in  
9 the water, more reliable than someone just saying  
10 there's no methane in the water?  
11 A. **It could be.**  
12 Q. Could be?  
13 A. **You're asking me to make an opinion and I**  
14 **cannot make it based on just you saying there's a well**  
15 **there if it has gas there. I don't know any of that.**  
16 Q. Forget the well.  
17 If someone performs an analysis on water to  
18 determine what gases are dissolved in it, is that more  
19 reliable than somebody just saying there's -- there's  
20 no gas dissolved in the water?  
21 A. **Depends on how the sample was taken.**  
22 **Depends on the water well driller. What did he see?**  
23 **What -- I mean, he's the one that's physically there**  
24 **seeing things.**  
25 Q. Can you look at water, just look at water

Page 248

1 and determine whether methane is dissolved in it?  
2 A. **No.**  
3 MR. SIMS: Why don't you give us about a  
4 five-minute break.  
5 VIDEOGRAPHER: We are going off the record  
6 at 5:15 p.m.  
7 (Break from 5:15 p.m. until 5:26 p.m.)  
8 VIDEOGRAPHER: We are back on the record at  
9 5:26 p.m.  
10 BY MR. SIMS:  
11 Q. If you would, Mr. Richter, please turn to  
12 Exhibit 3-A to your affidavit that is marked as  
13 Exhibit 1.  
14 A. **I'm here.**  
15 Q. All right. Now, this is the document that  
16 you swore under oath in your affidavit was presented by  
17 Range in discovery in this lawsuit, right?  
18 A. **That's correct.**  
19 Q. But that's not a true statement, is it?  
20 A. **That's not. I had received it through**  
21 **Mr. Stewart's office so therefore I assumed it was**  
22 **discovery.**  
23 Q. What is Exhibit 3-A to your affidavit?  
24 A. **Exhibit 3-A, since it is a much larger**  
25 **depiction of what the 3D seismic area is compared to I**

Page 249

1 believe it was Exhibit -- was it 56? Yes. And it  
 2 shows at least based on this 3D seismic -- and I have  
 3 no idea whether this came from raw data, what the  
 4 resolution was of it, was it manipulated, what kind of  
 5 filters, all I know is that it was a larger one, which  
 6 is just like 56, I don't know that information.  
 7 Q. What does Exhibit 3-A purport to show?  
 8 A. **Numerous other faults.**  
 9 Q. Where?  
 10 A. **All the black lines you see out there.**  
 11 Q. Where are those faults located within the  
 12 earth?  
 13 A. **The Ellenberger, base of the Ellenberger.**  
 14 Q. So these faults are located at the base of  
 15 the Ellenberger; is that right?  
 16 A. **Yes, sir.**  
 17 Q. And how deep is the Ellenberger?  
 18 A. **It's right below the Barnett Shale.**  
 19 Q. And if they're at the base of the  
 20 Ellenberger, how far down below are they below the  
 21 Barnett Shale?  
 22 A. **Some can come through the Barnett Shale.**  
 23 Q. No, my -- my question is, if this structure  
 24 map is taken at the base of the Ellenberger, how far  
 25 below the Barnett Shale does this structure map show?

Page 250

1 A. **I don't understand your question. The**  
 2 **Ellenberger is the surface that's the base of the**  
 3 **shale. It's right below the shale.**  
 4 Q. Well, how deep is the Ellenberger?  
 5 A. **Well, if the base of the shale is**  
 6 **approximately I think, what, 5800, 5850, that's where**  
 7 **the top would be.**  
 8 Q. I'm asking you how deep, how thick a  
 9 formation is the Ellenberger?  
 10 MR. STEWART: Objection, form. That's not  
 11 what you asked him the last time. So --  
 12 BY MR. SIMS:  
 13 Q. How thick is the Ellenberger formation?  
 14 A. **I don't know.**  
 15 Q. Where is the base of the Ellenberger  
 16 formation under the surface of the earth?  
 17 A. **I don't know in this particular area, no.**  
 18 Q. How large are these faults depicted on  
 19 Exhibit 3-A?  
 20 A. **I don't know.**  
 21 Q. Are they 10 feet?  
 22 A. **That's just it. I don't know what the**  
 23 **resolution was on either one of those exhibits.**  
 24 Q. Are they 5 feet?  
 25 A. **I'll repeat: I don't know what they are.**

Page 251

1 It wasn't -- all that was said at Range's hearing on  
 2 Exhibit 56, if the 3D seismic was properly done, they  
 3 could see 25 feet. But no one could attest to it.  
 4 They said "if it was properly done." I don't know  
 5 where Range got the 3D seismic, was it in that fashion  
 6 to begin with? What was the resolution? What was the  
 7 filters? What could it see?  
 8 Q. So based on your testimony, you don't put  
 9 any reliability whatsoever on Exhibit 3-A because you  
 10 just don't know anything about it?  
 11 MR. STEWART: Objection.  
 12 BY MR. SIMS:  
 13 Q. Is that is that fair?  
 14 MR. STEWART: Form.  
 15 A. **No, I do know something about it. It was**  
 16 **submitted by Range.**  
 17 BY MR. SIMS:  
 18 Q. To the Railroad Commission?  
 19 A. **To the Railroad Commission.**  
 20 Q. What is the significance of Exhibit 3-A, if  
 21 any, to your opinions in this case?  
 22 A. **What is the exhibit --**  
 23 Q. What's the significance of Exhibit 3-A, in  
 24 any, to your opinions in this case?  
 25 A. **The significance is that there are numerous**

Page 252

1 **faults in this area. It is part of the Mineral Wells**  
 2 **system. The documented data show that the Ellenberger,**  
 3 **when it has faults, they come up -- they can come up**  
 4 **through the Barnett Shale into the Atoka. That's what**  
 5 **even the written literature says.**  
 6 Q. Do any of these faults that are depicted on  
 7 Exhibit 3-A come up through the Barnett?  
 8 A. **I don't know. Range testified that they**  
 9 **had the other ones, they could have more than this. I**  
 10 **don't know. They testified at the witness. We have a**  
 11 **much larger one, but we decided to give you this one**  
 12 **that's a blow-up.**  
 13 Q. If there are small -- if these are -- if  
 14 these are small faults that -- that don't get anywhere  
 15 close to going through the Barnett, does that change  
 16 any of your opinions?  
 17 A. **If this is -- some of these are into the**  
 18 **Barnett.**  
 19 Q. How far in -- how far into the Barnett?  
 20 A. **I don't know.**  
 21 Q. If they're small faults, that, say, are  
 22 only 20 feet from the base of the Barnett into the  
 23 Barnett, does that change any of your opinions?  
 24 A. **No.**  
 25 Q. If they're one-foot faults into the



Page 253

1 Barnett, does that change any of your opinions?  
 2 **A. I don't know. The reason I say that is**  
 3 **there's no -- there's no data to tell me what the**  
 4 **resolution is of this. There's nothing to tell me was**  
 5 **this from raw data, could it be manipulated, what are**  
 6 **the filters?**  
 7 Q. You told us earlier that hydraulic  
 8 fracturing doesn't have anything to do with the gas in  
 9 the Lipsky well; is that correct, in your opinion?  
 10 **A. That, I'm not positive of. I'm saying it**  
 11 **could not come up the well bore because of the cement.**  
 12 **That's not to say through hydraulic fracturing you**  
 13 **couldn't frac out of the Barnett Shale to above. This**  
 14 **was testified to by Range, said they could have**  
 15 **fractures, if there's a fault there, it could be two or**  
 16 **three times the normal length. That would be up to**  
 17 **maybe 1200, 1800 feet, and that would be above the**  
 18 **Barnett, which is the Marble Falls and the Atoka.**  
 19 Q. As you sit here today, you have no -- you  
 20 have no evidence about whether that happened or didn't  
 21 happen?  
 22 **A. No, just what Range put on.**  
 23 Q. You told us earlier that you believe that  
 24 the natural gas that's in the Atoka and the Marble  
 25 Falls and the Strawn and whatever other formations are

Page 254

1 up above the Barnett were charged from the Barnett over  
 2 geologic time?  
 3 **A. That was the testimony from Range.**  
 4 Q. Do you believe that?  
 5 **A. Yes. It's the only shale down there. That**  
 6 **gas comes from shale.**  
 7 Q. And it's been migrating upward for hundreds  
 8 of millions of years?  
 9 **A. Eons, yes, sir.**  
 10 Q. What has -- what -- did the gas stop  
 11 migrating when it got to the Strawn?  
 12 **A. Had to hit some kind of a barrier, but then**  
 13 **you've had earth changes in the meantime, hence the**  
 14 **unconformity. You had the Mineral Wells Arch. You**  
 15 **have Newark East Barnett Fault Line. Have you the**  
 16 **Muenster Arch. There's all kinds of things that**  
 17 **happened in that meantime.**  
 18 Q. And so because of this angular unconformity  
 19 that we've talked about, does that allow the gas to  
 20 continue to migrate upward beyond the Strawn into the  
 21 Cretaceous?  
 22 **A. It very well could, yes, if there's an**  
 23 **avenue for it.**  
 24 Q. And if that avenue exists naturally, then  
 25 the gas will continue to migrate upward, there's

Page 255

1 nothing to stop it?  
 2 **A. Not necessarily, because you do have an**  
 3 **unconformity there.**  
 4 Q. Well --  
 5 **A. You do have permeability barriers even in**  
 6 **the Strawn. It's not like it's going to be complete**  
 7 **porosity -- I mean the same porosity throughout, same**  
 8 **permeability throughout, the thickness. You have other**  
 9 **factors in there that's based even on their seismic**  
 10 **that shows, yes, it's tilting up, but it's not like**  
 11 **it's just a nice plane going up.**  
 12 Q. But to the extent there are pathways,  
 13 natural pathways from the Strawn into the Cretaceous  
 14 and into the Trinity Aquifer, that gas, as it's been  
 15 doing for millions of years, will continue to migrate  
 16 up into that aquifer, right?  
 17 **A. That, I don't know. I don't think -- I**  
 18 **mean, we're talking geologic time here so it's hard for**  
 19 **me to sit there and say, "Oh, well, eventually it's**  
 20 **going to even get to the surface." I don't know. It**  
 21 **hasn't happened.**  
 22 Q. Are you aware of areas just a little bit  
 23 further to the west where there have -- there has been  
 24 hydrocarbons that have outcropped at the surface of the  
 25 earth?

Page 256

1 **A. I haven't heard that, no.**  
 2 Q. You've never heard that?  
 3 **A. No, sir.**  
 4 Q. Don't know anything about it?  
 5 **A. Don't know anything about it.**  
 6 MR. STEWART: Just said he hadn't heard  
 7 about it.  
 8 BY MR. SIMS:  
 9 Q. Would that change your opinions if you  
 10 learned that that's true?  
 11 **A. Well, maybe in that particular area it did**  
 12 **happen.**  
 13 Q. If there are pathways, natural pathways for  
 14 gas to migrate upward, it will migrate upward, will it  
 15 not?  
 16 **A. Until something stops it, yes.**  
 17 Q. And that's true from the Strawn into the  
 18 Cretaceous, if there are natural pathways for gas to  
 19 get from the Strawn into the Cretaceous, it will  
 20 migrate upward --  
 21 **A. If --**  
 22 Q. -- unless something stops it?  
 23 **A. The pathway has -- needs to be there -**  
 24 **okay? - but then you also have to have some kind of**  
 25 **differential. It's not going to do it on its own.**

Page 257

1 Q. Where does the differential come from over  
2 geologic time for the gas to migrate from over a mile  
3 below the surface of the earth up into all these other  
4 formations?  
5 A. **Just over-burdened pressure.**  
6 Q. What?  
7 A. **Over-burdened pressure. That's why each  
8 formation has its own pressure. We typically use a .5,  
9 but it really should be about .465 saltwater gradient.  
10 So as you go down through all these formations, it's  
11 not like it's zero pressure, there's no gas there;  
12 they're either going to have gas or there's going to be  
13 water or it's a dry formation, but it's going to have a  
14 reservoir pressure. That's why you get increasing  
15 pressure with depth.**  
16 Q. And so if you get increasing pressure with  
17 depth, you have less pressure up above?  
18 A. **That is true.**  
19 Q. And that gas will migrate upward because  
20 there's less pressure up above?  
21 A. **If there's a pressure differential, that's  
22 right.**  
23 MR. SIMS: Okay. Albon?  
24 RE-EXAMINATION  
25 BY MR. HEAD:

Page 258

1 Q. Very briefly.  
2 Mr. Richter, you talk about in your report  
3 Exhibit 3 on page 3 at III Paragraph 9 where you set  
4 forth the vertical depth of the strings in the casing.  
5 Do you see that?  
6 A. **Yes, sir.**  
7 Q. Okay. So where you say the Teal well's  
8 longstring casing is uncemented from the ground surface  
9 to 4810 feet and from the surface down to 410 feet,  
10 so -- I mean 427 feet, so from 427 feet to 4810 is  
11 uncemented, correct?  
12 A. **I'm sorry. Say that again?**  
13 Q. From 427 feet down to 4810 feet, the  
14 longstring casing in the Teal well is uncemented?  
15 A. **It's uncemented all the way to the surface.  
16 The longstring.**  
17 Q. Yes. Okay. Well the surface, the surface  
18 casing is cemented down to 427 and then from 427 down  
19 to 4810 uncemented?  
20 A. **That's correct.**  
21 Q. All right. And the Butler well, the  
22 surface casing is cemented to 394 and then uncemented  
23 down to 4850 feet, correct?  
24 A. **To 4580.**  
25 MR. STEWART: 4580.

Page 259

1 BY MR. HEAD:  
2 Q. 4580. I misread that. Okay. Is that  
3 right?  
4 A. **Yes.**  
5 Q. All right. So what you are saying is  
6 whatever gas was migrating was caused by the hole where  
7 that longstring is uncemented, correct?  
8 A. **Yes.**  
9 Q. That's where the migration is happening  
10 initially?  
11 A. **Whatever formations are open to that  
12 uncemented portion.**  
13 Q. All right. Between those two, those two  
14 depths?  
15 A. **Yes, the surface and --**  
16 Q. Respectively and the two wells?  
17 A. **Right. Between the surface and the top of  
18 the cement.**  
19 Q. Okay. And then there is -- there's --  
20 what's in that hole or those holes in both the Butler  
21 and the Teal, what's in the hole?  
22 A. **Originally there would be drilling mud.**  
23 Q. All right. What's in there now?  
24 A. **Hopefully, drilling mud. But you also are  
25 open to other formations that have waters in them.**

Page 260

1 Q. All right. It's not just empty air,  
2 it's --  
3 A. **No, it's not empty air.**  
4 Q. -- drilling mud and/or water in the  
5 annulus, correct?  
6 A. **It is not empty air.**  
7 Q. Okay.  
8 A. **It should not be. There may be channeling.**  
9 Q. But that's what we're talking about, we're  
10 talking about what's known as the annulus? Correct?  
11 A. **Well -- yes, in an open hole that would be  
12 the annulus, yes, sir.**  
13 Q. All right. And so in there now is drilling  
14 mud and maybe some water?  
15 A. **Yes, because those formations do have  
16 water.**  
17 Q. Okay. And that's the portion, the vertical  
18 portion is what you say is the, in your opinion, the  
19 cause of any gas migration?  
20 A. **It is the most likely cause I think, yes,  
21 sir.**  
22 MR. HEAD: Okay. Thank you. No further  
23 questions.  
24 MR. SIMS: I've got maybe one or two.  
25 RE-EXAMINATION

Page 261

1 BY MR. SIMS:  
 2 Q. And it's your testimony as I understand it  
 3 that it's -- it's most likely that that drilling mud  
 4 and whatever else is in the annulus goes all -- goes  
 5 almost all the way up to the surface because there's  
 6 only a little, a little bit of head space there where  
 7 gas can be coming out the bradenhead; is that right?  
 8 A. I don't know what's in there.  
 9 Q. Well, whatever's in there, you believe it's  
 10 more likely than not that it goes all the way up almost  
 11 to the surface?  
 12 A. I guess. The reason I say it like that is  
 13 because they said there was 30 psi. That means there  
 14 is some something weeping.  
 15 Q. What does it mean when they testified at  
 16 the hearing that it's 5 psi?  
 17 A. What that would mean to me when they bled  
 18 off the 30 and then your fluid level actually raised  
 19 up, your bottom hole pressure was sufficient to raise  
 20 it up. Now, that's what it means to me. Otherwise,  
 21 where did the 30 psi come from? They're supposed to be  
 22 zero.  
 23 Q. Have you made any, any determination about  
 24 any of that?  
 25 A. No.

Page 262

1 Q. Is it something you need to do in order to  
 2 be able to provide opinions in this case?  
 3 MR. STEWART: Objection. That's  
 4 argumentative. He already has provided opinions in  
 5 this case.  
 6 BY MR. SIMS:  
 7 Q. Is that something you need to do? Do you  
 8 need to study that issue about the bradenhead pressure?  
 9 A. I think I've studied it. It's an  
 10 indication right now.  
 11 Q. Do you have any idea of what caused the  
 12 bradenhead pressure to go from 30 psi to 5 psi by the  
 13 time of the hearing?  
 14 A. Yes, they bled it off. They said they did.  
 15 Q. How many times was it bled off before the  
 16 hearing?  
 17 A. I have no idea.  
 18 Q. Have you looked at that?  
 19 A. I'm trying to think if it was in anything  
 20 of the transcripts and I don't believe there was.  
 21 Q. It's in some of those documents we've made  
 22 an exhibit to your deposition, wasn't it, about the  
 23 Butler well and every one of those Inspection Reports  
 24 talks about the bradenhead pressure?  
 25 A. Yes.

Page 263

1 Q. So they checked it and bled it off numerous  
 2 times, right?  
 3 A. I guess.  
 4 Q. Is that significant to -- significant to  
 5 any of your opinions?  
 6 A. They bled it off several times, it sounds  
 7 like they have a bradenhead pressure problem.  
 8 Q. Why is that?  
 9 A. You're not supposed to have pressure on a  
 10 bradenhead. You're supposed to fix it.  
 11 Q. Do you know what's causing the bradenhead  
 12 pressure?  
 13 A. I believe what Range has said, too, it's  
 14 gas coming up from down below.  
 15 Q. Will the bradenhead pressure factor in, in  
 16 any way, into these calculations you say you're going  
 17 to make?  
 18 A. It really depends. And the reason I say it  
 19 like that is yes, I know there's a bradenhead pressure,  
 20 but I don't know what's in the surface casing. I don't  
 21 know what's down in the well bore itself. Is it mud?  
 22 Is it watery mud? Has it been channeled? I don't  
 23 know, Mr. Sims. And I don't know if I can find out.  
 24 Q. Are you going to have to know that in order  
 25 to do these calculations you're talking about?

Page 264

1 A. At this point I don't know.  
 2 Q. Why didn't you say all that in your  
 3 affidavit before you signed it purporting to swear  
 4 under oath to whatever your opinions are?  
 5 A. Because at that point I don't know, like I  
 6 just said, I said here's what we've got, here is  
 7 pressure on the bradenhead. It was pointed out that  
 8 pressure on the bradenhead indicates there is  
 9 something. Range hadn't found out what that something  
 10 is yet.  
 11 Q. But it's true the Railroad Commission heard  
 12 all about this at the hearing?  
 13 MR. STEWART: Objection, form.  
 14 BY MR. SIMS:  
 15 Q. True?  
 16 MR. STEWART: What's the "this."  
 17 A. I'd have to --  
 18 BY MR. SIMS:  
 19 Q. About the bradenhead pressure?  
 20 A. Yes.  
 21 Q. And the other items that we went through in  
 22 your affidavit, there's nothing in your affidavit  
 23 factually that was not before the Railroad Commission  
 24 when they made their decision in this case, is it?  
 25 A. Factually ... I don't think a lot of --

Page 265

1 some of the information was fully disclosed. It was  
2 there for them if they wanted to review it and dig into  
3 it and see it.  
4 MR. SIMS: Pass the witness.  
5 MR. STEWART: You all done?  
6 EXAMINATION  
7 BY MR. STEWART:  
8 Q. All right, Mr. Richter I've got a few  
9 questions for you. First let's deal with your  
10 affidavits.  
11 When you signed these affidavits, did you  
12 mean when you signed them to be sworn to under oath?  
13 MR. SIMS: Objection, form.  
14 A. Yes.  
15 BY MR. STEWART:  
16 Q. All right. And did you treat them as if  
17 you were swearing to them under oath?  
18 MR. SIMS: Objection, form.  
19 A. Yes.  
20 BY MR. STEWART:  
21 Q. All right. And in connection with those  
22 affidavits and your testimony today, have you sworn  
23 truthfully?  
24 MR. SIMS: Objection, form.  
25 A. For this deposition?

Page 266

1 BY MR. STEWART:  
2 Q. Yes.  
3 A. Yes.  
4 Q. And those affidavits?  
5 MR. SIMS: Objection, form.  
6 A. Yes.  
7 BY MR. STEWART:  
8 Q. Okay. Now, I want to talk about the  
9 Railroad Commission hearing.  
10 In connection with the Railroad Commission  
11 hearing, one, did anyone at the hearing deal with ...  
12 (Telephone ring/alert)  
13 MR. STEWART: You need to turn that off.  
14 THE WITNESS: That's a first for me. I  
15 never get that.  
16 MR. STEWART: All right. Well ... first  
17 time's a charm.  
18 BY MR. STEWART:  
19 Q. Okay. With respect to the Railroad  
20 Commission hearing, the records you reviewed from that  
21 hearing, the arguments that you reviewed from that  
22 hearing, from your review of those records did you see  
23 anyone specifically dealing with the issue of whether  
24 or not the Butler and Teal wells had stimulated  
25 producing zones other than the Barnett zone in order to

Page 267

1 contribute to the Lipskys' water well problem?  
2 MR. SIMS: Objection, form.  
3 MR. HEAD: Objection, form.  
4 A. There was -- there was no testimony about  
5 that and, hence, I did not see anything in the  
6 discussion of the evidence presented concerning that.  
7 BY MR. STEWART:  
8 Q. Yes, and in connection with the Railroad  
9 Commission's order that they issued, what is that  
10 called again?  
11 A. Final Order.  
12 Q. Yes. In the Final Order that the Railroad  
13 Commission issued, did the Railroad Commission deal  
14 with specifically the issue I just described?  
15 MR. SIMS: Objection, form.  
16 A. There was no finding concerning that.  
17 BY MR. STEWART:  
18 Q. Yes. As a matter of fact, there is a  
19 finding with respect to the Barnett Shale, correct?  
20 A. Yes, as I recall.  
21 Q. And when you look at that, you have it in  
22 front of you there, yes?  
23 A. Yes.  
24 Q. Is it under -- what paragraph is that  
25 under?

Page 268

1 A. That is Finding of Fact 27.  
2 Q. And does it have two parts?  
3 A. Yes.  
4 Q. Okay. Can you please read those two parts  
5 into the record for me, please? Read all of 27 and the  
6 two parts for me, please.  
7 A. This has to do with the hydraulic  
8 fracturing.  
9 Q. Go ahead.  
10 A. "... of the Barnett Shale in the Teal Unit  
11 ... 1H and the Butler Unit Well ... 1H did not result  
12 in communication of the Barnett Shale with shallow  
13 aquifers from which water wells in the area produce.  
14 "a. Based on available 3D seismic, there  
15 is no evidence of faulting in the area of the  
16 Butler/Teal wells.  
17 "b. Microscopic (sic) data available for  
18 more than 320 fracture stimulations in Parker County  
19 indicate a maximum fracture height of approximately 400  
20 feet, meaning that almost one mile of rock exists  
21 between the highest fracture and the shallowest (sic)  
22 aquifer."  
23 Q. Okay, now, in connection with that, is that  
24 dealing at all with what you believe more likely than  
25 not is occurring at the Lipsky property?

Page 269

1 MR. SIMS: Objection, form.  
2 **A. No.**  
3 BY MR. STEWART:  
4 Q. All right, now can I see that for -- for a  
5 moment here?  
6 **A. (Witness complies.)**  
7 Q. Thank you.  
8 Now, if you could I'd like to you read 7.a.  
9 and b., please. This is another part of the Railroad  
10 Commission's findings, yes?  
11 MR. SIMS: Objection, form.  
12 **A. Finding of fact number 7.**  
13 **"Both the Teal Unit Well No. 1H and the**  
14 **Butler Unit Well No. 1H have production casing cemented**  
15 **in a manner to prevent migration of fluids behind pipe.**  
16 **"The top of the cement behind the**  
17 **production casing of (sic) the Butler Unit Well No. 1H**  
18 **is 4,580 feet, based on a cement bond log. The**  
19 **production casing pressure tested to 845 psi on October**  
20 **15, 2010."**  
21 **Sub item b. "The top of the cement behind**  
22 **the production casing in the Teal ... Well No. 1H is**  
23 **4,810 ... based on a cement bond log. The production**  
24 **casing in the Teal No. 1H was pressure tested on**  
25 **December 28th, 2010, to 705 psi."**

Page 270

1 BY MR. STEWART:  
2 Q. Okay, now, sir, having read that, in your  
3 opinion, does finding number 7 address what you believe  
4 more likely than not is happening at the Lipsky  
5 property?  
6 MR. SIMS: Objection, form.  
7 **A. No.**  
8 BY MR. STEWART:  
9 Q. Is there anything in the findings of the  
10 Railroad Commission that addresses what you believe is  
11 happening at the Lipsky property?  
12 MR. SIMS: Objection, form.  
13 **A. No, I don't believe it does, not a finding.**  
14 BY MR. STEWART:  
15 Q. Okay. Thank you.  
16 Now, next issue, you were asked a question  
17 about the Railroad Commissioners and you were asked  
18 about their competence and your first reply was they  
19 are elected officials. Correct?  
20 **A. Correct.**  
21 Q. And that got a little chuckle out of the  
22 room.  
23 And what I want to know from you is, in  
24 your experience with the Railroad Commission and these  
25 Commissioners who are elected officials, can politics

Page 271

1 play a role in what happens at the Railroad Commission  
2 and in its hearings?  
3 MR. SIMS: Objection, form.  
4 **A. Yes.**  
5 BY MR. STEWART:  
6 Q. All right. And in fact in this case would  
7 you consider the -- the Range hearing in front of the  
8 Railroad Commission to be -- would you consider that it  
9 was handled in a typical manner of what you experienced  
10 in the 20 years when you were at the Railroad  
11 Commission as a Hearing Officer?  
12 **A. No, I don't believe so.**  
13 Q. And tell us why you do not believe it was  
14 handled typically?  
15 **A. Well, the record in this case was closed**  
16 **February 17th. And then in less than a month, the PFD**  
17 **was issued March 7th, 2011.**  
18 **This was a 2-day hearing with over a**  
19 **hundred exhibits, and the depositions that were**  
20 **presented as exhibits, if they were looked at, and the**  
21 **other information, I have never seen a 2-day hearing**  
22 **with this many exhibits to where a Proposal For**  
23 **Decision was issued so expeditiously.**  
24 **Typically like a Rule 37, Rule 38, which**  
25 **are big hearings at the Commission, they typically will**

Page 272

1 **take anywhere from four to six months for the Examiners**  
2 **to get a Proposal For Decision out. So this was**  
3 **definitely fast-tracked.**  
4 Q. Okay, now, in reading through the record of  
5 what happened, did the Commissioners speak at the  
6 beginning of this hearing?  
7 **A. At the beginning of the conference?**  
8 Q. Yes.  
9 **A. You can look at the webcast on that, Gene**  
10 **Montes stood up and presented it quite quickly and then**  
11 **Commissioner Jones and Commissioner Williams went on**  
12 **for about 10 minutes, and it was -- it was more of, I'm**  
13 **going to say just listening to what they had to say,**  
14 **did the Commission act expeditiously because the EPA**  
15 **had accused the Commission of dragging its feet, and**  
16 **I -- I think this was more aimed, I think, at the -- a**  
17 **stab at the EPA for sticking their nose into Commission**  
18 **jurisdiction business.**  
19 Q. So based on what you've seen, do you  
20 believe that there were political ramifications that  
21 were at play in relation to the Range resources hearing  
22 with the Texas Railroad Commission?  
23 MR. SIMS: Objection, form.  
24 **A. I would say this: In the 20 years that**  
25 **I've stood at that podium and presented cases to the**

Page 273

1 **Commissioners, I can recognize when there's political.**  
2 **And yes there was political. I think they were trying**  
3 **to make a statement: "EPA go home."**  
4 MR. STEWART: Okay. Okay, Mr. Richter,  
5 unless someone else has more questions for you, that's  
6 all the questions I have at this time.  
7 RE-EXAMINATION  
8 BY MR. SIMS:  
9 Q. In the Final Order of the Railroad  
10 Commission, doesn't the Railroad Commission conclude in  
11 the Final Order that Range did not cause or contribute  
12 to any contamination in the Lipsky water well?  
13 **A. Let me see if I can find the finding of**  
14 **fact.**  
15 MR. SIMS: Final Order.  
16 (Marked Deposition Ex. 27)  
17 BY MR. SIMS:  
18 Q. Let me show you what I have marked as  
19 Exhibit 27 to your deposition.  
20 Do you see the third paragraph of the Final  
21 Order?  
22 **A. Right.**  
23 Q. Why don't you read that aloud?  
24 **A. "It is accordingly ordered that production**  
25 **from the Butler Unit Well No. 1H and the Teal Unit Well**

Page 274

1 **No. 1H, operated by Range Production Company, shall be**  
2 **allowed to continue as Range Production ... has**  
3 **established that the operations of the wells**  
4 **have not caused or contributed, and are not causing or**  
5 **contributing to the contamination of any domestic water**  
6 **wells."**  
7 Q. And that was the -- that was their Final  
8 Order, right?  
9 **A. Yes, sir.**  
10 Q. And that's the final unappealable order of  
11 the Railroad Commission in this matter?  
12 **A. It is unappealable because more than 90**  
13 **days went by, so yes, it's unappealable. Because the**  
14 **Final Order adopts the findings of fact and the**  
15 **conclusions of law as recommended in the Proposal For**  
16 **Decision.**  
17 Q. Okay. Now, you're not -- you're not  
18 saying, you're not testifying that there's no evidence  
19 in the record that is contrary to your theory?  
20 **A. It just was not fully developed, as far as**  
21 **I'm concerned.**  
22 Q. Well, I mean all the evidence about -- I  
23 mean, there's testimony in the record about if -- if --  
24 in fact, Mr. Cooney asked questions that specifically  
25 dealt with your theory, didn't he, in the record?

Page 275

1 MR. STEWART: Objection, form.  
2 **A. As far as the Atoka and the Marble Falls**  
3 **and the Caddo?**  
4 BY MR. SIMS:  
5 Q. As far as gas migrating out of those  
6 formations, he specifically asked questions about that,  
7 don't you remember that?  
8 **A. I don't recall those.**  
9 Q. Asked Dr. McGaffrey about that and he  
10 talked about the 50/50 biogenic thermogenic and the --  
11 that the biogenic would act as a tracer if that were  
12 happening, you remember that?  
13 MR. STEWART: Objection, form.  
14 **A. I don't remember that. I --**  
15 BY MR. SIMS:  
16 Q. You don't -- you don't remember any of  
17 that?  
18 **A. I don't remember any all of it, no, sir.**  
19 Q. Do you remember any of it?  
20 **A. I remember Dr. Kreitler talking about that,**  
21 **yes, that there was gas, he says yes, it is weeping up.**  
22 Q. Dr. McGaffrey?  
23 **A. McGaffrey. I'm sorry.**  
24 Q. The geochemist.  
25 **A. Okay.**

Page 276

1 Q. Do you remember any of his testimony?  
2 **A. Not off the top of my head, no, sir, I**  
3 **don't.**  
4 Q. You just don't remember that?  
5 **A. Don't remember that.**  
6 Q. Do you remember any testimony about that if  
7 your theory were accurate, that you would see pressure,  
8 bradenhead pressure in the Teal well, but you don't see  
9 it in the record, you don't remember any of that?  
10 **A. There's -- there was no pressure on the**  
11 **Teal well as I recall.**  
12 Q. Right, and you remember testimony about if  
13 there were gas coming out of those formations like  
14 you've talked about, you would see that in the Teal at  
15 the bradenhead?  
16 **A. Not necessarily.**  
17 Q. Well, there's testimony to the fact that  
18 that would be more likely than not, in the record?  
19 **A. And I -- I understand what you're saying.**  
20 Q. Yeah. You may not agree with it, but there  
21 was testimony to that effect?  
22 **A. There was testimony to that effect.**  
23 Q. Yes, sir.  
24 **A. Yes.**  
25 Q. Are you -- are you testifying here under

Page 277

1 oath that the Railroad Commission acted inappropriately  
 2 in any way in this matter?  
 3 **A. Inappropriately?**  
 4 Q. Yes, sir.  
 5 **A. No.**  
 6 Q. Are you accusing Donna Chandler of acting  
 7 inappropriately in any way?  
 8 **A. No.**  
 9 Q. Are you accusing Gene Montes of acting  
 10 inappropriately in any way?  
 11 **A. No.**  
 12 Q. Are you accusing Commissioner Williams of  
 13 acting inappropriately in any way?  
 14 **A. No.**  
 15 Q. Are you accusing Commissioner Ames of  
 16 acting inappropriately in any way?  
 17 **A. No.**  
 18 Q. Are you accusing Commissioner Porter of  
 19 acting inappropriately in any way?  
 20 **A. No.**  
 21 Q. You don't believe they did, do you?  
 22 **A. Gene Montes started off, when you look at**  
 23 **the webcast, the decision is based on the evidence that**  
 24 **was presented and that's all Examiners can do is base**  
 25 **it on the evidence that was presented.**

Page 278

1 **Did they dive deep enough into it? Were**  
 2 **certain things pointed out that might have been pointed**  
 3 **out in a protested case or something? Yes, I think**  
 4 **there would have been different.**  
 5 Q. And --  
 6 **A. That's my opinion as an Examiner over 20**  
 7 **years.**  
 8 Q. And Mr. Lipsky and his lawyers and you, had  
 9 you wanted to, you could have shown up and presented to  
 10 them anything you wanted to?  
 11 **A. I believe you've asked me that question**  
 12 **several times already.**  
 13 Q. And your answer is yes?  
 14 **A. And my answer was could they have shown up?**  
 15 **I -- I'm sure anybody can. It's a public meeting.**  
 16 **Anybody can come to it.**  
 17 MR. SIMS: Pass the witness.  
 18 MR. HEAD: I've got just a few Mr. Richter  
 19 because I didn't understand this -- I think this same  
 20 topic that Mr. Sims is talking about.  
 21 VIDEOGRAPHER: Hold on. I've got one  
 22 minute.  
 23 MR. CARLTON: Is your question one minute?  
 24 MR. HEAD: Might be. Go ahead.  
 25 MR. CARLTON: He's just trying to change

Page 279

1 the tape.  
 2 VIDEOGRAPHER: We are off the record at  
 3 6:06 p.m.  
 4 (Break from 6:06 p.m. until 6:11 p.m.)  
 5 VIDEOGRAPHER: We are back on the record at  
 6 6:11 p.m.  
 7 EXAMINATION  
 8 BY MR. HEAD:  
 9 Q. Ready? Go ahead? Okay.  
 10 Mr. Richter, I was confused by your  
 11 testimony about the appropriateness of the actions of  
 12 the Commissioners and the Hearing Examiners and stuff  
 13 and your testimony that you believe it was a political  
 14 decision. Who, in this matter before the Railroad  
 15 Commission, who could appeal that decision?  
 16 **A. Appeal the Final Order now? Nobody.**  
 17 Q. Final Order. Who could have during the  
 18 90-day period?  
 19 **A. Oh, the parties. The only party out there**  
 20 **was Range and the Commission staff. Mr. Cooney was**  
 21 **representing the Commission.**  
 22 Q. All right. On the -- on page 19 of the --  
 23 of the -- of the PFD, it states at Paragraph 6, the  
 24 Railroad Commission -- now, this is by -- signed by  
 25 Mr. Montes and Ms. Chandler and you say did act

Page 280

1 appropriately?  
 2 **A. Acted appropriately?**  
 3 Q. Appropriately?  
 4 **A. Yes, they acted appropriately.**  
 5 Q. Okay. It says at Paragraph 6, "The  
 6 Railroad Commission has acted appropriately in its  
 7 investigation of, and actions with regard to, the  
 8 Lipsky complaint." On page 19, Paragraph 6. Do you  
 9 see that?  
 10 **A. I don't have -- on page 19.**  
 11 Q. Page 19.  
 12 **A. The PFD.**  
 13 Q. Paragraph 6.  
 14 **A. There is no Paragraph 6. I have**  
 15 **conclusions of law on page 19.**  
 16 MR. SIMS: I've got a copy here.  
 17 MR. HEAD: Okay. My conclusions of law  
 18 start on page 18. But --  
 19 THE WITNESS: Yes.  
 20 BY MR. HEAD:  
 21 Q. Do you see where it goes on?  
 22 **A. Yes.**  
 23 Q. Paragraph 6, "The Railroad Commission ..."  
 24 **A. And that's on page 18.**  
 25 Q. Well, I -- okay. It's on 19 on mine, so

Page 281

1 it's 18 on yours. It's Paragraph 6.  
2 **A. Okay.**  
3 Q. Paragraph 6 of the PFD.  
4 **A. Okay.**  
5 MR. SIMS: Here's Exhibit 28.  
6 MR. STEWART: Wait wait. He's doing his  
7 deal. Don't do your deal.  
8 BY MR. HEAD:  
9 Q. It says "The Railroad Commission has acted  
10 appropriately in its investigation of, and actions with  
11 regard to, the Lipsky complaint."  
12 Do you see that?  
13 **A. Yes.**  
14 Q. So you agree with that, correctly -- is  
15 that correct?  
16 **A. That is correct.**  
17 Q. All right. And it says that the  
18 Environmental Protection Agency was provided notice of  
19 the hearing at the next paragraph, 7, correct?  
20 **A. Yes.**  
21 Q. And do you know if they appeared?  
22 **A. No. It stated on the front they did not**  
23 **appear.**  
24 Q. All right. And paragraph 8 says Steven  
25 Lipsky and Rick Hayley were provided notice of the

Page 282

1 hearing and they didn't appear. Is that correct?  
2 **A. That is correct.**  
3 Q. And the next paragraph, 9, says the EPA,  
4 Mr. Lipsky nor Mr. Hayley did not appear or participate  
5 in the evidentiary hearing. Is that correct?  
6 **A. That is correct.**  
7 Q. All right. And you had been hired and been  
8 on the job for some time before this PFD was issued; is  
9 that correct?  
10 **A. Yes.**  
11 Q. All right. And did you advise Mr. Lipsky  
12 or anyone of any further action that you recommended to  
13 be taken?  
14 **A. I didn't, no, sir.**  
15 Q. Did your -- did your firm?  
16 **A. I don't know.**  
17 Q. Okay. And then the final order, which is  
18 two pages dated on 22 March 2011, was signed by  
19 Elizabeth Ames Jones, by Michael L. Williams and by  
20 David Porter on the 22nd of March; is that correct?  
21 **A. That is correct.**  
22 Q. All right, now, again, are you saying that  
23 these Commissioners entered into this order for  
24 political purposes?  
25 **A. I don't know that for a fact.**

Page 283

1 Q. Well, you said it was political?  
2 MR. STEWART: Objection, form. He didn't  
3 say that.  
4 BY MR. HEAD:  
5 Q. Isn't that right? You said it was  
6 political?  
7 **A. I said it moved very rapidly.**  
8 Q. And you said that you believed it was  
9 political; you said that a under oath a few minutes  
10 ago, didn't you?  
11 **A. Did I think it was political?**  
12 Q. Yes.  
13 **A. It was political behind it to get it moving**  
14 **faster, yes.**  
15 Q. All right. And that's inappropriate, isn't  
16 it, that Commissioners would -- would disregard the  
17 facts and the law and make a political decision?  
18 **A. I would say --**  
19 Q. Wouldn't that be inappropriate?  
20 **A. I would say as far as telling the Examiners**  
21 **to expedite this and get it moving, that is political.**  
22 Q. Did they know that you believe it was  
23 political?  
24 **A. No.**  
25 Q. You haven't talked to them about it?

Page 284

1 **A. No.**  
2 Q. Haven't written any letter to the  
3 Commissioners or issued any complaint, anything that a  
4 citizen would do if he believed the Commissioners were  
5 acting for political reasons only and not on the facts  
6 and the law?  
7 **A. I have not.**  
8 Q. All right. Has it -- anybody that you know  
9 your firm, anyone else?  
10 **A. I don't know.**  
11 Q. Okay. But at the same time you're saying  
12 under oath that the Commission acted appropriately?  
13 **A. Yes.**  
14 Q. Okay.  
15 **A. A Final Order was signed.**  
16 Q. In an appropriate manner?  
17 **A. In an appropriate manner.**  
18 Q. After consideration of the evidence in an  
19 appropriate manner, correct?  
20 **A. Yes.**  
21 MR. HEAD: No further questions.  
22 RE-EXAMINATION  
23 BY MR. SIMS:  
24 Q. Mr. Lipsky could have intervened as a party  
25 even after this order had been signed and appealed it



Page 285

1 had he wanted to, couldn't he?  
 2 **A. I don't know. That's a legal question.**  
 3 **I --**  
 4 Q. That's a legal question?  
 5 **A. I'm not a lawyer so I don't know --**  
 6 Q. Okay.  
 7 **A. -- who can do that.**  
 8 Q. What was the legal effect of Mr. Stewart  
 9 and all these lawyers appearing on his behalf in this  
 10 proceeding?  
 11 MR. STEWART: Objection, form. You don't  
 12 have to answer that. He's not here as a lawyer. He  
 13 doesn't give legal counsel or legal advice and doesn't  
 14 have to answer legal questions.  
 15 BY MR. SIMS:  
 16 Q. Have you put anything legal in your  
 17 affidavit, any -- have you given any opinions about  
 18 legal precedent or anything in your affidavit?  
 19 **A. I don't believe so.**  
 20 Q. You're not qualified to do that, are you?  
 21 **A. I'm not an attorney, no.**  
 22 Q. Right. And you just don't know the answers  
 23 to those questions?  
 24 **A. I -- that's right, because I'm not an**  
 25 **attorney.**

Page 286

1 Q. Okay. And you wouldn't purport to try to  
 2 give opinions about things that you just don't know  
 3 about?  
 4 **A. On legal matters for sure.**  
 5 Q. But on other things maybe?  
 6 **A. On other things if I have information. As**  
 7 **far as just giving an opinion off the street, no, I**  
 8 **can't do that. I've got to know something about it and**  
 9 **feel comfortable in doing it.**  
 10 MR. SIMS: Pass the witness.  
 11 RE-EXAMINATION  
 12 BY MR. HEAD:  
 13 Q. Who wrote this sentence in your opinion --  
 14 in your affidavit at Paragraph 14 that the Commission  
 15 assigns less precedential value to its own decisions,  
 16 et cetera, who wrote that sentence?  
 17 **A. I did.**  
 18 Q. So you are qualified to testify as to what  
 19 precedential value the Commission assigns to its  
 20 opinions?  
 21 **A. Well, yes.**  
 22 Q. That's not a legal matter?  
 23 **A. We're the Examiners. We are the ones who**  
 24 **are writing these opinions. That's why it says**  
 25 **Examiner's Opinion.**

Page 287

1 Q. And you don't know that the Lipskys could  
 2 have intervened after this Final Order and appealed the  
 3 case, you don't know that?  
 4 **A. No, I don't.**  
 5 MR. HEAD: Okay. Pass the witness.  
 6 MR. STEWART: Are you all done?  
 7 MR. CARLTON: I don't have anything.  
 8 MR. SIMS: Pass the witness.  
 9 MR. STEWART: I don't have any further  
 10 questions. Thank you, Mr. Richter.  
 11 MR. SIMS: Thank you, Mr. Richter.  
 12 THE WITNESS: Thank you.  
 13 VIDEOGRAPHER: We are off the record at  
 14 6:19 p.m.  
 15 -o0o-

Page 288

1  
 2 CHANGES AND SIGNATURE  
 3 WITNESS: THOMAS H. RICHTER  
 4 DATE: November 9, 2011  
 5 Page/Line Change Reason  
 6 \_\_\_\_\_  
 7 \_\_\_\_\_  
 8 \_\_\_\_\_  
 9 \_\_\_\_\_  
 10 \_\_\_\_\_  
 11 \_\_\_\_\_  
 12 \_\_\_\_\_  
 13 \_\_\_\_\_  
 14 \_\_\_\_\_  
 15 \_\_\_\_\_  
 16 \_\_\_\_\_  
 17 \_\_\_\_\_  
 18 \_\_\_\_\_  
 19 \_\_\_\_\_  
 20 \_\_\_\_\_  
 21 \_\_\_\_\_  
 22 \_\_\_\_\_  
 23 \_\_\_\_\_  
 24 \_\_\_\_\_  
 25 \_\_\_\_\_

1 I, THOMAS H. RICHTER, have read the  
2 foregoing deposition and hereby affix my signature that  
3 same is true and correct, except as noted above.  
4  
5

THOMAS H. RICHTER

6 STATE OF \_\_\_\_\_ )  
7 COUNTY OF \_\_\_\_\_ )

9 Before me \_\_\_\_\_ on this day  
10 personally appeared THOMAS H. RICHTER, known to me (or  
11 proved to me on the oath of \_\_\_\_\_ or  
12 through \_\_\_\_\_ (description of identity card  
13 or other document)) to be the person whose name is  
14 subscribed to the foregoing instrument and acknowledged  
15 to me that he executed the same for the purposes and  
16 consideration therein expressed.

17 Given under my hand and seal of office this  
18 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

19 \_\_\_\_\_  
20 Notary Public in and for the  
21 State of \_\_\_\_\_

1 CAUSE NO. CV11-0798  
2 STEVEN and SHYLA LIPSKY § IN THE DISTRICT COURT  
3 v. §  
4 DURANT, CARTER, COLEMAN §  
5 LLC, SILVERADO ON THE §  
6 BRAZOS DEVELOPMENT §  
7 COMPANY #1 LTD, JERRY V. § 43RD JUDICIAL DISTRICT  
8 DURANT, Individually, §  
9 JAMES T. COLEMAN, §  
10 Individually, ESTATE OF §  
11 PRESTON CARTER, RANGE §  
12 PRODUCTION COMPANY, AND §  
13 RANGE RESOURCES §  
14 CORPORATION §  
15 v. §  
16 ALISA RICH § PARKER COUNTY, TEXAS

17 REPORTER'S CERTIFICATION  
18 DEPOSITION OF THOMAS H. RICHTER  
19 November 9, 2011

20 I, Joseph D. Hendrick, Certified Shorthand  
21 Reporter in the State of Texas, do hereby certify to  
22 the following:

23 That the witness, THOMAS H. RICHTER, was duly  
24 sworn by the officer and that the transcript of the  
25 oral deposition is a true record of the testimony given  
by the witness;

That the deposition transcript was submitted on  
November 11, 2011, to the witness, or to the attorney  
for THOMAS H. RICHTER, for examination, signature, and  
return to me by December 12, 2011;

That the amount of time used by each party at the  
deposition is as follows:

- Andrew D. Sims - 4 hours, 40 minutes;
- Albon O. Head, Jr. - 1 hour;
- George Carlton, Jr. - 38 minutes;
- Allen M. Stewart - 11 minutes;

1 That pursuant to information given to the  
2 deposition officer at the time said testimony was  
3 taken, the following includes counsel for all parties  
4 of record:

FOR THE PLAINTIFF:

Allen M. Stewart, Esq.  
David Ritter, Esq.  
ALLEN STEWART, P.C.  
325 North St. Paul St., Suite 2750  
Dallas, Texas 75201  
Phone: 214.965.8700  
E-Mail: astewart@allenstewart.com  
dritter@allenstewart.com

FOR RANGE PRODUCTION COMPANY AND RANGE RESOURCES  
CORPORATION:

Andrew D. Sims, Esq.  
Troy D. Okruhlik, Esq.  
HARRIS, FINLEY & BOGLE, P.C.  
777 Main Street, Suite 3600  
Fort Worth, Texas 76102-5341  
Phone: 817.870.8700  
E-Mail: asims@hfblaw.com  
tokruhlik@hfblaw.com  
David E. Jackson, Esq.  
JACKSON, SJOBERG, MCCARTHY & WILSON L.L.P.  
711 West 7th Street  
Austin, Texas 78701  
Phone: 512.472.7600  
E-Mail: djackson@jacksonsjoberg.com

FOR DURANT, CARTER, COLEMAN LLC, SILVERADO ON THE  
BRAZOS DEVELOPMENT #1 LTD, JERRY V. DURANT,  
INDIVIDUALLY, JAMES T. COLEMAN, INDIVIDUALLY, AND  
ESTATE OF PRESTON CARTER:

Albon O. Head, Jr., Esq.  
Sara Abbott McEown, Esq.  
JACKSON WALKER L.L.P.  
777 Main Street, Suite 2100  
Fort Worth, Texas 76102  
Phone: 817.334.7230  
E-Mail: ahead@jw.com  
smceown@jw.com

FOR ALISA RICH:

George Carlton, Jr., Esq.  
GODWIN RONQUILLO PC  
1201 Elm Street, Suite 1700  
Dallas, Texas 75270-2041  
Phone: 214.939.4421  
E-Mail: GCarlton@GodwinRonquillo.com

I further certify that I am neither counsel for,  
related to, nor employed by any of the parties in the  
action in which this proceeding was taken, and further  
that I am not financially or otherwise interested in  
the outcome of the action.

Further certification requirements pursuant to  
Rule 203 of TRCP will be certified to after they have  
occurred.

Certified this date: November 11, 2011.

*Joseph D. Hendrick*  
Joseph D. Hendrick, CSR  
Expiration Date: 12/31/12



FURTHER CERTIFICATION UNDER RULE 203 TRCP

The original deposition was / was not returned to  
the deposition officer on \_\_\_\_\_;

If returned, the attached Changes and Signature  
page contains any changes and the reasons therefor;

If returned, the original deposition was  
delivered to Andrew D. Sims, Custodial Attorney;

That \_\_\_\_\_ is the deposition officer's  
charges to Defendant RANGE PRODUCTION COMPANY AND RANGE  
RESOURCES CORPORATION for preparing the original  
deposition transcript and any copies of exhibits;

1 That the deposition was delivered in accordance  
2 with Rule 203.3, and that a copy of this certificate  
3 was served on all parties shown herein and filed with  
4 the Clerk.

5 Certified to by me this \_\_\_\_\_ day of  
6 \_\_\_\_\_, \_\_\_\_\_.

7 BY: \_\_\_\_\_  
8 FOR: Joseph D. Hendrick, CSR #947  
9 Expiration Date: 12/31/12  
10 Merit Court Reporters, LLC  
11 Firm Registration #133  
12 307 West 7th Street, Suite 1350  
13 Fort Worth, Texas 76102  
14 Phone: 817.336.3042  
15 Fax: 817.335.1203  
16 Toll-Free: 800.336.4000

17 Job No. 12133  
18  
19  
20  
21  
22  
23  
24  
25

<b>A</b>	<b>activity</b> 168:15	29:11,23,25	281:14	<b>amount</b> 48:19
<b>AAPG</b> 4:20 5:1,10	<b>actual</b> 59:8 94:21	34:16,23 35:6	<b>agricultural</b>	101:12,20 168:8
27:14 30:23 34:3	112:25 121:24	36:13,22 37:3	129:14,20	290:21
<b>Abbott</b> 2:18 8:22	140:24 167:2	39:7,14,20 42:2	130:23	<b>amounts</b> 128:5
291:20	194:1	44:25 45:7 62:24	<b>ahead</b> 26:23 32:1	<b>Amy</b> 154:19
<b>Abilene</b> 54:22 55:7	<b>added</b> 165:23	68:8,25 74:15	33:1 67:10	<b>analysis</b> 5:11
<b>able</b> 262:2	<b>addition</b> 80:24	78:19,19 79:3,25	137:17 138:4	30:22 88:13,13
<b>above-entitled</b>	121:5 131:20	80:1,8 114:17,25	268:9 278:24	188:7 197:22,25
143:11	<b>additional</b> 52:18	120:23 129:25	279:9	198:5,16 219:21
<b>above-styled</b> 1:19	173:25 174:7,19	133:13 135:13	<b>ahead@jw.com</b>	228:5 231:6,10
<b>accepted</b> 38:8	215:17,21	136:7 137:24	2:21 291:22	238:7 243:24
<b>account</b> 52:19	216:20	146:22 150:4	<b>aim</b> 192:10	246:17,18,24
235:9	<b>address</b> 9:21	155:25 156:9,10	<b>aimed</b> 272:16	247:7,17
<b>accurate</b> 43:19	143:21 161:5	169:19 170:15	<b>air</b> 71:15 106:2	<b>analyst</b> 188:1
119:17 137:21	231:1 270:3	175:2,11 192:13	260:1,3,6	<b>anchored</b> 49:22
162:23 276:7	<b>addressed</b> 129:5	192:15 198:18	<b>al</b> 8:5,16 96:22	<b>Andrew</b> 2:8
<b>accurately</b> 24:13	231:14,17	200:17 203:3	<b>Albon</b> 2:18 8:21	290:23 291:9
24:20 135:10	<b>addresses</b> 270:10	205:12 211:24	180:4 257:23	292:22
<b>accused</b> 179:7	<b>adjudicative</b> 139:9	214:7,25 216:21	290:23 291:19	<b>Andy</b> 8:8 34:2
272:15	<b>administer</b> 233:5	217:24 218:8	<b>Alisa</b> 1:11 3:1 9:4	51:2 169:6
<b>accusing</b> 277:6,9	<b>administered</b>	232:6,20 248:12	230:7 290:11	<b>and/or</b> 203:17
277:12,15,18	233:12	248:16,23 264:3	292:1	207:24 260:4
<b>achieve</b> 50:5	<b>administrative</b>	264:22,22	<b>Allcal</b> 153:22	<b>angle</b> 225:2
<b>acknowledged</b>	5:19 6:13 142:12	285:17,18	<b>alleged</b> 208:8	<b>angular</b> 75:24
289:15	<b>admit</b> 16:3 63:14	286:14	<b>Allen</b> 2:2,3 6:9,17	83:6,10,10,15,20
<b>acquaintance</b>	85:16	<b>affidavits</b> 11:16	150:23 153:21	84:6 85:15 86:18
240:13	<b>admitted</b> 13:8	112:8 135:11	290:24 291:4,5	86:19,22,24 87:2
<b>acquainted</b> 198:18	17:5 18:17 19:1	169:24 174:15	<b>allow</b> 66:6 166:17	101:25 102:24
<b>Acres</b> 81:23 82:1	19:12,13 40:18	174:18 194:12	254:19	103:18 107:21
83:1,7 86:14	41:6	194:13 265:10	<b>allowed</b> 53:14,17	254:18
110:18	<b>adopts</b> 274:14	265:11,22 266:4	166:15 274:2	<b>angularly</b> 107:22
<b>act</b> 272:14 275:11	<b>advance</b> 180:11	<b>affirm</b> 9:7	<b>allows</b> 66:15	<b>annu</b> 75:9
279:25	<b>advantages</b> 217:10	<b>affix</b> 289:2	<b>alluded</b> 130:16	<b>annulus</b> 71:16
<b>acted</b> 222:21 277:1	<b>adversely</b> 126:12	<b>agency</b> 129:3	<b>aloud</b> 273:23	75:9 106:1,6,18
280:2,4,6 281:9	<b>advice</b> 193:11	141:12,13,17	<b>alter</b> 15:25	107:1,4,5 118:10
284:12	285:13	145:7,7 281:18	<b>amended</b> 4:18	235:23 260:5,10
<b>acting</b> 277:6,9,13	<b>advise</b> 282:11	<b>Aggie</b> 194:19	10:14 23:12	260:12 261:4
277:16,19 284:5	<b>advised</b> 192:9	<b>ago</b> 174:11 185:4	34:15 78:19 79:2	<b>answer</b> 7:5 33:6
<b>action</b> 38:3 282:12	<b>advocate</b> 176:15	215:24,24	79:25 174:18	57:6 67:3 85:3,4
292:6,7	<b>affect</b> 229:5,6	283:10	192:15 211:21	93:21 120:4
<b>actions</b> 279:11	<b>affidavit</b> 4:14,18	<b>agree</b> 26:4 35:22	214:25 217:23	137:17 145:22
280:7 281:10	5:12 10:9,10,11	102:8 106:13	218:3 232:6	174:25 175:25
<b>activate</b> 223:9	10:15,19 11:1,4	111:15 132:7	<b>American-State...</b>	179:5,8 199:14
<b>active</b> 138:6	11:7,12,18 12:5	139:18 148:16	181:24	213:1,19,20
<b>activities</b> 125:15	12:12,22 13:12	149:16,20 182:4	<b>Ames</b> 180:16	214:18 216:9
133:16,23	13:18 14:12,24	182:7 225:18	181:5 277:15	219:4,12 230:6
199:20,25 201:4	18:15 22:20,25	238:9 242:22	282:19	238:19 242:10
	23:12 24:9 26:19	243:9 276:20	<b>Amoco</b> 190:7	278:13,14

285:12,14 <b>answered</b> 213:18 216:8 217:12 244:13 <b>answers</b> 38:25 123:5 218:25 238:20 285:22 <b>anticipated</b> 131:11 <b>anybody</b> 13:15 61:8,10 90:3,14 91:2,22 93:9,12 183:22,23 278:15,16 284:8 <b>anyone's</b> 170:1 <b>anything's</b> 97:22 <b>anyway</b> 19:20 <b>API</b> 157:18 <b>apologize</b> 180:11 <b>apparently</b> 152:4 <b>appeal</b> 279:15,16 <b>appealed</b> 284:25 287:2 <b>appear</b> 143:3 281:23 282:1,4 <b>appearance</b> 6:15 20:6 142:16,23 143:8,11 144:14 144:17 <b>appearances</b> 4:2 8:7 <b>appeared</b> 41:18 113:13 141:20 142:12 237:16 238:2,4 281:21 289:11 <b>appearing</b> 285:9 <b>appears</b> 38:21 78:15 132:8 140:3 153:14 155:20 156:14 161:4 214:7 <b>Applicant</b> 196:10 <b>application</b> 140:4 140:8,10,11 141:13 145:8,13 153:2,6 159:18 <b>appropriate</b> 284:16,17,19	<b>appropriately</b> 280:1,2,3,4,6 281:10 284:12 <b>appropriateness</b> 279:11 <b>approval</b> 48:23 53:23 54:2 <b>approve</b> 210:15 <b>approved</b> 210:7,10 210:13,14 <b>approximately</b> 100:2 250:6 268:19 <b>April</b> 4:20 5:1,10 30:24 34:8 188:14 <b>aquifer</b> 65:4 66:24 75:11 85:15,17 103:1,21 107:22 255:14,16 268:22 <b>aquifers</b> 208:5,9 208:24 209:14 268:13 <b>Arch</b> 254:14,16 <b>arch-Fort</b> 4:22 5:2 5:5,8 <b>area</b> 24:17 30:4 31:8 34:25 35:1 38:6 42:24 44:21 64:23 67:21 76:6 82:8 83:7 84:2 86:25 101:25 102:4,22 103:18 104:1 107:5 108:15,18 109:2 109:3 111:23 113:23 117:19 117:22,25 118:3 118:17 187:24 204:4,14,20 205:24 223:6 224:14,16,19 227:1 243:13,14 248:25 250:17 252:1 256:11 268:13,15 <b>areas</b> 117:14 138:5	255:22 <b>area-wide</b> 86:22 <b>argued</b> 148:11 <b>argument</b> 127:25 132:12 138:3 <b>argumentative</b> 161:22 179:5 262:4 <b>arguments</b> 136:22 150:6,8 266:21 <b>arrow</b> 44:12 <b>Arthur</b> 170:11 183:14 <b>article</b> 5:4,7 25:10 25:16,21 26:4 27:25 29:17 31:23 181:19 182:5,8,9,11 <b>articles</b> 24:11,25 25:5 181:12 <b>articles/papers</b> 24:16 30:2 <b>Aside</b> 113:18 <b>asims@hfblaw.c...</b> 2:11 291:12 <b>asked</b> 11:21 21:12 21:14 22:4,4,5 42:24 61:10 63:10 86:2,3 93:15 96:8 114:13,13 130:11 137:15 147:7 166:10 212:21 213:11 213:18 216:7 217:13,21 233:12,25 237:8 237:11 238:15 238:17 250:11 270:16,17 274:24 275:6,9 278:11 <b>asking</b> 38:19 66:16 89:1 114:14 123:16,18,21 124:8 149:13 152:19 183:17 183:20 242:9,14	245:22 247:5,13 250:8 <b>asks</b> 179:6 213:20 <b>assembled</b> 22:16 23:13 25:3 <b>Assessing</b> 5:4,7 27:11 <b>assignment</b> 192:4 <b>assignments</b> 186:10 <b>assigns</b> 286:15,19 <b>assist</b> 228:18 <b>assistant</b> 12:1 19:20 55:15,20 55:23 57:15 172:3 183:4 187:11,14 <b>assisting</b> 90:19 <b>assume</b> 38:20,24 40:13 56:14 92:1 116:17 121:21 155:22 178:4 182:4 203:8 210:7 240:21 241:4,21 <b>assumed</b> 13:24 14:2 40:17,20,20 40:22 248:21 <b>assumes</b> 89:4 <b>assuming</b> 113:8 115:22 120:8 <b>assumption</b> 40:15 40:16 41:1,2 113:10 115:25 116:6 241:1 242:6 <b>assumptions</b> 104:21 115:21 245:22 247:5 <b>astewart@allens...</b> 2:5 291:7 <b>Atkins</b> 169:7 <b>Atoka</b> 109:8,18,23 111:23 117:4 118:4 177:20 220:19 231:12 252:4 253:18,24 275:2	<b>Atokas</b> 70:11 <b>attached</b> 1:23 22:25 23:8,10 39:7 135:9,12 152:10,10,11 170:13 217:24 292:20 <b>attachment</b> 23:12 35:2 37:3 42:2 42:11 <b>attachments</b> 22:17 22:18,21,21 <b>attack</b> 146:12,16 148:2,9 <b>attacking</b> 147:20 <b>atta-boy</b> 57:4 <b>attempting</b> 152:18 <b>attend</b> 21:2,3,11 21:12 <b>attest</b> 251:3 <b>attorney</b> 8:10,14 140:13 146:3 153:21,23 154:25 172:21 172:21 173:17 196:1 285:21,25 290:19 292:22 <b>attorneys</b> 8:6 21:9 183:3 <b>August</b> 6:1,3 58:4 61:20 <b>Austin</b> 2:14 8:13 9:20,22 89:11 181:23 188:15 291:15 <b>authorized</b> 144:10 144:15 <b>available</b> 50:9 68:2 110:3 133:14 201:2 219:17 268:14 268:17 <b>avenue</b> 107:11,14 114:2 117:11 223:16 254:23 254:24 <b>aware</b> 11:15 20:22 56:21 57:8,11,12
---	--	--	---	---

99:20,23 134:17 147:23 169:8 179:16 245:2 255:22 <b>awful</b> 33:3 <b>awfully</b> 148:5 <b>A&amp;M</b> 154:11 189:15,16,19 <b>a.m</b> 1:19 8:2 52:25 52:25 53:2 54:13 54:14,14,16 153:18	188:6 191:3 <b>Barnett</b> 4:21 5:1 5:10 30:21 32:8 32:12 44:20 45:18,20 109:25 120:17,18,25 121:2 176:10,14 176:16,22 177:17 220:24 230:23 231:18 249:18,21,22,25 252:4,7,15,18,19 252:22,23 253:1 253:13,18 254:1 254:1,15 266:25 267:19 268:10 268:12 <b>Barnett-Paleozoic</b> 4:22 5:2,5,7 27:12 <b>barrier</b> 254:12 <b>barriers</b> 255:5 <b>Barton</b> 172:25 <b>base</b> 32:7 51:5,6 51:20 63:16 70:10 106:11 107:6 114:1 117:11 221:13 244:15 246:12 246:14 249:13 249:14,19,24 250:2,5,15 252:22 277:24 <b>based</b> 19:17 25:12 48:7 53:12 75:16 75:23 84:4,16 102:7 104:3 105:22 110:2 116:23 126:20 148:22 175:1,2,4 175:20 177:14 177:18 196:12 202:25 203:25 205:8 217:20 219:1,8,13,17 220:5,6 230:18 247:14 249:2 251:8 255:9	268:14 269:18 269:23 272:19 277:23 <b>basically</b> 56:4 98:23 114:1,15 166:17 190:11 <b>Basin</b> 4:22 5:3,6,8 32:10 <b>basing</b> 74:22 203:16 <b>basis</b> 208:20 <b>bat</b> 244:1 <b>Bates</b> 4:20 5:4,17 6:11,16,20 152:9 <b>bathroom</b> 146:6 <b>bearing</b> 227:19 234:13 <b>beds</b> 51:6 75:19,25 107:21 130:12 <b>beg</b> 9:2 <b>began</b> 134:7 <b>beginning</b> 163:20 165:1 173:17 272:6,7 <b>begins</b> 41:23 <b>behalf</b> 8:9,10 143:4 144:21 285:9 <b>belief</b> 12:9 40:24 85:12 217:21 222:7 <b>believe</b> 16:13 20:2 23:2 25:8 26:6 27:19 35:24 36:21 37:11 46:14 47:4 49:10 49:17 51:12 52:14 54:5,25 58:8,9 64:1,2,3,3 67:1,5 68:4,5 72:25 73:3 75:6 75:20 76:11,24 80:19,20 82:18 82:20 85:13 86:22 90:4 91:9 95:18 96:20 97:7 102:12 105:5,6 106:22 107:10	107:13 108:9 111:14 114:5 115:13,13,23 116:12 117:13 119:20 120:19 121:2,14 125:1 127:18 128:10 130:12,17 131:15 132:23 137:18 138:11 139:3 140:21 142:1 161:14 164:15 165:3 171:8 172:6,15 173:16 180:6 184:17 185:8,13 193:12,13 194:17 198:11 200:18 203:7 207:22 216:24 218:16 220:15 222:17 225:1,1 227:3 230:2 231:5,14 233:18 233:19,23 239:19 243:6,23 249:1 253:23 254:4 261:9 262:20 263:13 268:24 270:3,10 270:13 271:12 271:13 272:20 277:21 278:11 279:13 283:22 285:19 <b>believed</b> 73:4 111:11 283:8 284:4 <b>believes</b> 137:4 <b>believing</b> 194:2 <b>Bend</b> 4:22 5:2,5,8 <b>best</b> 12:24 19:4 50:8 110:4,10 111:10 164:3 202:9 <b>better</b> 189:11 224:11 226:20 <b>beyond</b> 106:7	254:20 <b>big</b> 132:24 220:2 225:13 271:25 <b>bigger</b> 95:24,24 <b>Bill</b> 171:14 <b>binder</b> 185:21 <b>binding</b> 148:1 <b>biogenic</b> 72:2 73:16 74:5,17 75:3,3 137:8,12 275:10,11 <b>bit</b> 68:7 76:4 255:22 261:6 <b>black</b> 42:24 44:12 249:10 <b>blanket</b> 227:5,9 <b>bled</b> 71:12 261:17 262:14,15 263:1 263:6 <b>bleed</b> 71:14,18 105:23 106:3 <b>blowup</b> 44:20 <b>blow-up</b> 252:12 <b>blue</b> 46:2 <b>Board</b> 46:10 49:2 49:6,15,16 50:21 51:18 52:14 53:7 53:12 66:1 163:15 <b>Bogle</b> 1:21 2:9 291:10 <b>bond</b> 269:18,23 <b>book</b> 11:8 232:22 <b>bore</b> 47:13 118:18 121:3 177:18 235:24 253:11 263:21 <b>bores</b> 83:22,22 108:24,25 113:22 <b>boss</b> 164:8 <b>Bossier</b> 188:5 <b>bottom</b> 44:13 47:19 58:4 71:18 71:20 113:25 120:24 125:13 151:11,11 154:18 155:18
---	--	--	--	--

161:6 200:22 201:1 261:19 <b>bounds</b> 173:17 <b>box</b> 59:1,14,17 60:9,10,12 62:8 62:10,20 <b>boxes</b> 17:19 96:23 97:2,7,19,23 98:17,19 <b>bradenhead</b> 68:9 68:11,15,17,23 69:12 70:4,8,15 71:9,14,22 73:6 73:10 75:4 104:25 105:13 105:19 113:24 118:20 135:23 137:7 138:7 231:7 261:7 262:8,12,24 263:7,10,11,15 263:19 264:7,8 264:19 276:8,15 <b>BRAZOS</b> 1:5 2:16 290:5 291:18 <b>break</b> 52:25 54:11 54:14 66:5 67:8 98:5 99:10,15,19 146:6 150:12,15 214:1 226:8,9,12 248:4,7 279:4 <b>briefly</b> 96:20 119:13 258:1 <b>broader</b> 34:25 <b>broken</b> 224:10 <b>Brooke</b> 215:2 232:8,19 <b>Brooks</b> 184:15,17 <b>brought</b> 96:24 97:1,25 231:2 <b>Buddy</b> 6:8 8:3,19 <b>build</b> 236:2 <b>builds</b> 236:3 <b>Bujano</b> 171:25 <b>Bulletin</b> 4:20 5:1 5:10 30:23 34:3 <b>bunch</b> 28:4 <b>business</b> 272:18	<b>Butler</b> 5:22 6:5 35:1 38:4 43:2 44:22 50:21 61:19,25 62:5,16 68:12,14,23 69:1 70:21 71:9 73:8 73:15 74:14,20 75:2,5,14 83:3 84:3,24 99:25 100:3 105:1,13 107:1,8 108:1 109:4,11,16 110:12 111:3 116:19 117:22 118:1 119:19,23 121:11 122:3,15 122:25 124:16 134:21 135:23 142:15 175:18 176:6 177:25 178:15,18,23 179:11 204:5 231:7 234:14 236:22,24 237:22 238:4,9 238:10 239:23 240:5,8,11,22 241:5,7,9,23 242:21,23,25 243:10,21 258:21 259:20 262:23 266:24 268:11 269:14 269:17 273:25 <b>Butler/Teal</b> 268:16 <hr/> <b>C</b> <b>c</b> 2:1 34:21 133:18 133:25 135:22 136:4,8 201:13 <b>Caddo</b> 109:9,24 111:24 117:4 118:5 177:20 220:19 231:12 275:3 <b>Caddos</b> 70:11 <b>calculate</b> 235:13	<b>calculation</b> 235:13 <b>calculations</b> 234:2 234:8,10 235:3,6 235:9,16 263:16 263:25 <b>call</b> 56:4,5 89:10 89:20 90:1 146:2 153:17 173:2 185:11,13 188:23 197:3,4 225:5 226:17,17 235:8 <b>called</b> 27:13 81:23 163:18,23 166:21 167:3 170:3 173:11 176:24 186:3 195:22 196:10 267:10 <b>calls</b> 145:21 166:23 167:9 <b>capable</b> 43:20 <b>captioned</b> 6:6 <b>card</b> 289:13 <b>care</b> 148:18 <b>Carlton</b> 3:1 4:5 9:3,3 217:2,8,9 219:6,20 220:8 223:23 224:9,21 225:12 226:9,15 227:13 228:1 229:9,14,22 231:15 232:1 233:25 278:23 278:25 287:7 290:24 292:1 <b>Carter</b> 1:4,7 2:16 2:17 8:5 290:4,7 291:17,19 <b>case</b> 8:4,17 9:8 11:22 20:13 25:10 40:4 48:21 61:1 68:3 70:5 83:15 91:2,22 96:6 100:13,20 101:1,7 107:7 113:19 115:6 118:19 136:22	139:5,13,20,21 139:24 140:2 146:23 147:6,9 147:24 149:3,5 149:17,24 150:1 169:10 174:15 179:19 181:13 181:22 183:2,10 183:11 184:21 191:18,23 204:11 208:4,7 208:15,23 209:6 209:14,22 219:25 221:24 233:19,20 243:19 244:20 245:19 246:11 251:21,24 262:2 262:5 264:24 271:6,15 278:3 287:3 <b>cased</b> 47:4 64:7,8 134:22 135:4 <b>cases</b> 139:15 148:10 165:20 174:3 176:8 216:4 272:25 <b>casing</b> 5:19 46:3 47:1,17,21 48:1 48:17,22 49:15 49:21 50:4,11 51:10,23 52:4 53:14 60:23 63:6 64:6,25 65:3,8,8 65:10,18,19,25 66:18,21,24 67:11,16 70:17 70:17 71:4,16 75:9,9,9 94:24 105:25 106:1,2 107:4 108:7 117:6,14 121:6,7 125:20 126:9,11 126:18 127:19 176:19 177:15 177:16 221:3,4 221:10,12,21 258:4,8,14,18,22	263:20 269:14 269:17,19,22,24 <b>Casing/Cementi...</b> 59:18 <b>catalyst</b> 103:5,22 103:25 223:10 <b>categories</b> 96:18 <b>cause</b> 1:1,19 8:5 36:19 74:21 86:4 86:4,6,10,13 87:9 103:25 121:13 123:12 124:17 125:4 175:12,15,17 176:3,4,17,18 178:14 217:15 234:4,11,18 235:1 243:12 260:19,20 273:11 290:1 <b>caused</b> 81:3 122:3 122:16 123:1 133:23 134:12 174:20 176:25 177:5 206:2 224:5 225:6 259:6 262:11 274:4 <b>causing</b> 263:11 274:4 <b>cavitation</b> 205:21 <b>cement</b> 46:15,20 46:23,25 47:6,13 65:7 66:4,11 70:10 107:6 121:4 220:24 221:5 253:11 259:18 269:16 269:18,21,23 <b>cemented</b> 63:6 134:22 135:4 177:14 221:25 258:18,22 269:14 <b>cementing</b> 5:19 60:23 65:21 135:11 <b>center</b> 81:2
---	--	--	---	---

<b>Central</b> 12:3 14:8 <b>certain</b> 115:4 133:6 161:7,8,16 278:2 <b>certainly</b> 21:13 86:23,23 132:8 164:16,16 <b>certainty</b> 111:8,20 112:7 113:20 114:5,11,18 115:4 118:25 119:3 125:3 161:18 195:6 196:18,23,24 <b>certificate</b> 293:1 <b>certification</b> 4:11 36:6 38:12 290:12 292:8,17 <b>certified</b> 1:20 7:5 36:3 37:17 290:14 292:8,10 293:3 <b>certify</b> 290:15 292:5 <b>cetera</b> 196:19 286:16 <b>Chandler</b> 17:4 167:14,16,18,20 168:3 169:9,15 170:15 173:11 173:22 277:6 279:25 <b>change</b> 40:3,5 104:9 117:21 169:14 213:23 217:15,22 228:3 252:15,23 253:1 256:9 278:25 288:4 <b>changed</b> 100:12 117:18 118:2 193:8 <b>changes</b> 4:10 193:23 254:13 288:1 292:20,20 <b>channeled</b> 263:22 <b>channeling</b> 81:4 177:17 260:8	<b>channels</b> 227:6 <b>charge</b> 191:15 192:7,9 <b>charged</b> 191:17 192:8 254:1 <b>charges</b> 292:23 <b>charm</b> 266:17 <b>chart</b> 31:6 <b>charts</b> 5:9 28:5,15 31:18 <b>check</b> 60:9,22 68:14 69:3 96:4 <b>checked</b> 59:18 62:9,10,20 68:17 69:2 95:20 263:1 <b>chemical</b> 103:12 <b>cherry-pick</b> 137:25 <b>Chesapeake</b> 170:14 <b>chuckle</b> 270:21 <b>circle</b> 162:9,13,15 162:19 <b>circles</b> 163:7,8,9 <b>circulate</b> 65:21 67:11 <b>circulation</b> 66:6 <b>circumstances</b> 132:14 <b>citizen</b> 284:4 <b>City</b> 188:5 <b>Civil</b> 1:22 <b>claim</b> 72:12 <b>claims</b> 245:15 <b>clarify</b> 78:25 <b>classify</b> 168:5 <b>clear</b> 30:8 125:1 142:1 178:21 200:7 202:6 242:4 <b>clearly</b> 120:10 166:20 174:14 <b>Clerk</b> 293:2 <b>client</b> 95:14 230:7 <b>close</b> 20:4 58:9 80:14 81:9,12,15 81:18 82:6 105:18 188:24	204:22 240:16 252:15 <b>closed</b> 271:15 <b>closely</b> 87:24 94:20 <b>closer</b> 119:19,24 <b>closest</b> 109:10 <b>closing</b> 188:6 <b>coaching</b> 123:25 <b>Code</b> 5:19 6:13 <b>cohorts</b> 146:3 <b>Coleman</b> 1:4,6 2:16,17 8:5 290:4,6 291:17 291:18 <b>collateral</b> 146:11 146:16 <b>collect</b> 164:24 165:7 246:15 <b>collected</b> 137:8 175:21 <b>collecting</b> 164:22 165:3 <b>collection</b> 170:8 <b>colored</b> 98:15 <b>column</b> 60:18 71:13 104:9 106:20 <b>come</b> 56:16 71:19 82:15 86:20 107:22 114:24 127:4 147:7,13 165:11 187:12 199:11 213:7 218:4 220:21 249:22 252:3,3,7 253:11 257:1 261:21 278:16 <b>comes</b> 94:5 152:7 222:3 225:3 243:7 254:6 <b>comfortable</b> 286:9 <b>coming</b> 35:23 70:18 75:8 92:19 93:11 98:12 106:10 126:24 130:17 236:1,5,9 243:3 246:22	261:7 263:14 276:13 <b>Comments</b> 58:12 <b>commercial</b> 116:22 <b>commercially</b> 109:14 <b>commission</b> 4:17 5:15,21,23 6:1,4 11:19 12:2,7,15 13:1,16 14:7,21 16:12 17:13 18:1 19:2,7,11 20:6 20:24 21:19,25 33:2 35:7,11 36:6 38:10 39:9 39:24 40:8,24 42:18 45:2 48:24 54:8,9,23 55:17 56:11,20 57:10 67:25 68:1,22 72:18,23 74:23 75:17 79:12 80:4 80:11 88:22 89:8 90:6,8,15 92:22 93:12 94:7,11,16 102:8,20 109:7 109:22 125:8,11 125:17 126:3 127:2,9,15,18 134:8,9,15,23 135:15,24 136:4 139:2,5,8,19 140:7 141:12,14 141:24 142:8 143:3,9 144:22 145:9 146:4,17 146:18 147:10 147:13,15,18,19 147:20,25 148:6 148:7,9,12,19 149:4,16,17 150:7 151:8,9 154:10 155:1 163:18,18,23 164:6 165:2 166:6,9,21 167:1 167:3 168:10,20	168:24 169:11 170:3,21 173:11 173:21 176:8,14 176:24 177:4 180:9,14 181:14 181:17,21,24 183:8,16 185:23 186:21,23 187:16 188:14 188:20 189:10 189:14,17 190:1 195:10,22 196:10 197:15 198:12 199:7,12 199:18 203:21 205:22 207:25 208:2,17 220:18 230:22 231:11 231:22 251:18 251:19 264:11 264:23 266:9,10 266:20 267:13 267:13 270:10 270:24 271:1,8 271:11,25 272:14,15,17,22 273:10,10 274:11 277:1 279:15,20,21,24 280:6,23 281:9 284:12 286:14 286:19 <b>Commissioner</b> 272:11,11 277:12,15,18 <b>Commissioners</b> 148:15 180:15 270:17,25 272:5 273:1 279:12 282:23 283:16 284:3,4 <b>Commission's</b> 267:9 269:10 <b>Commission-Ca...</b> 140:9 <b>communicate</b> 66:17 94:20,25 210:6
--	---	--	---	--



<b>communication</b> 66:15,23 83:23 85:14,16 112:2 121:5 268:12 <b>companies</b> 207:1 <b>company</b> 1:5,8,18 2:7 38:21 39:9 147:3 186:2,17 190:5,24,24,25 190:25 191:7,9 191:23 206:25 207:5,11 210:3,3 274:1 290:5,8 291:8 292:23 <b>company's</b> 209:1 <b>compare</b> 44:14 <b>compared</b> 248:25 <b>competence</b> 180:14 270:18 <b>competent</b> 54:23 168:3,5,6 171:12 172:2,17,23 173:3,14,22 180:23 181:3,4,9 <b>complaint</b> 140:4 140:16,19 167:2 167:5,7 280:8 281:11 284:3 <b>complete</b> 17:1 99:6 197:3 255:6 <b>completed</b> 45:16 45:18 46:12 77:8 77:14 78:16 85:22 88:2,6,7 102:21 107:11 116:20 121:4 129:15 197:11 197:11 199:1 <b>completing</b> 64:22 64:24 67:23 <b>completion</b> 5:20 5:22,24 56:2 63:4 64:9 109:7 157:17 196:18 196:21 197:1,4,9 197:12,14 243:7 244:4 <b>completions</b>	109:23 197:17 236:16 <b>complex</b> 24:17 30:3 <b>compliance</b> 49:19 59:14 60:4,9,18 60:22 61:20,25 62:5,8,11,12,17 <b>complied</b> 51:13,15 52:3 <b>complies</b> 269:6 <b>comply</b> 52:20 65:16 <b>component</b> 108:17 <b>components</b> 103:13 <b>composition</b> 103:12 <b>Compound</b> 127:16 234:6 <b>computer</b> 15:9,13 15:15,20,22 16:5 95:20 96:1 192:20 232:15 <b>concentration</b> 74:17 <b>concentrations</b> 119:24 <b>concerned</b> 88:20 143:18 181:15 188:19 219:8 274:21 <b>concerning</b> 24:10 25:6 267:6,16 <b>conclude</b> 123:12 124:16 273:10 <b>conclusion</b> 124:8 145:21 166:24 167:10 201:17 <b>conclusions</b> 61:12 142:11 177:13 195:4 200:17 274:15 280:15 280:17 <b>condensing</b> 15:11 <b>conducted</b> 188:18 <b>conduit</b> 231:25 <b>conduits</b> 66:23	204:6 <b>cone</b> 43:9 <b>conference</b> 153:17 185:13 272:7 <b>confident</b> 120:15 <b>conform</b> 75:24 <b>conformity</b> 83:10 83:20 84:6 85:15 86:22 <b>confused</b> 279:10 <b>confusing</b> 238:21 <b>connection</b> 49:5 49:15 54:1 243:25 244:5 265:21 266:10 267:8 268:23 <b>connects</b> 108:2 <b>conscious</b> 25:15 <b>consensus</b> 169:21 <b>consider</b> 35:23 176:9 180:10,22 181:9 243:3 271:7,8 <b>consideration</b> 284:18 289:17 <b>consistent</b> 47:12 47:15 162:18 <b>consolidations</b> 188:21 <b>constructed</b> 131:9 <b>consulting</b> 8:19 21:9 <b>contact</b> 13:15 56:16 90:18,19 90:21 91:1 93:3 186:9 <b>contain</b> 53:6 116:23 117:5 243:11 <b>contained</b> 14:13 25:1 40:6 97:15 97:18 242:20 <b>containing</b> 222:13 <b>contains</b> 50:20 292:20 <b>contamination</b> 50:2 125:15 133:17,24	199:21,25 201:4 202:19 203:12 208:8,8 233:17 273:12 274:5 <b>content</b> 90:19 <b>contention</b> 224:2 <b>contents</b> 135:3 <b>contested</b> 139:5,13 139:15,19,20,21 139:23 140:2 <b>contests</b> 140:3 <b>context</b> 115:6 182:10 <b>continue</b> 227:11 254:20,25 255:15 274:2 <b>continuously</b> 187:16 <b>contour</b> 32:10 <b>contrary</b> 274:19 <b>contribute</b> 123:13 124:17 125:4 267:1 273:11 <b>contributed</b> 122:4 122:16 123:1 124:20 125:15 133:16,24 174:21 176:25 177:5 199:20,25 201:4 274:4 <b>contributing</b> 142:15 274:5 <b>control</b> 49:22 171:11 <b>conversation</b> 90:2 91:12 94:2 164:9 164:12 <b>conversations</b> 89:22 92:8 93:2 170:2 <b>convinced</b> 204:19 <b>Cooney</b> 44:11 172:20 274:24 279:20 <b>copied</b> 28:17 <b>copies</b> 15:13 144:18 194:3,6 292:24	<b>copy</b> 10:14 28:3 36:3,4 37:17 39:8 41:4 53:8 95:11 98:11 99:3 99:6 280:16 293:1 <b>corner</b> 16:16 151:11,12 153:13 155:19 156:17 <b>corporate</b> 8:12 <b>Corporation</b> 1:9 1:18 2:7 290:9 291:9 292:24 <b>correct</b> 11:20 12:22 13:10 23:9 26:6 28:7 35:8 36:21 37:11 38:18 39:8,21 42:6 43:17 44:6 44:8 47:8,9,14 49:4 51:11,12 54:8 60:24 62:1 62:6,9,14,21 66:19 68:3,17 78:7 82:18 86:25 101:16 114:4,4 116:12 120:17 124:18 134:23 136:5 137:11 140:6 141:15 145:9,10 157:13 157:14 159:12 159:22,25 160:3 160:9,12,13 162:15,20 163:4 164:15 177:8 185:8 186:14 192:5 196:7 198:20 199:14 199:22 202:4 203:19,25 205:16 207:25 209:22 214:9,10 215:6,7 219:22 219:23 222:4,5,9 222:22,23 225:23 227:16
--	---	--	--	--

227:17 229:19 230:24 232:12 241:24 243:4 244:1 248:18 253:9 258:11,20 258:23 259:7 260:5,10 267:19 270:19,20 281:15,16,19 282:1,2,5,6,9,20 282:21 284:19 289:3 <b>corrected</b> 57:3 <b>correctly</b> 35:3,4 39:12,13 101:24 129:8,17 139:10 139:11 182:8,23 228:16 234:1 238:19 281:14 <b>correspond</b> 163:8 <b>correspondence</b> 143:19 144:19 <b>corrupt</b> 181:21 <b>cost</b> 21:8 <b>counsel</b> 6:15 56:16 142:23 143:9,12 143:15,21 144:14,18 172:22 173:9 213:12 285:13 291:2 292:5 <b>counter</b> 137:1 <b>Counties</b> 5:18 <b>Country</b> 81:23 82:1,4 83:1,5,7 86:14 110:18 <b>county</b> 1:11 24:17 26:13,13,18 29:12,18,18,19 29:20 30:4 36:19 63:15,24 146:19 153:15 157:11 160:17,18,20 161:8 162:23 268:18 289:8 290:11 <b>County-Hood</b> 26:18	<b>couple</b> 55:15 170:14 <b>course</b> 8:19 207:19 <b>court</b> 1:2 3:6 99:5 147:11,18 148:1 148:6,17,18 149:7 150:9 206:18 290:2 292:13 293:7 <b>courthouse</b> 146:19 147:14 148:14 <b>courts</b> 147:24 <b>covered</b> 117:14 <b>cracks</b> 114:22 213:21 <b>create</b> 231:24 <b>created</b> 66:22 121:12 223:16 224:12 <b>creates</b> 111:13 <b>creating</b> 204:15 <b>Cress</b> 54:19 55:6 <b>Cretaceous</b> 51:6,7 63:16 75:22 102:6,11 103:2 103:21 104:2 106:19 254:21 255:13 256:18 256:19 <b>criteria</b> 160:25 <b>cross</b> 44:11 173:17 <b>crossed</b> 177:22 <b>cross-section</b> 64:4 <b>CSR</b> 292:12 293:6 <b>cumulative</b> 117:3 137:14 <b>curious</b> 170:13 <b>current</b> 32:11 50:8 220:7 234:21 <b>currently</b> 57:16 <b>Custodial</b> 292:22 <b>cut</b> 225:14 <b>CV11-0798</b> 1:1 8:5 290:1 <b>cycle</b> 129:12,13 <b>cycles</b> 133:3,4	<b>d</b> 1:20 2:8,8 24:8 136:8 290:14,23 291:9,10 292:12 292:22 293:6 <b>daily</b> 131:3 <b>Dallas</b> 2:4 291:6 <b>Dallas, Texas</b> 3:3 292:3 <b>data</b> 6:18 33:4 35:23 84:11 101:17,22 104:7 108:9 115:8 123:8 125:6,10 151:5,6,25 155:20 156:6,7 157:17 161:4 164:23,23 165:1 165:4,8 167:11 170:8 175:21 183:13 199:1,18 218:18 235:4 243:3 246:15 249:3 252:2 253:3,5 268:17 <b>date</b> 8:2 58:2 80:20 150:24 151:12 153:12 157:24 159:11 160:1 165:17,17 288:3 292:10,13 293:7 <b>dated</b> 34:8 58:4 59:24 62:4,14 152:5,24 156:16 156:19 157:1,12 159:21,24 160:5 160:8,14 163:4 282:18 <b>dating</b> 82:5 <b>David</b> 2:3,12 6:12 8:9,17 97:4 128:13,15,16,17 129:2 153:21 172:20 181:7,8 193:13 282:20 291:4,14 <b>day</b> 12:13 155:5 183:12 214:8,20	215:1 232:25 233:2 289:10,19 293:3 <b>days</b> 149:21 189:8 213:7 274:13 <b>day-to-day</b> 55:10 <b>deal</b> 265:9 266:11 267:13 281:7,7 <b>dealing</b> 121:19 266:23 268:24 <b>dealt</b> 274:25 <b>Debra</b> 154:19,23 <b>December</b> 6:11 36:6 37:23 38:2 38:9,22 39:2,6 39:10 91:5,24 128:23 135:17 184:23 185:5 186:21 269:25 290:20 <b>decide</b> 146:18 <b>decided</b> 44:20 65:19 252:11 <b>decision</b> 25:15,16 68:3 69:6,12 104:24 113:11 113:12,17 130:15 146:4 147:25 169:1 177:12 181:13 181:14,15,22,22 215:20 233:21 264:24 271:23 272:2 274:16 277:23 279:14 279:15 283:17 <b>decisions</b> 168:17 286:15 <b>decision-making</b> 20:13 246:11 <b>declaratory</b> 200:8 <b>deep</b> 204:24 249:17 250:4,8 278:1 <b>deeper</b> 48:22 64:11 <b>Defendant</b> 292:23 <b>defendants</b> 8:9,11	8:23 <b>define</b> 195:19,21 <b>defined</b> 139:6 140:2 <b>definitely</b> 31:21 272:3 <b>definition</b> 114:14 115:5 139:23 141:8,11 144:10 145:1,6 <b>definitions</b> 6:14 139:1 <b>degree</b> 111:8,20 112:7 113:19 114:11,18 118:25 125:3 189:18 195:5 196:17,21 198:9 198:13 <b>degrees</b> 33:22,25 196:24 <b>delete</b> 95:23 <b>delivered</b> 292:22 293:1 <b>delivers</b> 38:3 39:2 <b>demonstrate</b> 133:16,23 201:3 201:18,19 <b>demonstrates</b> 201:21 <b>density</b> 189:1 206:23 207:24 <b>depend</b> 236:13 <b>depending</b> 63:14 <b>depends</b> 64:8 103:11 236:1 247:21,22 263:18 <b>depict</b> 24:12 29:10 <b>depicted</b> 31:18 250:18 252:6 <b>depicting</b> 6:7 <b>depiction</b> 23:1 26:9 111:15 248:25 <b>depleted</b> 121:20 227:12 <b>deposed</b> 8:20
--	---	--	---	--

**D**

<b>deposition</b> 1:12,17 6:8 8:3 10:3,6,8 10:9,16 16:6,9 16:19,23 17:1 22:8,10 24:22,25 25:22,23 27:4,7 27:21,24 32:3,5 35:25 36:20 37:12,16 41:8,11 45:9 48:12,15 50:18 53:3,6 57:19,22 58:13 61:13 76:2 80:10 96:10,13,16,19 97:8,11,11 98:1 98:6,9,12 115:24 116:2,3,11,14 128:6 130:1,6,10 132:6,10 138:20 142:19 144:7 150:18,21 154:9 155:8 158:14 192:17 194:25 202:25 203:7,18 217:14,18 241:14 242:4 262:22 265:25 273:16,19 289:2 290:13,17,19,22 291:1 292:18,19 292:21,23,24 293:1	<b>described</b> 229:19 230:1 267:14 <b>description</b> 4:13 7:2 289:13 <b>designated</b> 220:18 <b>designations</b> 102:20 <b>desktop</b> 192:24,25 <b>detail</b> 50:5 216:8 <b>detailed</b> 88:13 <b>determination</b> 234:23 235:7 236:8 261:23 <b>determine</b> 36:23 36:24 37:2 51:20 80:22 103:24 104:13 105:9 113:1 116:8 121:11 137:3 174:20 178:12 178:16 220:2 230:22 234:20 236:4 243:12 247:8,18 248:1 <b>determined</b> 5:11 30:22 76:25 139:7 175:17 176:4 177:3,4 196:16 198:22 228:17 234:13 <b>developed</b> 274:20 <b>development</b> 1:5 2:16 163:15 189:25 290:5 291:18 <b>Devon</b> 47:11,17,19 64:12 67:19 <b>difference</b> 61:11 100:19,25 101:6 179:18 196:20 196:25 198:4 222:15 242:3 <b>different</b> 55:16 59:12 114:16 148:19 171:18 194:23 196:23 221:11 238:17 278:4	<b>differential</b> 104:11 104:14 256:25 257:1,21 <b>differently</b> 242:14 <b>dig</b> 265:2 <b>digging</b> 94:21 123:8 208:14,14 208:16 <b>dip</b> 126:23 <b>direct</b> 90:18,21 91:1 231:25 243:24 <b>directed</b> 21:3,10 93:16 164:14,18 <b>directions</b> 114:4 <b>directly</b> 189:17 <b>director</b> 54:22,24 54:25 55:7,15,20 55:24 57:15 172:3,13 187:11 187:14 <b>disadvantages</b> 217:10 <b>disagree</b> 48:6 <b>disagrees</b> 146:18 <b>disbelieve</b> 239:21 242:16 <b>disclosed</b> 265:1 <b>discover</b> 14:12 <b>discovery</b> 14:4 23:3 27:10,13,16 29:1 30:15 34:23 36:14 39:22 40:7 40:11,14 143:20 165:19 185:22 248:17,22 <b>discuss</b> 24:12 38:3 94:23 169:21 <b>discussed</b> 204:5 <b>discussion</b> 163:16 163:22 164:2 165:6 174:5 215:13 267:6 <b>discussions</b> 185:25 <b>disputed</b> 199:3 <b>disregard</b> 283:16 <b>disregarded</b> 179:2 <b>dissolved</b> 247:8,18	247:20 248:1 <b>Distance</b> 235:11 235:12 <b>distinguish</b> 138:18 <b>district</b> 1:2,5 6:1,4 54:22,24,25 55:6 55:18,20,23 56:4 56:12,19 59:4,21 147:11,18 148:1 148:6,17,18 149:2,6,7,24 150:6,9 172:3,4 187:5,6,8,11,14 190:1 206:17 290:2,5 <b>Districts</b> 55:19 <b>disturb</b> 107:15 <b>dive</b> 278:1 <b>djackson@jacks...</b> 2:15 291:16 <b>Docket</b> 5:13 11:20 <b>doctrine</b> 146:12 <b>document</b> 25:4 27:19,20 28:7,9 28:9,15,24 30:14 31:15 42:1,8 57:23 61:17 128:9 151:4,14 155:6 156:13,22 156:23 157:3,12 159:19,21 160:2 160:11 162:1 163:11 177:10 185:9 211:17 232:7,15 233:9 248:15 289:14 <b>documented</b> 252:2 <b>documents</b> 6:21 6:22 12:25 25:1 25:2 27:14 35:10 35:15 36:3,7,13 60:25 81:25 82:3 96:19 98:15 152:13 155:12 155:24 156:1 185:14,18 195:12 215:9 262:21	<b>DOCUMENTS/...</b> 7:1 <b>doing</b> 15:10 61:4 90:16,20 104:4 120:9 129:21 152:21 164:19 169:16 187:23 188:7 189:3 190:10 192:8 215:22 216:10 224:2 255:15 281:6 286:9 <b>domestic</b> 130:4 142:4,16 274:5 <b>Donna</b> 167:14,16 167:18,20 168:3 168:11 169:4,6,9 169:12,15 170:15 171:6 173:10,22 277:6 <b>door</b> 95:19 <b>doubt</b> 135:9 <b>downward</b> 104:10 <b>Dr</b> 41:13 42:24 43:4,8 44:2,16 275:9,20,22 <b>draft</b> 211:16,21 <b>drafting</b> 193:8,23 194:2 <b>drafts</b> 15:3,4,7,14 193:4,7,8,18,20 194:4 <b>dragging</b> 272:15 <b>drained</b> 207:18 <b>dreamed</b> 84:7 <b>drew</b> 61:12 <b>drill</b> 66:14 67:21 <b>drilled</b> 58:7,9 76:14 78:6,7,9 78:10,13,16 80:14,15,25 83:3 85:18,20 86:1 87:3,25 109:16 110:12 111:3 112:11 113:22 115:23,24 116:18,18,19 117:22 127:6
--	---	--	--	--

175:9,19 176:6 178:1,17,22,23 179:12 201:14 201:15 236:25 238:5 239:24 240:7,22,22 241:6,9,22,24 242:22,24,25 243:10,22 244:11 245:3,9 <b>driller</b> 16:19 17:1 247:22 <b>drilling</b> 5:19 67:7 67:8 117:19 118:1 125:14 151:7 168:8,15 189:24 190:2,24 197:5 199:20,25 223:12,19 224:5 224:5 242:25 259:22,24 260:4 260:13 261:3 <b>Drillinginfo</b> 151:17 <b>drinkable</b> 182:14 <b>dritter@allenste...</b> 2:6 291:7 <b>drive</b> 9:22 15:14 15:18,19,25 96:1 96:8,9 <b>drop</b> 223:4 <b>dry</b> 56:5 158:2,25 257:13 <b>due</b> 223:12 <b>duly</b> 1:19 9:13 290:16 <b>Durant</b> 1:4,6 2:16 2:16 8:4 290:4,6 291:17,18 <b>duties</b> 139:7 <b>DV</b> 65:20 67:12 <b>DVD</b> 6:9,21,22 97:12,16,18 155:12 156:3,7	86:16 96:7 100:15 105:7 134:2 194:25 220:15 237:12 243:2 253:7,23 <b>early</b> 88:16 90:11 90:16 <b>earth</b> 74:10 249:12 250:16 254:13 255:25 257:3 <b>east</b> 24:19,19 26:9 26:12 31:12,13 32:11 82:8,9 254:15 <b>easy</b> 121:22 194:15 <b>economics</b> 21:8 67:12 <b>Edgewood</b> 190:12 <b>effect</b> 74:22 211:8 212:21,22 228:14 276:21 276:22 285:8 <b>effectively</b> 49:22 50:1 <b>effort</b> 50:7 <b>eight</b> 169:1 <b>either</b> 43:1 46:10 54:2,2 64:3 71:9 74:21 76:20 80:3 141:22 154:9 162:25 174:14 174:17,18 191:14 203:6 214:18,19 233:13 250:23 257:12 <b>elected</b> 180:24 270:19,25 <b>elevations</b> 63:19 <b>Elizabeth</b> 282:19 <b>Ellenberger</b> 249:13,13,15,17 249:20,24 250:2 250:4,9,13,15 252:2 <b>Ellenburger</b> 32:9 39:16	<b>Elm</b> 3:2 292:2 <b>emergency</b> 142:12 <b>emphasizing</b> 136:17 <b>empirically</b> 234:20 <b>employed</b> 9:23,25 186:22 189:14 292:5 <b>employee</b> 186:17 <b>employees</b> 55:3 56:11 <b>employer</b> 210:4 <b>empty</b> 260:1,3,6 <b>encourages</b> 142:9 <b>Energy</b> 45:24 46:12 <b>enforcement</b> 188:22 <b>engineer</b> 8:13 32:18,22 167:23 168:9 189:22 201:21 218:20 <b>engineering</b> 11:25 50:8 111:8,20 112:7 113:20 114:11,18 115:4 115:9 118:25 119:2 125:3 183:7 189:16,19 190:16 195:5 196:17,18,21,22 196:22 197:2,4,5 197:6,10,12,21 197:25 198:9 206:7 219:1,13 <b>engineers</b> 9:24 10:1,22,23 21:9 90:18 186:12 190:19 <b>English</b> 201:22 <b>enter</b> 143:10 <b>entered</b> 282:23 <b>entire</b> 11:22 12:9 12:11,20 16:19 16:23 18:4,8 25:21 26:4 27:20 28:18 35:1 37:7 37:8,9 44:14	115:12 134:25 135:3 156:1 171:6 182:11 <b>entirety</b> 11:18 12:6,18 25:9 35:6 <b>entitled</b> 144:17 <b>entry</b> 37:23 <b>environment</b> 204:16 <b>Environmental</b> 129:3 281:18 <b>Eons</b> 254:9 <b>EPA</b> 132:9 137:2 142:5,9,10,17 272:14,17 273:3 282:3 <b>equal</b> 223:2 <b>equilibrium</b> 104:9 107:15 222:9,16 222:17,18,24 223:8,13 224:6 224:10 225:7 <b>equivalent</b> 32:8 <b>erosional</b> 225:4 <b>erroneous</b> 78:20 78:24 79:4,10,13 <b>erroneously</b> 80:1,9 <b>error</b> 212:18 <b>especially</b> 129:14 <b>Esq</b> 2:2,3,8,8,12 2:18,18 3:1 291:4,4,9,10,14 291:19,20 292:1 <b>essentially</b> 191:2 <b>established</b> 274:3 <b>ESTATE</b> 1:7 2:17 290:7 291:19 <b>Estates</b> 83:5 <b>estimate</b> 174:12 <b>estimated</b> 51:7 <b>et</b> 8:5 196:19 286:16 <b>ethical</b> 171:1 <b>evaluations</b> 187:23,24 <b>eventually</b> 255:19 <b>everybody</b> 195:22	<b>evidence</b> 13:7,8,25 19:1,12 40:19 89:5 110:4 125:14 127:9 133:15,18,21 134:13 135:7 141:21 142:10 142:13 144:21 145:12,17 148:8 163:24 175:22 179:2 201:3,13 205:9 253:20 267:6 268:15 274:18,22 277:23,25 284:18 <b>evident</b> 71:21 <b>evidentiary</b> 282:5 <b>Ex</b> 10:3 16:6 22:8 24:22 25:23 27:4 27:21 32:5 35:25 37:12 41:8 45:9 48:12 50:18 53:3 57:19 61:13 76:2 96:10 97:8 98:6 128:6 138:20 142:19 150:18 155:8 158:14 273:16 <b>exact</b> 28:3 171:4 212:8 <b>exactly</b> 22:16 44:2 93:24 99:6 124:11 129:18 216:5 <b>examination</b> 4:4,4 4:5,7,8 9:14 44:11 180:2 217:7 265:6 279:7 290:20 <b>examiner</b> 17:4 33:3 41:19 55:9 138:24,25 147:12 165:10 165:13 167:21 167:22 168:1,13 168:19,24 169:10 171:1,6
---	--	--	--	--

**E**

**E** 2:1,1,12 291:14  
**earlier** 36:19

172:14 173:8,10 188:14,17 202:1 233:16 278:6 <b>examiners</b> 12:3 17:18,22,24 19:18 21:4 35:20 41:5 43:10 45:3 68:1 69:9 113:7 134:15,23 135:20 147:16 148:4,22 165:7 166:15,17 170:16 196:13 272:1 277:24 279:12 283:20 286:23 <b>Examiner's</b> 168:17 286:25 <b>exception</b> 53:25 66:8 207:17 <b>exceptions</b> 54:6 125:24 126:2 <b>Excerpt</b> 4:16,20 5:14 <b>exchanged</b> 185:10 <b>exclude</b> 110:25 175:7 <b>excluded</b> 91:11 <b>excluding</b> 109:25 <b>excuse</b> 32:25 41:21 52:22 152:8 <b>executed</b> 289:16 <b>exhibit</b> 5:13 6:21 6:22 10:6,16 11:1,4 12:12,17 12:22 13:8,12 14:13,24 15:1 16:9,15,18,22,25 18:7,16 22:10,15 22:21,22,24 23:8 23:10,13,13,21 24:1,25 25:4,22 26:3,24 27:6,23 28:2,4,6,6,16,21 28:25 29:9 32:1 32:3 34:2,16 35:6 36:3 37:3 37:16,18 38:14	39:19 40:6 41:11 41:21,21,24 42:1 42:7,11,15 43:5 43:16 44:1,3,7 44:10,22 45:1,11 45:13 48:15 50:17,20 53:6 57:22 58:13 59:21 61:16 63:12 64:1,3,6 68:5 76:8 79:14 79:18,19 96:13 97:11 98:1,8,10 98:24 99:2 108:4 120:23 125:19 128:8 129:1 130:1 133:13 135:12 136:8 138:22 139:4,22 140:24 142:21 142:25 144:9 150:21 151:3,19 152:2,16,17,23 153:5,8 154:1 155:11,18 156:16 157:9 158:10,12 159:14 160:11 163:1 192:14,14 200:23 201:1,1 202:13 214:6 232:5 233:11 248:12,13,23,24 249:1,7 250:19 251:2,9,20,22,23 252:7 258:3 262:22 273:19 281:5 <b>exhibits</b> 4:12 11:23 14:22 17:9 17:10 18:11,22 19:5 30:7 40:25 80:20 102:7 127:4 166:1 227:3 250:23 271:19,20,22 292:24 <b>exist</b> 84:2 102:5	103:3 104:1 106:5 111:14 237:5,6 238:10 238:13 <b>existed</b> 87:3 97:21 110:11 176:5 178:7 <b>existence</b> 209:2 238:14 <b>existing</b> 220:7 <b>exists</b> 83:11 86:25 101:25 103:20 107:12,14,18,19 112:9 254:24 268:20 <b>expect</b> 73:9 74:16 74:17 75:3 119:18,23 137:10 <b>expedite</b> 283:21 <b>expeditiously</b> 271:23 272:14 <b>expensive</b> 208:19 <b>experience</b> 168:10 202:18 203:11 227:8 270:24 <b>experienced</b> 271:9 <b>expert</b> 8:20 15:21 72:15 170:23 191:10 208:22 209:11,13 218:11 243:19 <b>expertise</b> 138:17 148:21 205:24 <b>experts</b> 72:18 218:15 <b>Expiration</b> 292:13 293:7 <b>explain</b> 98:8 152:8 189:21 202:7,9 <b>explained</b> 43:4,8 <b>explanation</b> 28:14 110:4,10 194:25 <b>exposed</b> 32:21 168:12 221:4 <b>expressed</b> 289:17 <b>extensive</b> 26:7 <b>extent</b> 98:25 170:1	255:12 <b>extra</b> 53:8 <b>extreme</b> 223:7 <b>e-mail</b> 2:5,11,15 2:21 3:4,8 95:13 291:7,12,16,22 292:4 <b>e-mailed</b> 22:16,19 <b>e-mails</b> 95:3,7,10 95:16,22,25 96:4 <hr/> <b>F</b> <hr/> <b>f</b> 79:15,16,25 <b>fact</b> 37:2,4 66:13 75:20 86:24 101:19,21 102:15 116:10 142:11 143:23 143:24 161:13 166:25 199:7,22 200:9 201:8,8,13 201:14,15,16 202:23 229:4,23 239:3 244:18,23 267:18 268:1 269:12 271:6 273:14 274:14 274:24 276:17 282:25 <b>factor</b> 67:12 263:15 <b>factored</b> 179:3,10 <b>factors</b> 255:9 <b>facts</b> 56:24 89:4 112:19 149:8,8 172:6 177:13 198:19,19,23,23 198:25 199:3 201:16 244:20 283:17 284:5 <b>factual</b> 56:18 136:2 <b>factually</b> 264:23 264:25 <b>fail</b> 13:17 <b>failed</b> 80:10 <b>failure</b> 196:18 199:4,6,10 206:2	<b>fair</b> 23:23,24 77:4 198:24 213:22 225:8 230:17 251:13 <b>falls</b> 70:12 109:9 109:24 111:23 117:4 118:5 177:21 197:5 220:20 231:13 253:18,25 275:2 <b>familiar</b> 41:17 59:1 81:22 138:25 161:2 171:19,23 205:19 238:24 239:2 <b>far</b> 14:14 19:6 21:17 27:18 35:12 40:6 45:4 53:13,13 56:25 61:12 63:23,25 64:8 65:15 67:9 90:20 94:23 95:24 99:24 100:4 101:11 111:25 117:24 121:3 125:17 128:23 137:18 149:6 181:15 183:6 184:16 193:15 194:1 197:1 200:16 208:16 209:17 209:17 215:22 216:2,10 217:21 219:8 222:17 249:20,24 252:19,19 274:20 275:2,5 283:20 286:7 <b>fashion</b> 15:19 227:8 251:5 <b>faster</b> 283:14 <b>fast-tracked</b> 272:3 <b>fault</b> 24:10,12,16 24:19 25:6 26:9 26:12,15 29:10 29:22 30:3 31:11
---	---	---	---	--

31:13,16,19,23 32:14 42:25 43:5 43:12,14 44:14 230:6 253:15 254:15 <b>faulting</b> 35:1 43:17,22,25 44:4 204:4,14,19 268:15 <b>faults</b> 31:20 249:8 249:11,14 250:18 252:1,3,6 252:14,21,25 <b>favor</b> 148:13 <b>Fax</b> 3:8 292:16 293:10 <b>FDIC</b> 188:5,10 <b>February</b> 18:3,9 271:16 <b>feel</b> 56:7,10 85:11 136:15 286:9 <b>feet</b> 32:11 46:4 47:7,7,19 48:22 51:5,8,11 52:18 53:21 54:3,4 63:20 64:2,7,17 65:25 66:7,22 67:19 71:15,21 99:21 100:2,6,7 100:8,11,18,24 101:5 104:17,22 105:8,10,25 106:4,7 109:15 118:2 231:25 239:3,5,6 244:6 250:21,24 251:3 252:22 253:17 258:9,9,10,10,13 258:13,23 268:20 269:18 272:15 <b>felt</b> 136:16 138:5 <b>Fernandez</b> 155:3 172:10,12,13 <b>field</b> 32:12 55:9,16 56:1,14 57:24 58:2,25 59:8,13 60:8,12 61:5,6,9	62:18 63:2 67:23 82:7 102:19 173:1 188:20,21 190:11 218:11 <b>fields</b> 102:21 117:1 178:7 199:2 220:18 231:11 <b>figure</b> 28:23 32:6 245:19 <b>file</b> 6:10 14:9 17:21 19:19 134:25 135:3 <b>filed</b> 20:5,8,15 39:8 174:14 293:2 <b>filings</b> 151:8 <b>fill</b> 59:3,6 129:13 196:9 <b>filled</b> 11:8 232:23 <b>filling</b> 131:22 <b>filters</b> 249:5 251:7 253:6 <b>final</b> 6:23 147:25 147:25 149:15 149:17 150:1,7 193:9 211:16 267:11,12 273:9 273:11,15,20 274:7,10,14 279:16,17 282:17 284:15 287:2 <b>finally</b> 189:24 230:4 <b>financially</b> 292:6 <b>find</b> 40:23 85:9 123:9 146:5 226:7 227:18 228:7,12 263:23 273:13 <b>finding</b> 28:1 227:15 267:16 267:19 268:1 269:12 270:3,13 273:13 <b>findings</b> 142:11 177:13 269:10 270:9 274:14	<b>fine</b> 99:12 218:24 242:14 <b>finish</b> 33:1 206:10 <b>Finley</b> 1:21 2:9 291:10 <b>firm</b> 8:19 164:5 170:7 187:23 206:7 282:15 284:9 292:14 293:8 <b>first</b> 10:13 16:3 18:6 28:2 45:23 58:16,17 64:22 69:2,3 79:24 80:6 90:25 91:20 112:10 113:13 129:7 137:15 143:5 144:9 154:5 155:5,17 156:15 160:19 160:19 162:14 174:6 184:20,22 187:21 195:2 208:11 218:3,5 246:16 265:9 266:14,16 270:18 <b>five</b> 6:7 10:24 114:21 140:25 193:4 213:1,6,11 213:19,21 220:20 231:10 234:13 <b>five-eighths</b> 221:20 <b>five-minute</b> 248:4 <b>fix</b> 263:10 <b>flag</b> 201:25 <b>flare</b> 240:9 <b>flared</b> 76:14 100:10,17,24 101:4 238:25 239:16 240:4 241:23 <b>flaring</b> 6:7 76:23 <b>flat</b> 225:2 <b>flip</b> 16:15 25:25 61:23 62:3 159:8	<b>flow</b> 223:5 224:15 224:19 <b>flower</b> 130:12 <b>fluid</b> 70:13,14 71:13,17,17 105:12,12,14,15 105:17 115:9 125:23 225:21 261:18 <b>fluids</b> 50:4 103:6 225:25 269:15 <b>focused</b> 178:24 <b>folder</b> 97:25 98:3 <b>folks</b> 144:13 <b>follow</b> 18:10 50:7 <b>followed</b> 227:20 <b>following</b> 127:8 143:21 195:4 290:15 291:2 <b>follows</b> 9:13 290:22 <b>foot</b> 71:3 121:21 <b>force</b> 222:22 225:8 225:17 <b>foregoing</b> 289:2,15 <b>Forget</b> 247:16 <b>form</b> 5:21,23 12:23 26:20,22 28:8 29:2 30:6 38:16 42:3 52:7 53:15 59:11 60:5 65:11,14 66:2,25 67:2 69:14 72:4 76:16 78:23 79:7 79:7 80:17 81:11 87:5 88:23 89:3 103:10 104:19 106:8,21 112:15 112:21 116:1 118:21 119:6 120:2,3 122:6,18 123:3,15 126:15 127:10,16 130:9 132:11 136:24 137:14 138:3 139:14 145:3,20 146:13 161:22 164:21 166:8,23	174:22 177:9 178:3 179:4 194:10 200:15 203:20 212:24 217:18 219:3 220:4 223:22 224:7,18 225:10 227:2,22 229:8 229:11,20 231:4 231:19,20 234:6 237:7 242:1 244:8,17 250:10 251:14 264:13 265:13,18,24 266:5 267:2,3,15 269:1,11 270:6 270:12 271:3 272:23 275:1,13 283:2 285:11 <b>formation</b> 66:5 70:19 75:10,21 102:13,17,22 106:17 108:15 118:13 176:20 198:1 220:16 221:4,24 224:1,2 224:5,25 235:20 236:2,5,9 250:9 250:13,16 257:8 257:13 <b>formations</b> 72:7 102:16 108:6,25 109:4 111:22 113:23 118:4 121:16,25 122:25 176:18 177:20 197:7 199:2 204:17 220:23 221:5 222:8 224:24 231:2,8,12 234:5 234:12,19 235:2 253:25 257:4,10 259:11,25 260:15 275:6 276:13 <b>formatting</b> 194:15 <b>former</b> 138:25
--	--	---	---	--

165:10 <b>forms</b> 59:2,2,6,7 109:7 243:7 <b>Fort</b> 1:22 2:10,20 3:7 32:9 291:11 291:21 292:15 293:9 <b>forth</b> 196:24 258:4 <b>forward</b> 95:15 199:11 216:12 <b>forwarded</b> 23:11 <b>found</b> 14:16 17:15 19:21,22 24:10 25:7,12,21 28:15 125:7,10 197:8 264:9 <b>four</b> 10:2 14:21 77:12 78:13 112:11 114:13 114:16,21 140:24 187:13 202:20 203:13 205:14 209:1 212:25 215:24 236:25 244:2 272:1 <b>fourth</b> 153:8,25 <b>four-and-a-half-...</b> 221:20 <b>frac</b> 253:13 <b>fracking</b> 231:23 231:24 <b>fracture</b> 231:24 268:18,19,21 <b>fractures</b> 253:15 <b>fracturing</b> 253:8 253:12 268:8 <b>frame</b> 237:12 242:13 <b>framed</b> 238:18 <b>framework</b> 4:21 5:1 <b>fresh</b> 46:7 47:22 47:23 51:19 64:13,16 126:12 221:14 <b>Fritch</b> 9:22 <b>front</b> 17:19 20:4	54:7,9 134:14 150:6 214:8 235:8 239:7 267:22 271:7 281:22 <b>full</b> 9:17 127:19 231:6 <b>fully</b> 125:17 265:1 274:20 <b>function</b> 103:14 <b>further</b> 196:14 255:23 260:22 282:12 284:21 287:9 292:5,6,8 292:17 <b>future</b> 123:19,19 124:3 <b>FW</b> 46:10 <hr/> <b>G</b> <b>G</b> 90:24 186:12 <b>gain</b> 82:19 <b>gained</b> 216:11 <b>gallons</b> 129:16 130:25 131:3,6 <b>gang</b> 190:17 <b>gap</b> 187:18,19,20 189:5 <b>gas</b> 5:21,24 11:20 38:6,6 51:22 70:14,14,16,21 71:15,23,24 72:3 72:6,8 73:8,16 74:5,9,14,18 75:1,4,13 76:5 76:14,23 77:1,6 77:10,12,13 78:2 80:16,23,24 81:8 82:5,15 83:1 84:8,24 85:21 86:1,4,6,10,13,17 87:10 88:9 92:18 99:24 100:4,10 100:17,24 101:4 101:15 102:9,12 102:14,17,23 103:1,8,11,20 104:9,11,14	106:2,4,6,17 107:1,8 108:6,17 109:15 110:4,10 110:16 111:1,12 112:1,10 113:8,9 113:13,24 114:3 115:23 116:23 117:5 118:5,9,16 119:4,18,22 120:15 121:13 122:4,12,16 123:1,13 124:18 137:3,7,11 138:6 138:7,8 142:16 154:11 168:8 172:14 173:16 173:16,18,19 174:21 175:8,16 175:17 176:3,5 176:10,11,14,16 176:22 177:1,18 177:25 178:14 178:16,21,24 179:11,16 182:17,18,20 190:12,13,21 192:11 198:2,5 202:19 203:12 204:16 205:13 205:19 208:4,8 208:23 209:14 220:1,15 222:3,7 222:13,25 223:3 223:5,7,12,13,15 223:16,18,20 224:15,23 225:6 226:17,21,22,25 227:9,10,11,12 227:14,18,20 228:2,4,7,9,13,15 228:20,21 229:4 229:7,18,23,25 230:23 231:18 233:16 234:4,4 234:11,13,18 235:1,25 236:1,4 236:9,20 237:16 237:21 238:1,3	238:12,25 239:17 240:4,9 240:10 241:2,5,7 241:23 242:3,4 242:20,22 243:11,12,20 244:1,2,3,7,11,14 244:18,23,23 245:15 246:10 246:17 247:15 247:20 253:8,24 254:6,10,19,25 255:14 256:14 256:18 257:2,11 257:12,19 259:6 260:19 261:7 263:14 275:5,21 276:13 <b>gases</b> 50:4 120:19 138:11 247:18 <b>gathered</b> 156:11 <b>gathering</b> 199:18 <b>GCarlton@God...</b> 3:4 292:4 <b>Gene</b> 173:5,7,15 272:9 277:9,22 <b>general</b> 25:14 32:7 49:18 52:24 56:16 94:22 117:11 172:22 173:9 174:5 234:10 <b>generalities</b> 26:16 <b>generally</b> 103:7 <b>generated</b> 161:12 163:12,23 <b>gentleman</b> 54:18 61:7 <b>geochemist</b> 72:10 72:12 275:24 <b>geochemistry</b> 72:15,19 <b>geochemists</b> 136:12,21 <b>geologic</b> 4:21 5:1 87:6 254:2 255:18 257:2 <b>geological</b> 64:4	101:25 <b>geologist</b> 32:16,17 33:8,10,12 218:19 <b>geology</b> 32:7,22 33:3,25 111:14 115:11 122:13 127:13 197:7 <b>geophysical</b> 136:19 <b>geophysicist</b> 32:20 33:15,17 218:20 <b>geophysics</b> 33:20 33:23 <b>George</b> 3:1 9:3 217:9 226:7 290:24 292:1 <b>getting</b> 59:10 87:10 95:23 106:7,19 108:7 118:16,16 130:11 148:20 176:14,16,22 177:18 188:23 192:12 195:25 207:18 228:9 229:2 233:20 <b>Gil</b> 10:20,21 11:25 14:20 18:1 <b>Gill</b> 170:12 171:25 172:1,9 183:15 214:9 <b>gist</b> 127:19 <b>give</b> 9:8 13:17 44:20,20 56:22 110:9,14 111:24 114:15 123:24 124:2 146:7,24 161:4 176:2 193:11 207:19 216:17 219:16 235:19 248:3 252:11 285:13 286:2 <b>given</b> 40:24 100:13 103:8 114:17 147:4 185:10,22 192:4 218:12
--	---	--	--	--

285:17 289:18 290:17 291:1 <b>giver</b> 209:22 <b>gives</b> 177:13 186:10 <b>giving</b> 21:22 207:16 218:12 238:19 286:7 <b>go</b> 11:21 14:5,7,20 18:1 24:15 26:23 29:21 32:1,25 37:23 41:5 47:10 50:16 54:3 63:12 63:24,25 66:7 67:9,10,21 70:1 88:21,24 89:2,7 89:23 90:14,14 91:17 92:25 93:5 93:13,14 96:18 118:9 123:5,6 125:18 137:17 137:24 138:4 144:9 147:14 148:6 163:14 165:18 170:2 171:2 186:10 189:12 212:13 213:21 216:14 217:6 218:22 224:6 225:6 227:6 233:24 245:12 247:5 257:10 262:12 268:9 273:3 278:24 279:9 <b>Godwin</b> 3:2 9:3 292:2 <b>goes</b> 29:19 64:1 86:19 126:23 176:7 221:23,25 261:4,4,10 280:21 <b>going</b> 10:2 31:21 52:5 63:5 64:9 64:10 67:8,9,21 67:21 70:15 75:10 78:24 85:17 90:6,7,9	90:14,14 92:1,25 93:5,8,13 96:1 96:25 97:5 98:12 101:15 104:17 114:12 118:11 121:9,10,10 122:24 123:9 124:16 132:5 136:25 143:16 147:11 155:10 155:22 161:18 176:24 183:1 189:11 191:6 193:8 204:13 209:1 213:10 215:17,22 216:5 216:12,18,20 217:10 218:20 223:3 227:7 231:24,25 235:19,20 236:2 236:6,6,13,16 239:9 241:25 246:12 248:5 252:15 255:6,11 255:20 256:25 257:12,12,13 263:16,24 272:13 <b>good</b> 50:8 55:2,6 56:7,12,20,25 57:4,10,13,17 61:6,8 123:20 146:5 168:18,23 169:9,13 189:25 193:15 210:20 210:21 246:21 <b>Gore</b> 3:10 6:17 8:18 90:22,23 91:3,9,19,20 93:3,4,15 94:3 94:10,18,25 150:22 153:2,5 156:23 159:18 164:6,13 169:18 170:4,6,21,23 174:4 183:4 189:6 192:4	193:10,19,20 209:11,24 210:1 215:9 233:22 <b>Gore's</b> 157:7 185:24 191:6 <b>GOR's</b> 188:22 <b>gosh</b> 89:21 <b>Gotcha</b> 42:13 <b>gotten</b> 18:3 158:11 218:6 227:1,14 228:21,21 <b>government</b> 191:4 <b>go-by</b> 194:11 <b>gradient</b> 71:4 121:20,21 257:9 <b>graduated</b> 190:23 <b>graphs</b> 5:9 28:5,16 <b>grasses</b> 130:20 <b>Gray</b> 154:12 <b>great</b> 123:18 127:2 217:11 <b>greater</b> 235:24 <b>Greg</b> 183:13 <b>ground</b> 224:12 258:8 <b>groundwater</b> 126:19 <b>guess</b> 29:15 41:17 64:17 92:4,6 93:23 120:9 130:20 148:13 157:17,23,24 162:10 167:12 178:20 181:11 186:11 195:2 200:22 210:14 211:2,4 261:12 263:3 <b>guessing</b> 211:2,3 219:14 <b>Guge</b> 81:18 110:17 241:13,18 242:17,19 <b>guy</b> 242:8 <b>G-1</b> 5:21,23 63:5 135:10 <b>G-1's</b> 134:24 135:6 <b>G2's</b> 235:18	<b>H</b> <b>H</b> 1:13,17 4:3,14 4:18 9:12,18 288:2 289:1,5,11 290:13,16,20 <b>half</b> 10:24 188:11 <b>hand</b> 8:25 9:5 63:5 63:8 233:8 289:18 <b>handled</b> 271:9,14 <b>handwriting</b> 151:18,21 153:10 157:3 158:22,22 159:1 162:19 233:3 <b>handwritten</b> 6:19 153:25 155:6 156:13 162:8 <b>happen</b> 111:25 147:12 253:21 256:12 <b>happened</b> 11:11 114:6 157:20 253:20 254:17 255:21 272:5 <b>happening</b> 106:14 119:4 175:4,14 259:9 270:4,11 275:12 <b>happens</b> 165:10 271:1 <b>hard</b> 15:13,14,18 15:19,25 29:12 96:1,8,9 148:5 199:1 255:18 <b>harm</b> 50:2 <b>Harris</b> 1:21 2:9 291:10 <b>Hawkins</b> 170:10 183:13 <b>Hayley</b> 281:25 282:4 <b>head</b> 2:18 4:4,6,8 4:9 8:21,21 32:23,25 34:2,6 34:8,10,12 49:12 71:20 73:18,22	74:3 101:14 111:17 112:4 114:7 133:9 179:22,23 180:1 180:3,4 200:3,6 200:20 202:16 202:17 203:23 206:11 211:5 213:4,12,15,22 214:4,14,18,21 216:19,24 217:6 231:20 244:19 257:25 259:1 260:22 261:6 267:3 276:2 278:18,24 279:8 280:17,20 281:8 283:4 284:21 286:12 287:5 290:23 291:19 <b>heading</b> 36:22 <b>hear</b> 94:7,12,16 142:2 <b>heard</b> 73:21 112:23 146:16 154:17 256:1,2,6 264:11 <b>hearing</b> 4:17 5:15 13:4 16:12 17:13 18:4 19:1,11 20:6 21:2,3,5 22:1,6 35:7 37:19 41:13 43:9 43:13 45:2 54:8 55:9 67:25 68:21 68:22 69:8,12 70:24 72:18 75:22 76:12 80:4 80:11 88:22 89:8 89:24 90:6,7 92:19,25 93:5,11 93:13,14 117:9 127:15 134:10 134:12,12,15,16 134:23 135:15 135:25 136:5 138:24,25 139:9 139:12,19 140:9
--	---	---	---	--



140:19 141:17 141:21,23 142:3 142:9,13,17 143:4,9,17 144:22 163:19 163:24,24 164:6 165:2,7,10,12,15 165:16 166:7,14 166:18,21 167:22,25 168:19,19,24 169:10 170:3,16 171:1,5 173:10 173:11 176:14 176:21,24 188:14,17 195:19,22 196:3 196:4,9,11 199:13,18 202:1 203:22 205:10 216:14 233:16 251:1 261:16 262:13,16 264:12 266:9,11 266:11,20,21,22 271:7,11,18,21 272:6,21 279:12 281:19 282:1,5 <b>hearings</b> 56:15 90:9 115:2,3 168:12 188:18 188:21,23 195:13 197:16 271:2,25 <b>heavier</b> 103:13 <b>height</b> 268:19 <b>held</b> 16:12 72:14 139:12 171:5 <b>helping</b> 228:18 <b>Hendrick</b> 1:20 290:14 292:12 293:6 <b>hereto</b> 1:23 <b>Hey</b> 13:16 90:14 93:12 219:14 242:8 <b>high</b> 223:20 225:8 <b>higher</b> 69:23 112:1	119:24 <b>highest</b> 268:21 <b>highlighted</b> 155:22 <b>high-low</b> 133:5 <b>hired</b> 185:16 186:19 191:10 192:4 207:23 282:7 <b>hit</b> 244:11 246:2 254:12 <b>hits</b> 225:3,5 <b>hold</b> 33:10,17 278:21 <b>holding</b> 129:12,14 131:11 <b>holds</b> 123:19 <b>hole</b> 46:13,24 47:3 47:5 49:22 56:5 71:19,20 113:25 224:12 259:6,20 259:21 260:11 261:19 <b>holes</b> 158:2,25 241:10 259:20 <b>home</b> 189:11 218:22 273:3 <b>homes</b> 38:7,8 <b>Hood</b> 5:17 157:10 162:23,25 <b>Hood-Parker</b> 24:17 30:4 <b>hopefully</b> 148:12 259:24 <b>horizontal</b> 45:17 221:25 <b>hour</b> 99:11 137:15 191:13,18,21 216:8 290:23 <b>hourly</b> 208:20 <b>hours</b> 290:23 <b>Houston</b> 172:4 <b>huge</b> 185:21 <b>hundred</b> 100:18 271:19 <b>hundreds</b> 63:20 197:17 254:7 <b>Hurst</b> 6:6,7 76:13	76:23 77:1,3,6 77:17,18 78:9 80:24 81:9,12,16 81:19 85:25 86:7 87:3,10 88:8 99:20 100:5,6,10 100:15,17,23 101:2,4 110:5,7 110:17 111:1 236:20 237:16 238:1,16,24 239:16 240:4,19 <b>hydraulic</b> 253:7 253:12 268:7 <b>hydrocarbons</b> 255:24 <b>hydrology</b> 33:4 <hr/> <b>I</b> <b>idea</b> 61:7 67:24 70:1 75:11 78:8 83:20 84:18 85:19 94:4 97:15 108:13 127:5 129:23 131:2 157:4 174:2 234:2,17,17,25 235:20 249:3 262:11,17 <b>iden</b> 22:22 <b>identical</b> 22:21 <b>identification</b> 34:3 <b>identified</b> 31:6 66:21 75:13 106:25 107:25 108:5 120:13 142:18 <b>identify</b> 10:7 16:10 27:6 45:11 57:23 150:20 <b>identity</b> 289:13 <b>IHS</b> 6:18 151:5,6 151:15,16,25 152:4,23 156:23 <b>III</b> 199:19 200:3,4 258:3 <b>imagine</b> 68:18 133:5	<b>immediately</b> 88:9 <b>impact</b> 246:7,11 <b>impediment</b> 164:19 <b>important</b> 20:13 35:22 243:2,11 243:19 245:18 <b>improperly</b> 64:7,8 <b>inaccurate</b> 14:13 14:15,24 73:1 <b>inappropriate</b> 283:15,19 <b>inappropriately</b> 277:1,3,7,10,13 277:16,19 <b>inbox</b> 95:24 <b>inch</b> 69:13,20 104:16 105:1,20 223:2 <b>include</b> 25:9 28:15 45:21 70:11 137:23 <b>included</b> 28:11 34:24 35:10 117:2 129:11 133:22 135:7,10 <b>includes</b> 106:9 115:11 133:18 197:25 291:2 <b>including</b> 141:13 145:7 218:14 <b>inconsistency</b> 132:8 <b>increasing</b> 257:14 257:16 <b>independent</b> 198:14 <b>independently</b> 36:24 98:5 204:15 <b>INDEX</b> 4:1 <b>indicate</b> 35:18 268:19 <b>indicates</b> 71:13 105:24 113:25 264:8 <b>indicating</b> 30:18 38:13 98:23	125:14 177:17 <b>indication</b> 70:12 93:8 262:10 <b>indicative</b> 70:8 <b>individual</b> 195:20 207:4 <b>individually</b> 1:6,7 2:17,17 210:4 290:6,7 291:18 291:18 <b>individuals</b> 22:3 181:4 <b>infer</b> 152:18 <b>inferred</b> 152:17 <b>info</b> 151:7 <b>information</b> 14:4 15:10,11 18:6 25:13 34:24 35:19 36:14 37:5 38:4,5 39:24 40:6,8,11 48:7 51:17 54:7 56:17 56:18 68:2,4 71:1 75:23 79:12 81:4 83:9 85:10 85:19,23,25 87:20,22 90:11 94:7,11,15 96:21 98:10,16 101:9 109:13 121:18 121:25 126:20 126:22 127:1,24 132:4,15 135:9 135:24 147:8 148:3 149:9 154:4 155:25 156:5,10 157:21 163:17,22 165:18 175:1,2,5 175:20,21 176:7 177:19 194:1 199:11 200:18 203:22 205:9,11 208:21 209:7 216:11,13 217:14,25 218:4 218:7,11,17 219:9,11,17
---	---	---	--	--

231:5 235:15 236:14 243:11 243:19 246:8 249:6 265:1 271:21 286:6 291:1 <b>informed</b> 94:22 100:14 <b>initial</b> 186:9 <b>initially</b> 152:16 189:14 259:10 <b>initiated</b> 134:18 <b>initiating</b> 56:3 <b>Injection</b> 171:10 <b>inner</b> 16:4 <b>input</b> 161:3 193:6 193:21 210:2,2 <b>inside</b> 98:4 222:1 <b>inspection</b> 6:2,5 57:24 58:3,12 59:1,11,14,21 60:8,12 61:24 62:4,14,18 69:4 177:15 262:23 <b>inspections</b> 134:19 167:1 <b>inspector</b> 61:5,6,9 63:2 <b>inspectors</b> 56:1 59:8 <b>installed</b> 38:7 131:11 <b>instance</b> 1:18 55:5 168:22 169:9 197:9 <b>instances</b> 126:8 <b>instructing</b> 213:19 <b>instrument</b> 289:15 <b>integrity</b> 66:10 121:6 <b>intending</b> 193:11 <b>intent</b> 49:20 50:7 65:16 <b>intentionally</b> 179:1 <b>interact</b> 117:10 184:14 <b>interacted</b> 172:8	<b>interacts</b> 111:16 <b>interchangeable</b> 197:24 <b>interest</b> 207:2,3 <b>interested</b> 292:6 <b>Internet</b> 28:10 151:14 <b>interrupt</b> 32:23 <b>interruption</b> 34:13 <b>intersect</b> 75:25 <b>intersecting</b> 24:18 <b>interval</b> 51:4 <b>intervened</b> 284:24 287:2 <b>introduce</b> 80:2,10 <b>investigation</b> 167:4 228:25 280:7 281:10 <b>invited</b> 21:6 <b>invitee</b> 195:24 <b>invoices</b> 191:13 192:2 <b>involved</b> 89:10,19 89:22 147:5 163:16,21 164:1 170:7,12 180:8 183:15,18 197:13 208:22 209:11 <b>involvement</b> 94:18 160:22 169:18 186:5 <b>involves</b> 22:2 95:14 <b>involving</b> 147:19 208:8,23 209:14 233:16 <b>in-training</b> 190:18 <b>iodine</b> 154:8 <b>irrelevant</b> 244:7 <b>irrigating</b> 130:20 <b>irrigation</b> 131:22 132:1 <b>isolated</b> 50:1,3 <b>issue</b> 70:3 142:4 166:6 216:20 231:1,17 262:8 266:23 267:14	270:16 <b>issued</b> 69:8 149:17 267:9,13 271:17 271:23 282:8 284:3 <b>issues</b> 131:23 147:25 <b>item</b> 37:7 49:24 135:22 194:17 216:17 269:21 <b>itemize</b> 125:12 <b>itemized</b> 136:3 <b>items</b> 15:8 27:10 38:3 65:17 94:24 194:16 216:17 233:23 264:21 <b>iterations</b> 193:4 <hr/> <b>J</b> <b>Jackson</b> 2:12,13 2:19 8:9,21 17:18 291:14,14 291:20 <b>JAMES</b> 1:6 2:17 290:6 291:18 <b>January</b> 4:17 5:15 6:16,18,18 16:12 68:22 69:20 88:16 89:11,15 89:20,21 90:11 90:16 92:20 93:12 105:1 127:15 136:5 139:13 141:17 150:25 151:15 152:5,24 153:13 156:16,19 157:1 157:12,22 159:12,21,25 160:5,9,14 163:4 165:2,3 166:22 186:20 <b>Jeff</b> 170:10 <b>Jensen</b> 97:6 193:13,19 <b>JERRY</b> 1:5 2:16 290:5 291:18 <b>jes</b> 240:15,17	<b>job</b> 1:24 55:2,6 56:8,12,20,25 57:10,13,17 65:21 168:18,23 169:9 190:21 282:8 293:12 <b>jobs</b> 57:2,2,4 <b>Joe</b> 54:19 <b>John</b> 3:11 8:12 89:14,15 153:20 <b>Johnson</b> 215:2 <b>Jonas</b> 55:13,14 61:3 <b>Jones</b> 180:16 181:5 272:11 282:19 <b>Joseph</b> 1:20 290:14 292:12 293:6 <b>jot</b> 92:9,12 <b>Jr</b> 2:18 3:1 290:23 290:24 291:19 292:1 <b>judge</b> 149:3,6,24 150:6 <b>judicial</b> 1:5 35:11 35:12,17,20 45:3 135:2 290:5 <b>June</b> 58:10 <b>jurisdiction</b> 272:18 <hr/> <b>K</b> <b>kee</b> 240:14,15,17 <b>keep</b> 94:22 <b>keeps</b> 95:23 220:24 <b>Keith</b> 172:25 <b>Ken</b> 154:15 <b>kept</b> 15:5 41:3 98:11,13 <b>kick</b> 133:7 <b>Kilgore</b> 55:18 187:7 189:17 <b>kind</b> 25:14 33:19 33:22,25 56:17 59:2,6,7 70:1,13 70:16,20,20 81:4	84:11,23 88:7 90:1,2 103:5,22 104:8,10 113:25 117:3 121:16,19 121:25 125:23 134:18 138:10 143:18 147:4,6 149:24 194:14 197:6 199:2 201:24 208:20 222:20 227:9 234:17 236:15 246:22 249:4 254:12 256:24 <b>kinds</b> 136:22 165:19 218:10 254:16 <b>knew</b> 12:2 14:6 44:25 64:17,17 85:12 90:7 98:12 126:24 134:16 175:23 180:19 <b>know</b> 10:18 15:18 15:20,21 16:4 17:24 19:17 20:3 20:8,10,11 21:11 21:15,17 22:3,3 26:16 36:8 38:25 39:1 41:5,15,16 42:4,7 48:1 51:18,21 54:18 55:4,8,13 57:1 61:3 63:2,5,8,18 63:19,21,22 64:19,20 65:2 66:3 67:15,17 68:16 69:1,5,11 69:17 70:23 71:20 72:17,20 72:21 73:7,12,13 73:16,20,24 74:5 74:19 77:7,16,21 80:12 81:14,17 81:21 82:3,12,13 82:23 83:5,9,12 83:13 84:12,20 84:21 85:3,7,8 85:10,24 86:9,20
---	---	--	---	---

87:11,13,15,16 88:5 89:21 93:1 93:7,8,18,19 95:15 96:3,9 97:18,20,21,22 98:25 100:14,21 101:3,18,21 102:14,16 104:22 105:7,12 105:21 108:14 108:22,23 109:21,22 110:6 110:23 112:12 112:19 113:3,15 113:22 115:6,8 115:10 116:5,7 116:10,14 117:3 117:5,7,14,24 118:13,22 119:5 119:7,16 121:6 121:23 122:2,10 122:13 126:5,21 127:4,7 128:11 128:14,15,24,25 130:24 131:3,4 132:4,5,14,24,24 133:2,11 134:1 135:2,8,14,21 136:25 137:1 140:13,17 143:23 145:4 146:1,11 148:4 148:10,15 150:3 150:8 151:16,20 151:23 152:7,12 153:9,10,24 154:12,13,15,22 154:23 155:3,17 155:21 156:9 157:8,16 158:22 158:24 159:2,5,6 160:25 161:3,6,7 161:9,10,13,15 161:18,20,23,24 163:7,13 165:9 165:16 166:9,10 166:25 167:4,14 168:23 170:11	171:7,13,13,14 171:17,22 172:1 172:8,9,10,19,20 172:24,25 173:1 173:4,5 174:8,10 174:13 175:15 179:17 180:15 180:17,20 181:2 182:5,12,17,18 182:21,22 183:2 183:14,14 184:19 186:1 191:17,19,22 192:2 193:10,12 193:16 194:14 196:3 198:23 200:16 202:4 203:6,6 204:23 204:25 205:7,13 205:15,17,18 207:6 208:25 209:4,16,18,18 210:14 215:23 215:25 216:15 217:18 219:15 220:9 228:5,23 230:7 233:7 235:3 236:23,25 237:1,23,24,25 238:6 239:5,6,7 239:11,23 240:15 241:3 242:3 243:16 245:11,12,14,16 245:18,20,20,22 246:1,2,4,5,6,7 247:4,15 249:5,6 250:14,17,20,22 250:25 251:4,10 251:15 252:8,10 252:20 253:2 255:17,20 256:4 256:5 261:8 263:11,19,20,21 263:23,23,24 264:1,5 270:23 281:21 282:16 282:25 283:22	284:8,10 285:2,5 285:22 286:2,8 287:1,3 <b>knowing</b> 195:16 <b>knowledge</b> 12:25 19:4 21:21 38:25 55:12 74:8,12 84:1 89:25 164:3 169:24,25 182:15 198:15 203:3,11,14,14 203:15,25 209:7 209:10 240:19 245:23,23,25 <b>known</b> 55:5 116:21 117:1 199:12 260:10 289:11 <b>knows</b> 152:20 168:7 <b>Kreitler</b> 41:13 42:24 43:4,8 44:2,16 275:20	284:6 <b>lawsuit</b> 34:24 36:14,15,17,18 37:4 39:23 40:11 149:5 248:17 <b>lawyer</b> 8:18 89:11 114:15 128:22 146:14 148:25 285:5,12 <b>lawyers</b> 14:23 98:18 128:18 142:24 144:20 164:17 170:2 184:4,21 278:8 285:9 <b>layman's</b> 218:22 <b>laymen's</b> 218:21 <b>lead</b> 123:6,12 124:8,16,19,21 201:17 <b>leader</b> 186:1 <b>leads</b> 200:10,18 <b>leaks</b> 121:6 <b>learned</b> 64:23 115:2 256:10 <b>learning</b> 173:18 <b>lease</b> 188:24 <b>leases</b> 207:14 <b>leave</b> 25:16 171:2 <b>led</b> 130:16 <b>left</b> 44:13,15 136:17 158:11 169:6 170:19 171:5 186:20 187:22 188:4 189:10 220:9 <b>left-hand</b> 158:2,21 <b>legal</b> 114:14 139:6 140:15 143:12 143:15 144:18 145:21 146:2,3 147:16 148:4,20 148:22 149:25 166:24 167:10 173:8 195:25 196:12 201:24 285:2,4,8,13,13 285:14,16,18	286:4,22 <b>legally</b> 164:19 <b>legals</b> 196:2 <b>legwork</b> 183:5 <b>Leland</b> 17:1 <b>lending</b> 220:5 <b>length</b> 204:5 221:25 253:16 <b>lengths</b> 127:2 <b>lengthy</b> 76:15 <b>letter</b> 6:12,17 49:3 50:21 51:4 53:7 53:12 66:1 129:2 129:4,24 132:3,9 132:14 150:22 150:24 151:1 165:15 284:2 <b>letters</b> 46:10 49:6 49:15,16 58:14 165:13,19 <b>let's</b> 22:10 25:20 27:2,18 32:1 34:15 37:14 42:10 48:9,11 50:16 54:11 63:12 76:4 79:14 91:14,17 98:1 103:17 125:9,11 125:11 131:7,19 139:4,22 150:12 158:16 159:14 223:18 265:9 <b>level</b> 46:6 71:17 105:12,13,14,15 105:17 112:1,2 133:6,7 261:18 <b>levels</b> 71:17 <b>licensed</b> 33:12 <b>licenses</b> 33:20 <b>light</b> 110:3 <b>limestone</b> 32:9 <b>line</b> 17:17 24:17 26:15,18 29:10 29:22 30:4 32:12 41:23 42:23 46:9 188:24 254:15 <b>lines</b> 249:10 <b>linked</b> 29:3
---	--	--	--	---

<b>lip</b> 228:21 <b>Lipsky</b> 1:2 5:17 8:4 13:22 16:23 19:24 20:23 21:1 21:23 70:22 74:16 75:2,5,15 76:6 77:10 80:11 80:14 81:13,20 84:16,25 85:20 86:3,25 88:20 91:2,22 92:17 94:14 99:21,25 100:5,11,18,25 101:5,11,15,19 102:1,4,23 104:1 107:2,9 108:1,2 108:8,15 112:10 113:13 115:22 116:17 117:25 120:16 121:13 122:4,17 123:2 123:13 124:18 128:19 130:2,2 130:19 132:5,9 133:24 137:11 138:1 141:20 142:6,24 143:4 143:12 144:3,15 144:20,22 152:10,10,11,11 153:15,21,23 158:1,5,18 159:9 159:15,24 160:2 160:7,12 162:1,5 163:2,11 164:17 166:7,13,20 167:3 174:21 175:16 176:3,15 176:16,23 177:1 178:14,17 179:16,20 181:20 182:13 192:12 198:6 199:21 200:1 205:13 220:16 224:23 226:18 226:24 227:14 227:21,25 228:4	228:9,15,18,22 228:23 229:5,7 229:18,25 231:3 239:3,14 243:25 244:2,11 245:14 253:9 268:25 270:4,11 273:12 278:8 280:8 281:11,25 282:4 282:11 284:24 290:2 <b>Lipskys</b> 23:2 125:15 129:9,12 129:21 131:21 133:17 134:5,7 134:14 144:18 202:18 203:11 205:4 206:5 267:1 287:1 <b>Lipsky's</b> 111:4 128:22 130:10 143:8 178:21,23 201:5 203:18 244:4 245:3 <b>Lipsky01512</b> 6:16 <b>Lipsky02522</b> 6:16 <b>Lipsky02612</b> 6:16 <b>Lipsky06248</b> 6:20 155:18 <b>Lipsky06249</b> 6:16 156:12,20 <b>Lipsky06250</b> 156:22 <b>Lipsky06251</b> 6:20 <b>Lipsky06253-Li...</b> 6:20 <b>Lipsky06403</b> 4:20 <b>Lipsky06404</b> 4:20 <b>Lipsky06405</b> 5:4 <b>Lipsky06417</b> 5:4 <b>Lipsky06436</b> 5:17 <b>Lipsky06437</b> 5:17 <b>Lipsky06456</b> 6:21 <b>Lipsky06457</b> 6:20 <b>Lipsky06493</b> 6:21 <b>liquid</b> 70:14 105:15 106:5,7,9 <b>list</b> 47:10 91:15	133:25 141:24 157:15,15,16 216:16 <b>listed</b> 60:16 144:13 205:12 <b>listening</b> 272:13 <b>literature</b> 205:2 252:5 <b>litigation</b> 191:11 <b>little</b> 25:2 68:7 76:4 146:15 170:13 255:22 261:6,6 270:21 <b>Littlefield</b> 206:17 <b>live</b> 9:19,20 <b>lived</b> 131:21 <b>LLC</b> 1:4 2:16 8:5 290:4 291:17 292:13 293:7 <b>loan</b> 220:12 <b>located</b> 31:9 99:21 109:11 249:11 249:14 <b>location</b> 24:12 100:1,3 157:20 <b>locking</b> 205:19 <b>log</b> 5:11,22,25 30:22 51:18 177:16 269:18 269:23 <b>logical</b> 238:19 <b>long</b> 9:25 10:23 47:12 80:15 83:2 85:17 91:15 115:2 167:18 173:24 174:1 188:10 223:2,4 <b>longer</b> 15:5 129:13 <b>longstring</b> 46:17 63:7 65:8,18,20 65:22 67:12 70:17,19 106:2 107:5,6 121:7 176:19 221:3,9 221:10,20 258:8 258:14,16 259:7 <b>Longview</b> 187:21 188:1	<b>look</b> 14:18 17:15 18:22,23 20:4 22:10 26:8 27:2 28:19 31:25 34:15 37:14 41:20 42:10,20 42:20,25 44:18 47:10,16,17,23 48:8,9,11,16 49:17,18 50:23 58:11,25 59:20 62:13 63:4 64:11 69:1,4 74:1 79:14 80:5 86:3 87:20,23 98:14 100:21 104:7 113:16 115:8,8 115:12 116:19 121:14 123:7 127:6 128:8 129:6 131:7,19 139:4,22 140:23 151:3 155:22 157:7 159:14 162:1,12 163:1 169:3 176:24 196:13 197:24 200:21 202:12 212:13 216:14 216:18 218:17 233:24 235:18 236:7,15,16 245:12 246:8 247:25,25 267:21 272:9 277:22 <b>looked</b> 27:11 29:17 49:6 50:12 55:25 56:2 64:21 87:21 88:10,12 88:15,15,19 110:2 116:25 119:11,13 125:24 135:20 138:5,6 145:2 160:20 162:13 212:16 219:9 220:19 231:10	237:17 238:7 245:8 262:18 271:20 <b>looking</b> 14:3,17 21:7 25:13 30:19 45:14,22 77:2 87:24 90:10 94:24 115:10,18 115:20 116:24 122:1 123:5 134:3 136:16 176:9,12 198:1 216:12 219:25 220:11 223:25 227:24 228:24 231:22 239:14 243:15 <b>looks</b> 28:2 149:6,7 152:3 153:21 158:25 210:20 <b>lost</b> 52:22 <b>lot</b> 15:5 32:22 33:3 33:4 59:12 64:8 85:10 87:20 136:21 147:12 156:5 164:23 201:14 236:13 264:25 <b>lots</b> 75:10 92:8,8 135:3 168:12 <b>loud</b> 129:7 <b>low</b> 51:19 <b>lower</b> 44:15 69:24 108:6 112:1 126:9 223:5 224:14,19 <b>Luig</b> 154:15 <b>lunch</b> 99:10 101:24 <b>L.L.P</b> 2:13,19 291:14,20
<hr/> <b>M</b> <hr/>				
<b>M</b> 2:2 162:11 290:24 291:4 <b>machine</b> 1:21 <b>mailed</b> 143:20 <b>main</b> 1:21 2:9,19				

26:15 93:2 207:17 291:11 291:21 <b>major</b> 31:7 201:22 <b>making</b> 115:25 136:22 178:24 245:14 <b>maliciousness</b> 136:18 <b>Malone</b> 13:22 17:2 19:25 21:1 80:3 80:13 81:19 144:1 241:14 242:17,18 <b>Malone's</b> 242:2 <b>man</b> 55:13 76:13 77:24 <b>managing</b> 55:3 <b>manipulated</b> 249:4 253:5 <b>manner</b> 231:1 269:15 271:9 284:16,17,19 <b>Mantis</b> 45:24 <b>map</b> 34:25 39:17 44:19 109:22 163:6 249:24,25 <b>Marble</b> 70:12 109:9,24 111:23 117:4 118:5 177:21 220:20 231:12 253:18 253:24 275:2 <b>March</b> 271:17 282:18,20 <b>Marchant</b> 171:15 <b>Margaret</b> 169:5,6 <b>Maricela</b> 6:17 150:23 <b>mark</b> 32:1,2 98:1 98:4 155:10 <b>marked</b> 10:3,6,16 11:1,4 12:12 14:13 16:6,8 22:8 24:22,24 25:23 27:4,21 32:5 35:25 36:2 37:12 41:8,10	45:9 48:12,14 50:18 53:3 57:19 57:21 58:13 61:13,15 62:20 76:2,8 96:10,12 97:8,10 98:6 128:6 138:20,22 142:19 150:18 150:21 155:8 158:14 248:12 273:16,18 <b>Marshant</b> 171:14 <b>matches</b> 97:19 <b>material</b> 39:15,22 185:10 <b>materials</b> 39:8 185:15,17 <b>math</b> 121:22 <b>mathematical</b> 121:22 <b>Matt</b> 170:10 183:14 <b>matter</b> 20:18 92:18 93:11 94:8 94:15,19 95:17 96:5 103:14 139:12 148:19 169:16,21,24 170:7 171:2,3 186:6,7 191:10 206:19 233:15 233:22 267:18 274:11 277:2 279:14 286:22 <b>matters</b> 170:14 188:18,19 194:12 286:4 <b>Matthew</b> 170:11 <b>maturity</b> 5:10 30:21 <b>maximum</b> 268:19 <b>McBeath</b> 3:11 8:13 <b>MCCARTHY</b> 2:13 291:14 <b>McDonald</b> 6:12 129:2 <b>McEown</b> 2:18	8:22 291:20 <b>McGaffrey</b> 275:9 275:22,23 <b>mean</b> 10:9 26:16 36:23 37:6 43:4 46:2 59:2 76:20 86:21 90:15 103:4 107:16 111:8 113:20 114:11 116:22 118:24 121:1 125:18 127:3 128:3 134:6 137:24 138:1 146:23 156:8 165:11 167:1 176:23 178:7,17 180:25 189:7 196:11 201:6,18 210:11,15,17 220:25 221:2,8 221:15 227:10 229:5 247:23 255:7,18 258:10 261:15,17 265:12 274:22 274:23 <b>meaning</b> 268:20 <b>means</b> 46:24,25 54:6 70:14,16 71:16 102:11 114:17 116:23 124:13 151:23 154:13 198:3 201:20 202:4 221:3 222:18 261:13,20 <b>meant</b> 57:16 111:19 112:6 185:2 <b>measurements</b> 190:3 <b>mechanical</b> 126:8 <b>mechanics</b> 111:25 113:21 114:2 115:9 225:21 <b>mechanism</b> 228:9 228:14 229:19	<b>meet</b> 131:11 <b>meeting</b> 278:15 <b>meets</b> 38:2 <b>member</b> 190:17 <b>memorized</b> 69:18 116:15 <b>mention</b> 130:18 194:18 <b>mentioned</b> 183:25 218:1,8 <b>Merchant</b> 171:14 <b>Merit</b> 3:6 292:13 293:7 <b>MER's</b> 188:22 <b>mess</b> 55:9 <b>met</b> 61:7 180:5 230:10 <b>meters</b> 38:6 <b>methane</b> 72:6 74:9 101:11,20 103:12,17,25 108:14,17 113:1 116:8 119:15 138:13,14,15,16 142:16 246:25 247:8,10 248:1 <b>method</b> 68:13 226:23 229:25 <b>methods</b> 50:5 65:15 137:2,3 <b>mic</b> 179:24 <b>Michael</b> 181:5,6 282:19 <b>microbial</b> 74:10 <b>microphone</b> 217:5 <b>Microscopic</b> 268:17 <b>mid</b> 82:5 <b>middle</b> 45:22 60:13 <b>Middlebrook</b> 3:10 8:11 <b>mid-stream</b> 190:25 <b>migrate</b> 75:14 84:9 103:4 108:19 111:12 121:13 204:16	254:20,25 255:15 256:14 256:14,20 257:2 257:19 <b>migrating</b> 73:8,11 74:14,16,20 75:1 107:2,8 119:22 208:4 254:7,11 259:6 275:5 <b>migration</b> 50:4 125:23 208:24 226:21,22 227:9 259:9 260:19 269:15 <b>Mike</b> 3:10 8:11 <b>mile</b> 82:9 157:10 159:10 257:2 268:20 <b>miles</b> 5:17 45:15 45:18 82:8,13 109:6,24 116:24 157:18 220:20 231:10 234:13 <b>millions</b> 254:8 255:15 <b>mind</b> 225:19 <b>minds</b> 169:14 <b>mine</b> 95:2 176:9 233:4 280:25 <b>Mineral</b> 24:10,16 25:6 26:9,12 29:10 30:3 31:11 31:15,19,22 32:13 252:1 254:14 <b>minor</b> 31:20 207:3 <b>minute</b> 23:6 63:12 96:25 146:7 184:17 212:13 212:16 278:22 278:23 <b>minutes</b> 213:6 272:12 283:9 290:23,24,24 <b>mischaracterizes</b> 242:2 <b>mischaracterizing</b> 242:5
--	--	---	--	---

<b>misleading</b> 242:9 242:9,10	263:21,22	<b>naturally</b> 102:10 102:18 103:4	<b>Newton's</b> 222:20	20:6,8 35:11,13
<b>misread</b> 259:2	<b>Muenster</b> 254:16	108:14 110:5,19	<b>nice</b> 255:11	45:3 96:16 135:2
<b>Mississippian</b> 4:21	<hr/> <b>N</b> <hr/>	254:24	<b>nine</b> 221:19	142:2,3,8,23
5:1	<b>N</b> 2:1	<b>nearly</b> 96:21	<b>nitrogen</b> 198:2	144:14 163:6
<b>mister</b> 184:13	<b>name</b> 8:8 9:17	<b>neces</b> 120:1	<b>Nobody's</b> 209:5	166:7 168:15
<b>MIT</b> 177:16	41:17 55:14 82:7	<b>necessarily</b> 45:20	245:6,24	281:18,25
<b>mitigate</b> 125:22	154:17 171:13	103:4 116:22	<b>non</b> 244:15,15	<b>noticed</b> 22:23
<b>Mm-hmm</b> 44:5	171:19,23 173:1	120:5 148:16	<b>non-appealable</b>	129:12 170:15
155:13	173:4 180:4	167:5 223:20	149:19	<b>notify</b> 14:23
<b>moment</b> 269:5	184:19 214:9	225:7 228:19	<b>non-responsive</b>	<b>November</b> 1:14,19
<b>Monday</b> 14:20,25	217:9 232:23	255:2 276:16	19:8 73:22 74:3	4:14 8:2 10:17
17:25,25 92:23	289:14	<b>necessary</b> 35:19	74:24 111:17	19:5 214:8 215:1
<b>money</b> 21:8	<b>named</b> 54:18	103:14 136:15	112:4 114:7,8	288:3 290:13,19
<b>Monte</b> 171:22	55:13 76:13	147:5 235:4,6	133:9 149:11	292:10
<b>Montes</b> 173:5,7,14	77:24 89:11	<b>need</b> 22:20 23:21	219:19	<b>number</b> 8:5 30:23
272:10 277:9,22	215:2	47:16 48:8 92:15	<b>Nope</b> 67:17	34:18 36:19
279:25	<b>names</b> 29:12	93:20 95:4 165:7	<b>normal</b> 253:16	42:11 60:15
<b>month</b> 191:14,14	241:20	165:11 166:2	<b>normally</b> 126:10	80:13 157:18
271:16	<b>narrowing</b> 15:6	174:1,7,19	127:20 146:24	158:10 162:4,19
<b>Monthly</b> 131:4	<b>National</b> 187:21	179:15,24	222:5	199:17 214:6
<b>months</b> 173:16	<b>natural</b> 38:6 71:23	217:15 232:19	<b>north</b> 2:4 29:21	269:12 270:3
174:9 245:4	71:24 72:8 74:9	262:1,7,8 266:13	31:12 291:5	<b>numbered</b> 1:19
272:1	74:9 75:21 76:5	<b>needed</b> 54:2	<b>northeast</b> 29:24	<b>numbers</b> 6:11,16
<b>month-to-month</b>	77:1,6,10 78:2	233:22	<b>northeast-south...</b>	155:22 163:7,8,9
55:11	80:16,23,24 81:8	<b>needs</b> 94:7,12,16	24:18 30:5	<b>numerous</b> 134:19
<b>morning</b> 14:25	82:5,15 83:1	95:14 131:12	<b>northern</b> 26:13	249:8 251:25
96:7	84:24 86:17	256:23	29:16,17,20	263:1
<b>Motion</b> 222:20	87:10 102:5,9,11	<b>neither</b> 292:5	<b>nose</b> 272:17	<hr/> <b>O</b> <hr/>
<b>motions</b> 143:19	102:12,17,23,23	<b>net</b> 188:22	<b>Nostradamus</b>	<b>O</b> 2:18 290:23
<b>Mountain</b> 247:3	102:25 103:1,8	<b>never</b> 61:7,10 93:6	124:6	291:19
<b>move</b> 70:21 103:6	103:11,19,25	95:9 129:23	<b>notarize</b> 232:19	<b>oath</b> 12:5 18:18
103:23 104:10	107:8 108:17	130:18 132:3	<b>notarized</b> 10:19	73:3 125:2 201:7
104:11,14	109:15 110:10	148:3 151:24	11:9	202:2 203:4
162:17 213:9	122:4,16 123:1	154:17 164:1,9	<b>notary</b> 10:18	233:5,12 248:16
222:25 223:9,14	123:13 124:18	166:10 172:8,18	214:8 215:4	264:4 265:12,17
223:16 234:4,4	138:8 202:19	182:25 197:18	232:8 233:1	277:1 283:9
234:12,18 235:2	203:12 233:16	256:2 266:15	289:21	284:12 289:12
235:25	234:13 236:19	271:21	<b>notation</b> 153:20	<b>object</b> 33:5 38:23
<b>moved</b> 283:7	237:16,21 238:1	<b>new</b> 169:7 245:2,9	154:18 162:9	42:3 57:5 114:12
<b>movement</b> 70:16	238:3,12,25	<b>Newark</b> 24:19	<b>notations</b> 153:25	116:1 122:18
222:18	239:16 240:3,9	31:13 32:11	<b>note</b> 153:25	123:15,23
<b>moving</b> 64:23	241:2,5,7 242:4	254:15	<b>notebook</b> 37:8,9	161:21 175:24
223:8 225:16,17	242:20 243:11	<b>news</b> 181:12,12,17	38:3,9,13 39:2,8	177:6 212:23
283:13,21	243:12,20 244:3	181:19	39:15 135:16	242:1,7
<b>mud</b> 67:8 106:9	244:7 245:15	<b>newspaper</b> 182:8	<b>noted</b> 13:6 129:9	<b>objection</b> 12:23
259:22,24 260:4	253:24 255:13	<b>Newton</b> 170:11	289:3	19:8 26:22 28:8
260:14 261:3	256:13,18	171:22 183:14	<b>notes</b> 6:19	29:2 30:6 38:16
			<b>notice</b> 1:22 6:8,15	

52:7 53:15 60:5 65:14 66:2 67:2 69:14 72:4 73:18 73:22 74:3,24 76:16 78:23 79:7 80:17 87:5,12 88:23 89:3 92:5 103:10 104:19 106:8,21 111:17 112:4,15 114:7,8 118:21 119:6 120:2,3 122:6 123:3 126:15 127:10,16,25 130:9 132:11 133:9 136:24 137:14 138:3 139:14 144:24 145:3,20 146:13 149:11 164:21 166:8,23 167:9 174:22 177:9 178:3 179:4 200:15 203:20 210:24 213:16 213:18 216:7 219:3,19 220:4 223:22 224:7,18 225:10 227:2,22 229:8,11,20 231:4,19,20 234:6 237:7 241:25 242:9 244:8,17,19 250:10 251:11 262:3 264:13 265:13,18,24 266:5 267:2,3,15 269:1,11 270:6 270:12 271:3 272:23 275:1,13 283:2 285:11 <b>objectives</b> 50:6 <b>obtain</b> 12:14 121:17 <b>obtained</b> 19:6 125:25 <b>obviously</b> 82:24	164:24,24 197:1 <b>occasionally</b> 165:21 <b>occasions</b> 206:14 <b>occur</b> 51:7 <b>occurred</b> 110:5 175:9 292:9 <b>occurrence</b> 38:5 <b>occurring</b> 110:19 130:24 268:25 <b>occurs</b> 102:10 108:14 <b>October</b> 6:1,4,4,7 59:25 62:14 269:19 <b>offered</b> 13:7,25 19:1,12 38:8 40:18 41:3 <b>offhand</b> 28:17 <b>office</b> 6:2,5 8:18 55:21,25 56:4,7 56:15,19,25 57:9 59:4,21 95:1,5 97:5,6,12 161:12 163:12 172:22 173:8 184:18 187:5,11 190:1 192:23 208:19 215:4 232:9,9 248:21 289:18 <b>officer</b> 271:11 290:17 291:1 292:19 <b>officer's</b> 292:23 <b>offices</b> 1:21 55:16 56:12 <b>officials</b> 142:5 180:24 270:19 270:25 <b>offset</b> 207:20 <b>offsets</b> 67:22 <b>OG1's</b> 235:18 <b>oh</b> 18:8 23:7 30:21 35:24 45:4 79:19 89:21 90:7,22 91:13 93:22 122:12 128:14 134:11 149:18	166:4 171:10 174:2,8 181:15 182:21 183:6,19 183:21,23 184:16 193:20 215:16 255:19 279:19 <b>oil</b> 11:19 51:22 168:8 172:13 173:19 188:4 220:1 222:3 233:20 <b>OK</b> 58:15,19 60:6 62:7,21 <b>okay</b> 10:15 11:17 16:8 19:15 22:13 22:17 23:4,7,11 23:16,18,22 24:24 27:2 31:5 37:25 38:9 39:16 42:10 45:22 47:2 48:9 49:5 50:10 50:16 51:16 57:18 59:13 63:3 68:21 79:14,22 82:10 90:23 91:11 96:25 99:5 99:8 103:17 105:5 116:13 117:3 128:18 129:1,20 133:8 135:19 140:7,10 141:6 142:21 144:2 146:7 149:23 150:3,10 152:15 155:10 155:14 158:1,8 158:17 162:1,6 163:1 170:20 178:6,9 180:7,22 181:4,8,19 182:1 182:12,16 183:9 184:15,20 185:7 185:9,12,24 186:11,22 187:15 188:3,7 188:12 189:9,18 190:13,19	191:20 192:13 193:1,21 194:3 194:22 198:17 199:19 200:4,12 200:24 201:23 202:8 203:16 204:2 205:1,16 207:13,23 209:21 210:6 211:9 212:6,14 212:17,23 213:5 213:22 214:5,11 214:25 215:6,8 215:12 216:23 217:19,23 218:10,14,19 219:7,10 220:9 220:14,21 221:22 222:2,6 222:20 223:17 224:13 225:6,13 225:20 226:20 226:22 227:18 228:2,7,20 229:15,23 230:17,21 231:16 232:1,10 233:15 237:20 239:15 240:7,23 241:19 245:21 256:24 257:23 258:7,17 259:2 259:19 260:7,17 260:22 266:8,19 268:4,23 270:2 270:15 272:4 273:4,4 274:17 275:25 279:9 280:5,17,25 281:2,4 282:17 284:11,14 285:6 286:1 287:5 <b>Okruhlik</b> 2:8 8:14 291:10 <b>old</b> 196:22 <b>once</b> 71:18 191:14 206:15 225:16 <b>ones</b> 31:8 35:12,20	64:9 82:24 84:5 165:21 252:9 286:23 <b>one's</b> 158:9 <b>one-foot</b> 252:25 <b>ongoing</b> 85:11 104:3 121:15 <b>online</b> 153:2,5 159:18 161:5 <b>open</b> 46:12,24 47:3,5 83:21 108:25 154:19 155:1 220:24,25 221:2,3 259:11 259:25 260:11 <b>opened</b> 118:4 <b>operated</b> 274:1 <b>operation</b> 117:18 117:21 118:2 223:19 <b>operations</b> 49:20 55:9,10,11 56:15 142:14 176:25 177:5 197:2 223:12 274:3 <b>operator</b> 45:24 49:18 53:17 65:17 67:20 207:2,10,14,19 <b>operators</b> 56:5 64:21,24 102:20 117:15 147:12 <b>opine</b> 73:9 74:15 207:23 <b>opined</b> 74:19 107:7 <b>opining</b> 43:20 <b>opinion</b> 40:5 56:22 64:5 69:23 77:5 77:7 81:7,10,11 101:24 102:4,9 102:24 103:19 108:11 110:6,10 110:14,21 111:6 132:13 137:20 137:22 147:4 176:2 179:19 199:5,8,9,23
---	---	---	---	---

200:5,9,10,14 201:11 206:1 209:22 210:2,3,8 217:16 218:12 219:16,16,18 222:6 223:11 224:4 226:16 227:20 228:3 229:6 231:16,17 231:21 247:13 253:9 260:18 270:3 278:6 286:7,13,25 <b>opinions</b> 21:22 35:23 40:3 61:1 70:4,6 83:15 100:12,20 101:1 101:6 123:21 124:2 146:24 169:19,20 175:11 179:3,6 179:12 194:12 195:1,4 196:15 198:25 230:18 243:4 245:19 251:21,24 252:16,23 253:1 256:9 262:2,4 263:5 264:4 285:17 286:2,20 286:24 <b>opportunity</b> 103:8 139:8 <b>opposed</b> 196:4 201:19 <b>opposes</b> 140:3 <b>opposing</b> 141:13 145:8 <b>opposition</b> 145:12 <b>Ops</b> 173:1 <b>oral</b> 1:12,17 290:17 <b>order</b> 6:23 49:22 142:12 146:18 147:13,18,19,21 147:25 148:2,6,9 148:12 149:4,15 149:17 150:1,7	152:9 235:25 262:1 263:24 266:25 267:9,11 267:12 273:9,11 273:15,21 274:8 274:10,14 279:16,17 282:17,23 284:15,25 287:2 <b>ordered</b> 147:20 273:24 <b>orders</b> 147:10 <b>orientation</b> 24:18 30:5 <b>oriented</b> 29:24 <b>original</b> 4:15,18 78:19 80:1,8 174:18 192:14 214:7 292:18,21 292:24 <b>originally</b> 15:5 18:3 68:13 259:22 <b>originals</b> 99:9 <b>other's</b> 168:17 169:14 <b>ought</b> 119:4 <b>Oujesky</b> 77:25 78:22 81:15 86:11 110:18 240:7,9 <b>outcome</b> 292:7 <b>outcropped</b> 255:24 <b>outline</b> 32:11 <b>outloud</b> 38:1 <b>outside</b> 115:6 177:18 183:21 222:22 223:18 <b>overall</b> 115:12 <b>overseeing</b> 56:1 <b>overview</b> 94:22 <b>over-burdened</b> 257:5,7 <b>owner</b> 186:15 207:3 <b>owners</b> 142:4,7,18 <b>O&amp;G</b> 5:13	<b>ooo</b> 287:15 <hr/> <b>P</b> <hr/> <b>P</b> 2:1,1 <b>package</b> 98:20,21 <b>packages</b> 81:4 83:21 84:1,2,6,9 84:25 227:5 <b>page</b> 4:13 7:2 16:15 18:6 24:1 24:3,8 25:25 26:3,8 28:19 29:25 34:15,17 39:14 41:21 42:20 44:9 45:23 45:23 48:16 58:16,16,17 59:20 60:13 61:23 62:3,13 68:5 79:14,15,16 120:23 125:13 125:13 129:7,25 133:13 139:4,22 140:25 142:3 144:9 151:3,18 152:2,23,25 153:4,8 154:1 155:17 156:12 156:15,19 157:9 158:1,5,11,18 159:2,9,10,11,14 159:24 160:7,8 161:6 163:1 195:1,3 196:15 199:19 200:3,21 200:22,25 201:1 202:12,13 258:3 279:22 280:8,10 280:11,15,18,24 292:20 <b>pages</b> 4:16,16 5:15 5:15,16 20:4 26:5 28:11,18 30:24 34:10 155:12 159:9 282:18 <b>Page/Line</b> 7:6 288:4	<b>paid</b> 191:9,12,13 <b>Paluxy</b> 247:3 <b>PanAmerican</b> 190:6 <b>pancake</b> 107:23 111:13 <b>paper</b> 27:14,16 63:4 194:6 200:9 <b>papers</b> 24:11 <b>paragraph</b> 24:8 34:21 79:15,16 79:17,25 80:2,5 80:7,9 120:25 129:6 131:8,20 133:14 134:4 136:3,7 146:22 150:4 195:2,3 196:16 200:21 202:14 204:2 258:3 267:24 273:20 279:23 280:5,8,13,14,23 281:1,3,19,24 282:3 286:14 <b>paralegal</b> 6:17 150:23 <b>pardon</b> 9:2 34:12 <b>parenthesis</b> 120:24 <b>Parker</b> 1:11 5:18 26:13,18 29:13 29:17,19,20 36:18 63:15,24 153:15 157:10 160:17,18,20,21 161:8 162:23,25 268:18 290:11 <b>part</b> 13:9 17:5,12 18:4,19,21 19:2 19:10,13 31:3,10 31:15,19 32:15 42:17,17 43:12 44:23 45:5,14 50:16 51:15 52:5 52:24 77:2 83:16 90:17 91:4,5,24 96:5 117:10 123:4 129:10	156:9 165:25 174:12 184:23 185:24 187:22 199:11 201:11 214:16 235:17 252:1 269:9 <b>partial</b> 44:13 <b>participate</b> 143:24 282:4 <b>participation</b> 142:9 <b>particular</b> 15:12 26:24 37:6 55:25 108:19 221:24 250:17 256:11 <b>particularly</b> 41:3 88:7 115:3 195:12 <b>parties</b> 21:5 165:11,15 207:7 279:19 291:2 292:5 293:2 <b>partly</b> 66:19 118:11 <b>parts</b> 268:2,4,6 <b>party</b> 50:6 139:7 140:3 141:23,24 145:14 148:1 166:19,21 199:13 279:19 284:24 290:21 <b>pass</b> 217:4 265:4 278:17 286:10 287:5,8 <b>path</b> 83:23,24 103:3 112:2,3 <b>paths</b> 43:1,16,24 44:1,4 <b>pathway</b> 75:13 102:25 106:16 106:18,25 107:17,18,19,24 107:25 108:5,19 111:13 112:9 227:15,20 256:23 <b>pathways</b> 75:21 102:5 103:19
--	--	--	---	---



108:3 255:12,13 256:13,13,18 <b>Patrick</b> 3:5 <b>Paul</b> 2:4 291:5 <b>pay</b> 220:12 <b>PC</b> 3:2 6:9 292:2 <b>Peck</b> 13:23 16:20 19:25 21:1 80:3 80:12 115:24 116:2,3,7 144:1 239:16 <b>pending</b> 36:18 140:8 <b>people</b> 67:22 72:17 92:9 112:25 171:18 173:18 178:20 180:14 180:23 181:9 183:8,12,24,25 184:16 207:8 208:19 <b>percent</b> 72:2,3 117:7 122:11 137:7,8,12,12 138:7 <b>perform</b> 84:18 104:6 <b>performed</b> 24:9 81:6 85:2,5 86:8 86:12,15 87:16 104:5 110:15 111:5 134:19 227:24 234:7,10 238:6 239:12 243:23 <b>performing</b> 247:7 <b>performs</b> 247:17 <b>period</b> 76:15 279:18 <b>permeability</b> 118:13 235:9 255:5,8 <b>permeable</b> 118:14 <b>permission</b> 53:22 <b>permit</b> 130:19,21 <b>person</b> 94:21 141:12 145:7 164:4 167:8	169:3 171:3 173:20 289:14 <b>personal</b> 38:25 198:15 203:2,10 203:11,13,14,15 203:24 <b>personally</b> 198:18 289:11 <b>Peter</b> 171:7 <b>petition</b> 4:15,19 140:4,12,18 141:14 145:8,13 <b>petitions</b> 140:14 <b>petroleum</b> 4:22 5:2,5,8 8:13 27:12 32:18,22 167:23 168:9 189:16,19,21 195:5 196:22 207:9 246:20 <b>PFD</b> 21:4 35:18 69:17 76:17,17 140:21 142:1,3 170:17 271:16 279:23 280:12 281:3 282:8 <b>PGH</b> 8:19 9:24,25 10:22,23 22:4 90:18,24 183:6 183:21 184:2 186:12 208:22 <b>phone</b> 2:5,10,14 2:20 3:3,7 89:10 89:20 153:17 291:6,12,16,22 292:3,15 293:9 <b>Photograph</b> 6:6 <b>photographs</b> 6:7 76:9 <b>phrase</b> 111:7,19 112:6 113:19 114:10 <b>physical</b> 111:21 <b>physically</b> 19:16 41:5 247:23 <b>physics</b> 66:3 <b>pick</b> 170:19 <b>picking</b> 75:12	<b>picture</b> 76:7 78:11 106:22 225:19 239:1 <b>pictures</b> 28:16 76:7 236:21 237:17,19 <b>pieces</b> 133:15 201:3,12 <b>pinpoint</b> 109:12 109:21 <b>pipe</b> 70:10 106:11 114:2 221:7,15 269:15 <b>place</b> 220:16 <b>plain</b> 196:22 <b>plainer</b> 239:11 <b>plaintiff</b> 2:2 128:19 291:3 <b>plaintiffs</b> 8:16 <b>Plaintiff's</b> 4:15,18 <b>plan</b> 104:4 216:10 216:22 <b>plane</b> 255:11 <b>planning</b> 122:14 <b>plant</b> 190:12,13,21 <b>play</b> 70:4 271:1 272:21 <b>pleadings</b> 143:19 <b>please</b> 8:6,25 9:6 9:16 10:7 27:7 43:7 45:11 48:16 57:23 98:9 106:23 128:8 138:23 248:11 268:4,5,6 269:9 <b>pleasure</b> 264:19 <b>plug</b> 56:6 <b>plugged</b> 45:16 <b>plugging</b> 56:3,3 <b>plumbing</b> 74:23 75:18 83:17,18 104:4 107:20 111:25 117:8 127:13 227:4 <b>plume</b> 81:3 119:18 119:21 120:10 120:12 <b>plus</b> 96:23	<b>pocket</b> 222:7,11 226:17 <b>pockets</b> 122:12 <b>podium</b> 272:25 <b>point</b> 10:13 44:11 81:3 92:24 93:4 99:11 114:3,3 118:12 146:2 148:8 149:20 217:18 219:15 227:23 232:18 264:1,5 <b>pointed</b> 43:12,15 105:6,11 134:2 178:20 247:2 264:7 278:2,2 <b>pointy</b> 44:12 <b>policy</b> 95:21 <b>political</b> 272:20 273:1,2 279:13 282:24 283:1,6,9 283:11,13,17,21 283:23 284:5 <b>politics</b> 270:25 <b>pool</b> 131:23 132:21 <b>Pope</b> 171:7,12 <b>porosity</b> 235:10 255:7,7 <b>Porter</b> 180:16 181:6,7,8 277:18 282:20 <b>portion</b> 13:11 16:11,14 17:14 27:3 41:12 70:18 259:12 260:17 260:18 <b>portions</b> 25:16 27:15 47:13 117:20 <b>position</b> 149:25 <b>positions</b> 142:14 <b>positive</b> 253:10 <b>Poss</b> 205:6 <b>possession</b> 19:6 142:10 <b>possibilities</b> 200:14,17 204:3	<b>possibility</b> 107:10 107:13,16 117:16 126:25 175:3,6 204:8 205:5,8 <b>possible</b> 66:20 86:3 110:16,22 110:22,24,24 123:11 124:12 124:13 220:6 <b>postpone</b> 165:16 <b>potable</b> 182:14 <b>potentially</b> 50:2 <b>pounds</b> 69:13,20 71:5,8 104:16,21 104:22,25 105:19 223:1 225:16 <b>pour</b> 65:7 <b>power</b> 52:23 <b>practices</b> 50:8 <b>Praying</b> 45:23 <b>precedent</b> 285:18 <b>precedential</b> 150:5 286:15,19 <b>precluded</b> 20:23 21:24 <b>prepared</b> 15:1 169:23 <b>preparing</b> 164:25 194:11 292:24 <b>present</b> 3:9 10:25 19:24 21:9,9 43:1 90:15 111:22 112:2 163:17,24 177:21,24 <b>presentation</b> 75:16 142:10 <b>presented</b> 27:14 27:15 38:10,13 38:20 72:23 74:23 102:8 111:10 125:7,11 136:13 141:21 142:13 144:21 145:11,17 149:9 175:22 176:8
---	---	---	---	--

195:12 198:11 243:18 248:16 267:6 271:20 272:10,25 277:24,25 278:9 <b>preside</b> 233:15 <b>pressure</b> 5:21,24 68:9,11,15,17,20 68:23 69:13 70:4 70:15,20 71:9,19 71:21,22 73:6,10 84:8,23 103:15 104:11,13,17,25 105:7,9 113:25 118:20 121:12 121:12,24 135:23 177:16 222:25 223:4,5,7 223:13,13,15,17 223:20 224:14 224:19 225:8 231:7 234:3 235:8,20,23 236:3 257:5,7,8 257:11,14,15,16 257:17,20,21 261:19 262:8,12 262:24 263:7,9 263:12,15,19 264:7,8 269:19 269:24 276:7,8 276:10 <b>pressures</b> 70:8 111:22 113:24 121:16,19 122:24 234:11 234:18,21 235:1 235:19,25 <b>pressuring</b> 118:8 <b>PRESTON</b> 1:7 2:17 290:7 291:19 <b>pretty</b> 94:20 217:12 242:4 <b>prevent</b> 50:1,3 147:11 269:15 <b>previous</b> 194:13 237:13	<b>previously</b> 186:22 <b>prices</b> 188:4 <b>primary</b> 131:12,22 231:21 <b>principal</b> 170:5 186:3,4 209:21 <b>print</b> 90:8 92:23 152:24 232:14 <b>printed</b> 157:25 <b>printout</b> 159:11 <b>printouts</b> 6:18 <b>prior</b> 48:23 53:23 80:25 101:16,20 110:11 111:2 117:22 131:8 153:4 162:12 163:23 240:8 242:21,25 <b>private</b> 190:25 <b>privileges</b> 139:7 <b>pro</b> 195:11 <b>probability</b> 219:1 219:13 <b>probable</b> 176:17 220:6 <b>probably</b> 18:9 64:10 72:7 94:5 108:19 117:15 133:5 184:11 204:11 231:9 <b>problem</b> 71:11 176:10 212:12 238:20,20 244:10 263:7 267:1 <b>problems</b> 66:4 129:10 134:5,7 134:11,14 202:19 203:12 <b>procedurally</b> 164:19 <b>procedure</b> 1:22 193:24 <b>procedures</b> 56:3 139:1 <b>proceeding</b> 139:6 140:8 143:11,15 170:24 285:10	292:6 <b>process</b> 129:15 <b>processes</b> 74:10 102:24 <b>produce</b> 30:14 31:1 77:15 85:21 96:5 102:21 112:10 227:12 268:13 <b>produced</b> 1:18 6:9 6:10 25:1,10 26:5 27:3,17 31:4 74:9 80:15 80:24 86:1 96:19 97:19,23 99:1 109:8 117:2 121:23 155:12 155:24 244:2 246:17 <b>producing</b> 65:7 77:9,11 119:4 177:20 178:21 220:7 222:2 224:1,2 227:11 231:11 266:25 <b>product</b> 45:14 109:1 <b>production</b> 1:8,18 2:7 38:21 39:9 65:8 116:22 117:3 142:15 189:24 190:2,4 190:24 221:10 269:14,17,19,22 269:23 273:24 274:1,2 290:8 291:8 292:23 <b>productive</b> 50:2 51:22 108:18 109:1,3,14 111:23 113:23 116:21 117:5 220:20 231:8 <b>products</b> 27:16 246:20 <b>professional</b> 219:16 <b>professions</b> 189:23	<b>proficient</b> 195:16 <b>progressively</b> 129:13 <b>project</b> 218:6 <b>promote</b> 201:13 <b>promoted</b> 187:13 <b>pronounce</b> 240:14 <b>proper</b> 213:15 <b>properly</b> 49:14 251:2,4 <b>properties</b> 70:2 111:21 <b>property</b> 132:19 199:21 200:1 245:3,10,21 268:25 270:5,11 <b>Proposal</b> 69:6,11 104:24 113:11 113:12,16 130:15 177:12 271:22 272:2 274:15 <b>proposals</b> 168:17 168:25 169:3 <b>protect</b> 65:3,6 126:19 221:13 <b>protected</b> 51:6 <b>Protection</b> 129:3 281:18 <b>protestant</b> 141:9 141:11,18,22 144:23 145:1,6 145:18 195:20 195:21 196:7,7 196:10 <b>protested</b> 115:3 139:16,23 146:23 165:20 195:13,16 196:3 196:8 278:3 <b>protesting</b> 140:18 <b>prove</b> 148:8 <b>proved</b> 289:12 <b>provide</b> 17:19 133:15 191:10 201:2 262:2 <b>provided</b> 23:2 34:24 36:14 37:4	39:23,24 40:11 84:5 127:23 156:4 262:4 281:18,25 <b>provides</b> 53:21 102:25 <b>Province</b> 5:6,8 <b>provision</b> 53:22 <b>provisions</b> 1:22 49:21 <b>proximity</b> 81:9 <b>psi</b> 69:2 71:12,15 105:23 106:2 121:21 261:13 261:16,21 262:12,12 269:19,25 <b>public</b> 10:18 81:23 82:1,4 83:7 149:10 278:15 289:21 <b>published</b> 113:7 205:2 218:17 <b>pull</b> 160:25 161:4 <b>pulled</b> 32:2 109:7 109:13 151:14 157:17,21 161:8 161:11 <b>pulling</b> 160:22 <b>pump</b> 133:7 <b>pumping</b> 206:2 <b>pure</b> 25:12 <b>purely</b> 231:17 <b>purging</b> 129:11 <b>purification</b> 129:11 131:10 <b>purport</b> 31:6 249:7 286:1 <b>purporting</b> 148:24 149:2 264:3 <b>purpose</b> 65:3 230:22 <b>purposes</b> 34:3 282:24 289:16 <b>pursuant</b> 1:22 291:1 292:8 <b>push</b> 225:15 <b>put</b> 40:10 62:23
---	--	---	---	--

64:16 68:18,25 78:18 83:10 84:11 98:3 104:20 114:25 120:3 125:18 127:1 146:21 152:15 155:10 169:19 174:17 223:13,15 225:15 233:1 237:12 251:8 253:22 285:16 <b>puts</b> 126:3 210:18 <b>P.C</b> 1:21 2:3,9 291:5,10 <b>P.E</b> 4:14,18 <b>p.m</b> 1:20 99:14,15 99:15,17 150:14 150:15,15,17 213:25 214:1,1,3 226:11,12,12,14 248:6,7,7,9 279:3,4,4,6 287:14	237:13,14 238:18,18,20,21 242:1,10 243:17 244:13 249:23 250:1 270:16 278:11,23 285:2 285:4 <b>questioned</b> 17:16 <b>questions</b> 18:11 179:22 180:7,10 180:12 216:25 217:11,20 218:21 219:2 233:25 239:9 242:9,10 260:23 265:9 273:5,6 274:24 275:6 284:21 285:14 285:23 287:10 <b>QUESTIONS/L...</b> 7:5 <b>quickly</b> 236:1,4,9 272:10 <b>Quicksilver</b> 47:11 64:12 <b>Quicksilvers</b> 47:18 <b>quite</b> 26:7 37:1 106:3 136:19 229:2 272:10 <b>quote</b> 129:11 <b>quoted</b> 182:8	38:10 39:9,24 40:8 42:18 45:2 54:8,23 55:16 56:10,20 57:9 67:25 68:1,22 72:18 88:22 89:8 90:6,15 93:11 94:7,11,15 125:11 127:9,14 134:8,9,15,23 135:14,24 136:4 139:1,5,19 140:7 141:12 143:3,9 144:22 147:24 149:4,15,16 150:7 151:8,9 154:10,25 163:18 164:6 166:6 167:3 168:10,20,24 169:11 170:21 173:21 177:3 180:9,14 181:13 181:14 183:8 185:22 186:23 187:15 189:17 190:1 195:10 199:12 207:25 208:1,17 230:22 231:22 251:18 251:19 264:11 264:23 266:9,10 266:19 267:8,12 267:13 269:9 270:10,17,24 271:1,8,10 272:22 273:9,10 274:11 277:1 279:14,24 280:6 280:23 281:9 <b>raise</b> 8:24 9:5 233:8 261:19 <b>raised</b> 261:18 <b>raises</b> 201:24 <b>ramification</b> 196:12 <b>ramifications</b> 272:20	<b>Ramon</b> 155:3,3 172:10,12,13,18 <b>Ramona</b> 155:4 <b>Ramone</b> 154:19 155:2 <b>ran</b> 121:5 <b>range</b> 1:7,8,18,18 2:7,7 8:9,10,12 8:14 23:2 34:24 36:14 37:4 38:2 38:3,6,21 39:2,9 39:23 40:11 47:15,24 48:1 49:7,14 51:10 52:3 64:13,20 65:2 70:7,21 72:7 73:14 74:23 75:16 78:7,10,12 78:13,16 80:2,9 80:15,20,25 81:2 82:23 83:10,16 84:5,11,18 85:12 85:18,21 86:20 99:24 100:3 102:7 105:22 106:10 107:20 108:10 110:12 111:2,10,15 116:24 117:7,13 117:22 119:20 120:10,19 123:12 125:18 126:14,16 136:14,16 140:18 142:4,12 164:25 174:20 175:9,22 176:8 176:13 178:17 185:22 198:11 201:15 216:13 225:1 243:23 247:2 248:17 251:5,16 252:8 253:14,22 254:3 263:13 264:9 271:7 272:21 273:11 274:1,2 279:20 290:7,8	291:8,8 292:23 292:23 <b>Range's</b> 45:18 64:1 83:2 84:15 104:4 108:3 125:3,14 133:16 133:23 176:25 177:4,4 196:18 199:6,20,24 201:4 205:8 227:3 251:1 <b>rapidly</b> 283:7 <b>ratio</b> 75:3 <b>Ravel</b> 5:12 154:23 <b>raw</b> 249:3 253:5 <b>reach</b> 205:4 <b>reached</b> 195:4 <b>read</b> 13:14 17:12 18:6,8,16 21:4 24:13,20 30:20 35:3,4,18 36:19 38:1 39:12,13 41:17 44:23 46:9 69:6,17,18 70:24 71:24 73:17 76:12,20,21 78:21 79:24 80:6 96:20 104:24 105:3,4 129:7,8 129:17 130:6 131:5,17 139:10 139:11 141:3 143:5,7 181:16 193:18 203:18 205:21 217:17 230:14 239:15 241:1 268:4,5 269:8 270:2 273:23 289:1 <b>reading</b> 18:23 37:22 76:22 77:23 80:12 130:10 131:4 142:2 241:14 272:4 <b>Ready</b> 279:9 <b>real</b> 67:9 <b>really</b> 69:22 77:7
<hr/> <b>Q</b> <hr/> <b>qualifications</b> 72:22 180:13 <b>qualified</b> 285:20 286:18 <b>qualifying</b> 72:24 <b>quality</b> 182:13 246:21 <b>question</b> 18:5 30:8 37:1 41:23 43:7 44:12 53:16 65:1 69:14 89:4 95:6 106:23 114:22 122:19 128:3 145:16,19 161:22 166:10 174:25 177:10 179:5,6,8 181:1 195:15 212:24 213:20 214:13 219:12 225:11 228:16 229:3,13 230:5 234:22	<hr/> <b>R</b> <hr/> <b>R</b> 2:1 235:13 <b>Rabel</b> 154:19 <b>radial</b> 81:3 119:21 120:9,11 <b>radioactive</b> 154:11 <b>radius</b> 157:10,19 159:10 161:8 <b>Railroad</b> 4:16 5:15 5:21,23 6:1,4 11:19 12:2,6,15 13:1,16 16:11 17:13 19:2,7,11 20:6,24 21:18,25 35:7,11 36:5			

98:17 100:15 123:9 130:19 148:18 150:3 161:24 198:23 228:25 257:9 263:18 <b>reason</b> 17:16 18:24 21:10 36:22 67:6 72:25 86:17 105:21 123:4 131:15 165:14 172:6 239:21 242:16 244:22 253:2 261:12 263:18 288:4 <b>reasonable</b> 111:7 111:20 112:7 113:19 114:5,10 114:18 118:25 125:3 161:18 195:5 196:17,20 198:8,12 219:1 219:13 <b>reasonably</b> 161:16 <b>reasons</b> 126:9 226:23 284:5 292:20 <b>recall</b> 20:2 37:10 49:12 55:14 68:19,24 71:1,12 76:22 77:16,20 77:22 80:18 81:24 82:6 89:25 90:2,5 92:3 100:1 113:14 137:2,6 140:20 154:7 165:2 185:11 206:20 207:7 208:15 211:7 215:18 233:14 242:18 267:20 275:8 276:11 <b>receive</b> 185:14,17 <b>received</b> 12:25 13:22 36:9 49:3 54:5 97:12	248:20 <b>recognize</b> 41:12 61:17 96:12 129:1 151:4 273:1 <b>recognized</b> 109:22 <b>recommended</b> 274:15 282:12 <b>Recompletion</b> 5:22,24 <b>record</b> 1:23 8:1,7 11:19 12:6,10,11 12:18,20 13:9,10 13:25 14:17 17:6 17:12 18:18,19 18:21 19:3,11,14 35:7 41:7 42:18 43:6,9 44:23 50:17 53:1 54:12 54:15 68:16 99:13,16 119:8 134:19 150:13 150:16 171:6 213:24 214:2 226:10,13 248:5 248:8 268:5 271:15 272:4 274:19,23,25 276:9,18 279:2,5 287:13 290:17 291:2 <b>records</b> 11:21,22 12:3,15 14:8 121:18 133:14 154:19 155:2 201:2 208:17 220:18 266:20 266:22 <b>recovery</b> 188:22 <b>red</b> 32:12 <b>reduce</b> 218:21 <b>redundant</b> 180:10 <b>Redweld</b> 98:4 <b>refer</b> 23:20 29:10 31:22 39:19 99:4 <b>referenced</b> 22:25 28:24,25 <b>referred</b> 22:19	23:19 28:5 34:4 47:2 75:17,18 181:20 <b>referring</b> 25:5 36:18 <b>refers</b> 17:8 <b>refining</b> 193:16 <b>reflected</b> 13:25 <b>reflects</b> 135:10 175:11 <b>regard</b> 180:25 181:2,21 215:9 216:1 224:22 226:16 280:7 281:11 <b>regarding</b> 38:5 150:7 <b>regional</b> 32:6 204:4 <b>Registration</b> 292:14 293:8 <b>regularly</b> 210:7 <b>related</b> 78:21 91:2 91:22 95:16 152:17 166:21 169:24 170:14 220:1 292:5 <b>relates</b> 149:5 <b>relation</b> 220:16 272:21 <b>relatives</b> 131:21 <b>release</b> 181:17 <b>relevant</b> 149:8 <b>reliability</b> 251:9 <b>reliable</b> 246:24 247:9,19 <b>relied</b> 127:17 <b>relief</b> 140:3 <b>rely</b> 130:7 218:12 <b>relying</b> 117:7 <b>remains</b> 103:23 <b>Remediation</b> 172:15 <b>remember</b> 37:22 61:18 71:6,7 77:23 78:3,4 82:7 89:16,17 92:6,7,21,22	93:21,24 130:15 134:25 154:10 167:2 171:4 207:8,9 211:10 212:6,8,10,20,25 213:3 214:22 215:8,12 239:9 241:14,17,18,20 275:7,12,14,16 275:18,19,20 276:1,4,5,6,9,12 <b>repeat</b> 43:7 60:11 228:11 250:25 <b>reply</b> 270:18 <b>report</b> 5:22,24 51:1 57:24 58:3 58:12 59:22 61:24 62:4,14 160:3,8,14,19 161:3 162:2 168:17 192:13 193:9 194:19 195:2 196:15 199:5 200:12 209:24 210:1 211:21 216:21 246:9,13,16 258:2 <b>reported</b> 1:21 181:20 <b>reporter</b> 1:20 8:24 9:2,5,11 99:5 290:15 <b>Reporters</b> 3:6 292:13 293:7 <b>Reporter's</b> 4:11 290:12 <b>reports</b> 6:2,5 38:6 56:2,3 59:11 88:11 160:23 161:1,11 162:18 163:9 169:23 181:12 195:11 245:8,13 262:23 <b>represent</b> 9:4 19:24 44:10 178:19 <b>representative</b>	8:12 42:25 142:17 144:11 <b>representatives</b> 144:15 166:13 <b>represented</b> 207:8 <b>representing</b> 8:22 279:21 <b>request</b> 40:14 126:3 154:20 <b>REQUESTED</b> 7:1 <b>requests</b> 143:20 155:2 <b>require</b> 65:25 <b>required</b> 48:19 70:21 84:8,23 104:14 127:20 145:14 234:4,11 234:18 235:1 <b>requirements</b> 5:20 207:24 292:8 <b>requires</b> 126:10,11 <b>research</b> 24:9 25:5 88:13 156:6,7 189:24 228:6 235:17 237:1 <b>researched</b> 238:7 <b>reserve</b> 187:24 188:1,7 219:21 220:5 <b>reserves</b> 220:6,7 <b>reservoir</b> 115:9 121:24 196:17 196:21 197:6,21 197:22,25 198:9 234:21 257:14 <b>reservoirs</b> 197:24 <b>residence</b> 131:12 131:23 <b>resistance</b> 83:24 118:12 224:16 <b>resolution</b> 249:4 250:23 251:6 253:4 <b>resources</b> 1:8,18 2:7 5:5,7 27:11 272:21 290:8 291:8 292:24 <b>respect</b> 51:14 52:4
--	--	--	--	--

149:3,25 266:19 267:19 <b>Respectively</b> 259:16 <b>respondent</b> 140:20 195:23 196:11 <b>response</b> 44:16 218:22 <b>responsibilities</b> 55:24 <b>responsible</b> 49:19 50:6 <b>responsiveness</b> 33:5 38:23 57:5 73:18 92:5 93:20 175:24 210:25 <b>rest</b> 222:21,21 <b>result</b> 235:12 268:11 <b>retain</b> 12:14 <b>retained</b> 208:7 <b>retired</b> 170:18,20 189:2,3 <b>retiring</b> 191:6 <b>retrieval</b> 151:5,6 151:25 152:4 183:8 <b>retrievals</b> 183:16 <b>retrieved</b> 183:12 183:13 <b>return</b> 290:20 <b>returned</b> 292:18 292:20,21 <b>revenue</b> 220:12 <b>review</b> 14:5 35:14 35:15,17,19,21 60:25 95:22 265:2 266:22 <b>reviewed</b> 11:18 12:6,8,11,18 13:3,11 35:6 37:21 42:18 130:1 168:16 197:16 240:18 266:20,21 <b>reviewing</b> 14:17 123:8 <b>revised</b> 59:11	<b>RE-EXAMINA...</b> 4:5,6,6,7,8,9 232:3 257:24 260:25 273:7 284:22 286:11 <b>re-read</b> 31:24 <b>re-reading</b> 41:3 <b>Rich</b> 1:11 3:1 9:4 144:5 230:8 290:11 292:1 <b>Richard</b> 169:7 <b>Richter</b> 1:13,17 4:3,14,18 6:8,10 8:3,20 9:12,16 9:18 16:9 53:5 54:18 63:14 82:16 87:19 99:19 150:20 180:4 214:6 216:24 232:5 248:11 258:2 265:8 273:4 278:18 279:10 287:10,11 288:2 289:1,5,11 290:13,16,20 <b>Rich's</b> 144:6 <b>Rick</b> 281:25 <b>right</b> 8:24 9:5 12:19 17:5,9,17 22:17 23:14,20 23:25 25:20 27:17 28:25 30:18 31:8,21 32:4 34:22 35:5 38:10,15 39:5,11 41:20 42:18 44:9 46:18,22 47:25 49:12 50:15 51:25 52:2,20 53:24 54:10,11 58:8,11 66:12 77:8 82:11 89:12 95:1 98:23 112:13 113:5 116:16 121:9 122:8 124:11 126:14,14	128:20,24 133:19 138:15 140:1,5 141:9 156:16,21,24 161:21 163:3 170:5 173:12 175:10 177:2,12 179:15 181:6 183:1 185:20 186:5,14 187:3 188:17 189:5,13 191:2,22 192:3 192:20 193:6 194:8 197:13 198:8,22 199:10 199:15,16 200:7 202:6 203:24 204:13 205:15 206:1,5,14,19,24 207:4,6 209:17 211:24 212:20 214:12,15 215:15,20 216:3 218:16,23 219:24 220:11 222:12 223:11 226:6 230:7 232:11,22 233:8 235:4 239:13 240:24,25 241:2 243:1 244:1 246:2 248:15,17 249:15,18 250:3 255:16 257:22 258:21 259:3,5 259:13,17,23 260:1,13 261:7 262:10 263:2 265:8,16,21 266:16 269:4 271:6 273:22 274:8 276:12 279:22 281:17 281:24 282:7,11 282:22 283:5,15 284:8 285:22,24 <b>rights</b> 139:6 <b>right-hand</b> 16:16	151:11,11 153:12 155:19 156:17 159:2 <b>ring/alert</b> 266:12 <b>rise</b> 103:8,11 104:2 <b>Ritter</b> 2:3 6:12 8:17 19:24 20:3 20:23 21:18,23 91:1,21 128:11 128:13,14,15,16 128:17 129:2 130:24 132:4,15 132:17 184:7,8 193:13,19 203:17 291:4 <b>Ritter's</b> 97:4 132:9 <b>river</b> 130:14,19,21 132:6 <b>rock</b> 268:20 <b>role</b> 271:1 <b>Ronquillo</b> 3:2 9:4 292:2 <b>room</b> 270:22 <b>Rosas</b> 6:17 150:23 <b>roughneck</b> 190:15 <b>roustabout</b> 190:15 <b>routinely</b> 130:3 <b>RRC</b> 38:2 142:13 <b>rule</b> 48:8,10,11 49:17 50:14 51:13 52:4,21 53:13,21 58:24 59:18 60:4,10,21 60:22 61:21 62:1 62:6,17,21 63:3 65:16,24 66:15 110:25 125:22 126:10,11 175:8 188:21,23 206:21 207:24 271:24,24 292:8 292:17 293:1 <b>ruled</b> 147:15 <b>rules</b> 1:22 59:15 60:16 66:3 146:17 188:20 207:25 <b>run</b> 31:13 71:17	133:3,3 222:1 <b>running</b> 31:8 208:16 <hr/> <b>S</b> <hr/> <b>S</b> 2:1 <b>saltwater</b> 257:9 <b>Salvant</b> 3:5 <b>sample</b> 247:21 <b>sand</b> 81:3 83:21 84:1,2,6,9,25 227:5 <b>sands</b> 126:24 <b>Sara</b> 2:18 8:22 291:20 <b>saved</b> 15:19 <b>saw</b> 14:6 18:17 44:13 72:2 93:10 116:11 147:8,12 156:13 193:20 211:21 215:13 239:1 <b>saying</b> 15:16 19:18 49:10 102:12,13 115:17 117:8 122:11 125:6 127:8,17 135:8 143:16 144:17 148:7 149:7 165:16 193:15 208:15 218:2 222:19 235:23 246:25 247:9,14 247:19 253:10 259:5 274:18 276:19 282:22 284:11 <b>says</b> 16:16,18,22 16:25 17:5,17,22 34:11 38:21,22 39:1,2,5 44:12 44:18 45:23 46:17 47:24 48:17,19,21 49:18 52:21 58:14 60:6,18 62:7,12,13,22 78:11 88:23
--	--	--	--	---

100:7 120:25 129:18 130:24 131:2,5,8,20 132:6 133:14 141:1 142:1 143:15,17 150:25 152:6 153:1,5,7,14,15 153:17 155:21 156:21,23,25 157:1,10,24 158:2,24,25 159:5,6,13,17,20 159:23 160:1,21 196:9 199:19,24 201:2,14 202:18 205:2 213:5 252:5 275:21 280:5 281:9,17 281:24 282:3 286:24	<b>section</b> 37:10 49:19,21 50:5,7 50:10 58:12 60:9 63:23 71:7 141:1 141:5 <b>sections</b> 37:10 83:22 108:24 118:18 <b>sector</b> 190:25 <b>securely</b> 49:21 <b>see</b> 14:18 16:18,22 17:4 18:1 27:18 28:18 35:2 41:24 42:23 44:12,15 45:15 46:1,10 48:17 58:15,20 58:21 59:13,17 60:15,19 64:13 64:21,24 67:22 73:9 74:17 75:3 79:15 88:6 90:8 95:20 104:8 108:24 117:1,11 118:19 119:18 119:19,24 121:18 125:7 130:5 131:13,14 131:24 136:8 137:10 144:10 151:10 153:12 154:20 158:3,9 162:13 168:25 177:15 179:15 181:19,25 182:1 182:9,11 190:2 192:1,2 198:3 202:21 220:12 220:17 231:10 235:19 236:14 239:8 243:25 244:5 245:9 246:15,18,20 247:22 249:10 251:3,7 258:5 265:3 266:22 267:5 269:4 273:13,20 276:7 276:8,14 280:9	280:21 281:12 <b>seeing</b> 61:18 154:11 247:24 <b>seeking</b> 66:7 <b>seen</b> 33:3,4 36:7,8 37:17 76:9 81:25 97:13 101:16,17 101:22 117:17 117:24 128:9 129:23 132:3,14 132:21 142:21 143:5 144:5,6,7 148:3 151:1,24 154:5 155:5 181:11,11 195:11 209:25 210:9,12 211:15 211:16,18 236:20 237:19 271:21 272:19 <b>seismic</b> 23:1 33:4 34:25 43:17 248:25 249:2 251:2,5 255:9 268:14 <b>seismology</b> 33:4 <b>send</b> 51:18 95:3,7 95:10,13 165:15 210:20 211:9 212:3 <b>sense</b> 147:22 231:6 <b>sent</b> 14:3 19:20 49:6 51:17 95:12 95:16 96:22 97:2 97:4 98:11,16,18 98:19 99:3 142:3 191:14 <b>sentence</b> 19:17 41:4 79:24 80:6 129:18 131:14 131:19 193:25 204:15 205:3 286:13,16 <b>September</b> 6:3,3 61:24 62:1,4 <b>served</b> 143:21 293:2 <b>service</b> 151:5,6,15	151:15 <b>set</b> 17:20 19:18 46:3,17 47:18 48:1,22 49:14 50:11 51:10 52:13,15 53:14 53:17,17 63:6 64:6 65:17,19,20 65:25 66:21,23 67:6,10,12,16,17 117:6,13 125:19 125:25 126:5,9 126:11 127:19 196:24 258:3 <b>sets</b> 177:10 <b>setting</b> 64:25 <b>sev</b> 15:4 <b>seventh</b> 140:25 <b>Sewell</b> 89:14,14,15 153:20 <b>Sewells</b> 89:11 <b>shale</b> 4:21 5:2,10 30:21 32:8 45:18 120:17,18,25 121:2 176:10,14 176:16,22 177:18 230:23 249:18,21,22,25 250:3,3,5 252:4 253:13 254:5,6 267:19 268:10 268:12 <b>shallow</b> 64:14 126:19 268:12 <b>shallower</b> 64:6 <b>shallowest</b> 268:21 <b>shape</b> 43:9 222:8 222:12 <b>sheet</b> 155:20 196:9 <b>Sheila</b> 143:12 <b>short</b> 126:19 217:12 <b>shorter</b> 221:13 <b>shorthand</b> 1:20,21 290:14 <b>shortly</b> 244:4 <b>show</b> 10:5 16:8 22:5 24:16 25:22	26:17 27:23 30:3 30:12,13,15 31:6 31:7 36:2 41:10 44:21,22 46:11 48:14 53:5 57:21 61:15 76:7 97:10 124:19,21 125:19 127:2 138:22 143:16 145:15 164:14 166:14,18,18 249:7,25 252:2 273:18 <b>showed</b> 21:18 46:11 75:23 104:25 145:11 145:17 <b>showing</b> 21:24 26:15 92:22 125:17 <b>shown</b> 28:6,16,23 28:25 29:3,3,4 42:2 43:5,19,22 43:25 53:6 64:5 75:4 108:3 144:21 164:17 244:3 278:9,14 293:2 <b>shows</b> 26:8 28:11 31:7,21 34:25 43:16 60:3 61:19 61:25 62:5,8,16 78:17 134:19 162:24 164:23 246:9 249:2 255:10 <b>shrubs</b> 130:20 <b>Shyla</b> 1:2 8:4 143:13,14 144:15 290:2 <b>sic</b> 83:5,11 143:12 154:19 268:17 268:21 269:17 <b>side</b> 158:2,21 159:2 197:7 207:11 225:15 <b>sides</b> 148:11 223:2 <b>sideways</b> 162:11
---	--	---	--	---

<b>side-bar</b> 242:7 244:19,21	45:10 48:13 50:19,25 51:3,9	219:3,19 220:4 223:22 224:7,18	192:16,25 216:18 218:24	142:2 143:14 145:3 149:14
<b>sign</b> 10:15 170:17 232:23	52:9 53:4,11,19 54:11,17 57:5,7	225:10 227:2,22 229:8,11,20	222:14 225:24 226:2 232:13	162:3 171:10 177:9 181:8
<b>signature</b> 4:10 288:1 289:2	57:20 60:7 61:14 65:12,23 66:9	231:4,19 232:4 234:9 237:9,14	239:2 249:16 254:9 256:3	185:1,1 200:2,15 201:25 216:7
290:20 292:20	67:14 69:16 72:9 73:19,23 74:4,24	237:15 238:22 240:20 242:7,11	258:6 260:12,21 270:2 274:9	221:1 229:12,16 258:12 275:23
<b>signed</b> 10:25 11:3 11:9,12,17 12:4	74:25 76:3,19 79:1,8,23 80:21	242:15 243:15 244:12,21 245:1	275:18 276:2,23 277:4 282:14	<b>sort</b> 42:24 104:13 115:5 119:18
12:7,12,17 18:15 174:14 210:11	85:6 87:8,14 88:25 89:6 90:17	245:11 248:3,10 250:12 251:12	<b>sit</b> 56:19 57:8 73:24 74:5 77:4	120:12 133:3 154:7 201:11
214:7 215:1 232:7,11 233:1,6	91:16 92:11 94:1 96:11 97:9 98:7	251:17 256:8 257:23 260:24	81:7 85:7,8 101:18 104:12	219:24 220:3 222:12 234:3
233:12,13 264:3 265:11,12	99:10,18 103:16 104:23 106:15	261:1 262:6 263:23 264:14	108:21 124:24 133:21 134:1	235:1
279:24 282:18 284:15,25	106:24 111:18 112:5,18,24	264:18 265:4,13 265:18,24 266:5	169:8 234:2,16 234:22,25	<b>sought</b> 140:4 <b>sound</b> 82:11
<b>significance</b> 83:14 83:18 152:13	114:8,9,19,23 116:4 118:23	267:2,15 269:1 269:11 270:6,12	253:19 255:19 <b>site</b> 131:21 163:13	171:19,23 <b>sounded</b> 41:17
251:20,23,25	119:10 120:6 122:7,20,22	271:3 272:23 273:8,15,17	163:15 172:15 182:24	<b>sounds</b> 193:15 263:6
<b>significant</b> 263:4,4 <b>significantly</b> 63:16	123:10,21,23,25 124:5,7,14	275:4,15 278:17 278:20 280:16	<b>sitting</b> 149:23 <b>situation</b> 56:21	<b>sour</b> 198:2 <b>source</b> 77:1 80:23
63:18 66:14 67:18	126:17 127:11 127:21 128:7	281:5 284:23 285:15 286:10	57:8,12 <b>six</b> 10:24 193:4	110:16,19 111:1 111:3 120:18
<b>signifies</b> 159:7 <b>signing</b> 35:5	130:22 132:18 133:10 137:5,16	287:8,11 290:23 291:9 292:22	272:1 <b>sixth</b> 140:25	138:14,14 167:11 175:8
<b>silver</b> 242:3 <b>Silverado</b> 1:4 2:16	138:12,21 139:17 141:5,7	<b>single</b> 159:11 <b>Sip</b> 194:21	<b>sixty</b> 41:21 <b>SJOBERG</b> 2:13	192:11,11 217:25 218:7
8:23 241:22 290:4 291:17	142:20 143:1,2 143:22 144:25	<b>sir</b> 9:6,19 11:6 16:13,21,24 17:3	291:14 <b>small</b> 105:24	228:13 236:21 237:5,21 238:4
<b>similar</b> 70:6 208:23	145:5,23,25 146:7,10,20	17:7,11 18:5 20:16 23:24	252:13,14,21 <b>smart</b> 180:11	238:11,14 240:5 240:11 241:6,11
<b>similarly</b> 209:11 <b>simple</b> 18:23	149:11,12 150:12,19	24:21 26:2 30:10 30:18 31:25 32:4	<b>smceown@jw.c...</b> 2:21 291:23	241:12 242:23 <b>sources</b> 218:9,10
145:19 <b>simplest</b> 111:10	152:12,19,22 155:9 158:15	35:24 36:11,16 41:22 42:19 45:5	<b>solid</b> 225:22 <b>solids</b> 226:3	218:11 236:14 236:15
<b>simply</b> 227:15 <b>Sims</b> 2:8 4:4,5,6,7	161:20,24,25 162:5,7 165:5,22	46:1 48:18,20 55:22 57:11	<b>somebody</b> 71:2 95:13 244:24	<b>south</b> 31:12 <b>southern</b> 26:13,18
4:8 8:8,8 9:15 10:4 13:2 16:7	165:25 166:5,12 167:6,13 171:17	62:22,25 69:10 96:14 98:9	246:25 247:19 <b>somewhat</b> 197:23	29:18 <b>southwest</b> 29:24
19:8,9 22:9,12 22:14 24:5,7,23	171:21 174:2,24 175:24 176:1	100:22 129:19 131:14,25	<b>sorry</b> 10:9 24:3 26:22 32:25	187:22 <b>so-called</b> 84:1,9
25:24 27:1,5,22 28:1,13 29:5,8	177:7,23 178:5 178:25 179:9,22	133:20 135:17 138:23 139:21	34:17 36:5 46:19 60:11 65:14 66:2	<b>space</b> 71:20 101:15 261:6
30:9,25 33:5,7 34:14,17 36:1	179:25 183:13 184:22 217:1,3	155:15 159:16 180:6,18 185:6	67:4 79:21 91:18 106:8 128:3	<b>spacing</b> 188:25 189:1 206:22
37:13 38:17 39:4 41:9 42:5,9,14				207:24

<p><b>speak</b> 172:22 193:10 272:5 <b>speaking</b> 17:18 103:7 <b>specific</b> 50:5,10 77:17 106:25 107:25 208:1 216:17 234:7 <b>specifically</b> 44:21 224:25 266:23 267:14 274:24 275:6 <b>specified</b> 48:23 <b>speculate</b> 123:16 <b>spelled</b> 155:2 <b>spelling</b> 212:18 <b>spent</b> 191:23 <b>splinter</b> 44:18 <b>spoke</b> 73:3 193:14 <b>spoken</b> 183:3 <b>spot</b> 226:7 <b>spring</b> 58:9 <b>square</b> 69:13,20 104:16 105:1,19 223:2 <b>St</b> 2:4,4 291:5,5 <b>stab</b> 272:17 <b>stack</b> 156:2 166:2 <b>staff</b> 5:13 37:18 141:13,17 145:7 172:21 183:6 279:20 <b>stamp</b> 54:6 126:3 210:17 <b>stamped</b> 152:9 <b>stand</b> 58:23 <b>standpoint</b> 21:8 136:2 197:16 <b>Stands</b> 58:24 <b>start</b> 66:4 87:24 95:22 115:18 123:7 173:18 198:17 225:16 280:18 <b>started</b> 14:3 15:5 77:9 167:4 178:24 186:20 187:23 218:6</p>	<p>223:14 277:22 <b>starts</b> 118:8 225:17 <b>state</b> 1:20 8:6 9:16 26:18 33:12 34:23 56:12 83:11 126:2 143:10 144:16 161:2 163:20 168:8 195:1 198:18 289:7,22 290:15 <b>stated</b> 1:23 11:17 72:6 80:2,9 96:7 109:20 119:20 120:10 140:21 142:8 192:17 198:19,19 199:7 199:22 200:8 225:1 226:23,24 281:22 <b>statement</b> 12:21 12:24 14:14,15 25:14 43:18 68:8 69:15 116:12 120:20 130:8 198:24 199:7,19 200:8 201:7,8 202:21,23 225:9 230:17 248:19 273:3 <b>statements</b> 14:13 78:20 79:3 136:12 200:14 <b>states</b> 32:6 38:11 51:4 129:3 151:9 152:25 279:23 <b>state-of-the-art</b> 131:10 <b>state-wide</b> 48:8,10 48:11 49:17 51:13 52:4 53:13 58:24 59:15,17 60:4,10,16,21,22 61:21 62:1,6,17 62:21 63:3 65:24 125:22 <b>static</b> 103:23 104:9</p>	<p>117:18,21 118:2 222:14,15,19,24 <b>stationed</b> 56:11 <b>Status</b> 59:1,14 60:8,12 62:18 <b>stay</b> 222:21 223:3 <b>stayed</b> 54:3 <b>Stephanie</b> 184:18 <b>Steve</b> 97:6 193:13 <b>Steven</b> 1:2 8:4 16:23 80:10 130:2 143:12 144:15 281:24 290:2 <b>Stewart</b> 2:2,3 4:7 6:9,18 8:16,16 9:1 12:23 13:23 18:24 19:23 20:3 20:23 21:17,23 22:11,13 24:3,6 26:20,22 28:8 29:2,7 30:6,20 36:9,10,24 38:16 38:19,23 40:13 42:3,7,13 50:23 51:2 52:7 53:8 53:15 60:5 65:11 65:14 66:2,25 67:2 69:14 72:4 76:16 78:23 79:7 79:18,20 80:17 85:4 87:5,12 88:23 89:3,19 91:1,15,21 92:1 92:2,5 93:20,23 94:6 96:22 97:2 98:3 99:12 103:10 104:19 106:8,21 112:15 112:21 114:12 114:21 116:1 118:21 119:6 120:2 122:6,18 123:3,15,22,24 124:2,6,10 126:15 127:10 127:16,25 128:17 130:9</p>	<p>132:11 136:24 137:14 138:3 139:14 141:3,6 142:25 143:13 144:13,24 145:3 145:20 146:5,9 146:13 150:23 152:8,15 161:17 161:21 162:3,6 164:21 165:24 166:2,8,23 167:9 171:16,18 174:22 177:6,9 178:3 179:4 184:6 200:2,4,15 202:15 203:17 203:20 206:10 210:24 211:4 212:23 213:10 213:14,17 214:13,16 216:7 219:4 226:7 234:6 237:7,11 238:17 240:15 241:25 242:8,13 244:8,17,20 250:10 251:11 251:14 256:6 258:25 262:3 264:13,16 265:5 265:7,15,20 266:1,7,13,16,18 267:7,17 269:3 270:1,8,14 271:5 273:4 275:1,13 281:6 283:2 285:8,11 287:6,9 290:24 291:4,5 <b>Stewart's</b> 97:6,12 184:18 248:21 <b>stick</b> 204:13 <b>sticking</b> 272:17 <b>stimulated</b> 266:24 <b>stimulations</b> 268:18 <b>stimulus</b> 104:8 108:20,22,23 <b>stint</b> 191:3</p>	<p><b>stood</b> 272:10,25 <b>stop</b> 254:10 255:1 <b>stops</b> 256:16,22 <b>Straight</b> 221:18 <b>Strawn</b> 63:23,25 64:1,10 70:11 75:21,25 82:18 83:2 85:14,17 102:5,10,11,13 102:13,16,17,21 102:22 103:1,20 104:2 106:17 107:22 108:6,15 108:18 109:18 109:25 111:12 111:16,24 117:10 118:13 118:15,16 122:12 126:24 220:19 224:25 225:4 227:7 231:13 234:5 253:25 254:11 254:20 255:6,13 256:17,19 <b>stream</b> 220:12 <b>street</b> 1:21 2:9,13 2:19 3:2,6 286:7 291:11,15,21 292:2,14 293:8 <b>strictly</b> 84:4 <b>strike</b> 215:15 <b>string</b> 221:13,15 <b>strings</b> 258:4 <b>structure</b> 32:7 34:25 39:16 193:25 249:23 249:25 <b>Stuart</b> 170:11 183:14 <b>student</b> 189:15 <b>studied</b> 112:20 262:9 <b>studies</b> 103:24 <b>study</b> 74:2 77:2,17 81:1,6,11 83:4 84:13,14,19 85:2 85:5,11 86:2,8</p>
---	--	--	---	--



86:12,15 87:16 87:18 100:15 101:2,3,8,10,13 104:3,6,13 108:12 110:7,15 110:20 111:5 122:2,14,23 123:4,11 124:3 124:15,25 215:17,19,21 227:24 228:12 233:21 239:12 262:8 <b>stuff</b> 92:9 97:3 98:20,22 146:21 180:8 279:12 <b>styled</b> 8:4 <b>sub</b> 195:3 269:21 <b>submit</b> 196:19 <b>submitted</b> 141:14 145:8 205:9 251:16 290:19 <b>subscribed</b> 232:24 289:15 <b>subsequent</b> 98:20 98:21 <b>subsequently</b> 12:14 <b>such-and-such</b> 165:17 <b>sufficient</b> 65:18,19 67:10,18 104:17 125:20,21 148:7 261:19 <b>Suite</b> 1:21 2:4,9,19 3:2,6 291:5,11 291:21 292:2,14 293:8 <b>summarizing</b> 136:13 <b>summary</b> 195:1 196:15 <b>summer</b> 190:6,21 <b>Sunday</b> 14:16 17:15 <b>supervising</b> 55:2 <b>supplement</b> 96:23 <b>supplied</b> 68:4	<b>supplies</b> 82:4 <b>supply</b> 38:7 81:23 82:1 83:8 130:4 133:17 201:5 205:4 <b>support</b> 4:14,18 119:9 137:25 142:13 191:11 <b>supporting</b> 142:11 <b>supposed</b> 48:4 52:14 221:13 261:21 263:9,10 <b>sure</b> 14:8 17:20 19:18,21 20:3 25:18,19 37:17 41:4,14 48:3 50:23 57:3 92:17 95:10 109:21 112:13,20 113:15 126:12 146:9 169:4 173:22 217:3 223:25 225:11 226:9 228:12 237:3 278:15 286:4 <b>surface</b> 46:3,6 47:17,21 48:1,17 48:22 49:14 50:11 51:5,10,23 52:4 53:14 63:4 63:6,15,24 64:6 64:25 65:3,9,18 65:19,25 66:17 66:21,23 67:11 67:16 70:10,17 71:3 75:9 100:1 100:3 106:1,11 107:4,6 108:7 114:2 117:6,13 125:20 126:9,18 176:19 221:6,7 221:12 225:4 250:2,16 255:20 255:24 257:3 258:8,9,15,17,17 258:22 259:15 259:17 261:5,11	263:20 <b>surmise</b> 119:23 <b>surprise</b> 69:19,22 <b>surprised</b> 246:6 <b>surrounding</b> 35:1 207:16 <b>survey</b> 119:11 <b>Susan</b> 181:5 <b>swear</b> 9:7 125:2 203:3 233:9 264:3 <b>swearing</b> 12:5 265:17 <b>swimming</b> 132:21 <b>switch</b> 133:6 179:25 <b>SWK</b> 58:18 <b>swore</b> 13:12,17 18:18 248:16 <b>sworn</b> 1:19 9:13 202:24 203:8 232:24 239:22 265:12,22 290:17 <b>SWR</b> 58:14,19,23 60:6 <b>Synergy</b> 207:9 <b>system</b> 4:22 5:2,5 5:8 24:10,12,16 24:19 25:6 30:3 31:11,13 32:15 74:23 75:18 83:17,19 86:21 104:4 107:20 111:25 115:12 117:8 127:13 129:10,11 131:10 157:18 161:3 181:21 206:3 227:4 252:2 <b>systems</b> 138:6 <b>system-wide</b> 86:21	<b>TAC</b> 141:1,5 <b>take</b> 52:19 54:11 71:3,11 81:2 84:15 97:6 99:10 106:3 146:6,19 147:18 148:13 149:25 150:12 163:17,22 174:1 213:6 226:9 235:9 272:1 <b>taken</b> 1:19 45:3 202:2 219:11 247:21 249:24 282:13 291:2 292:6 <b>talk</b> 23:6 29:23 52:5 68:7 76:4 83:25 91:8,25 92:2,16 96:25 103:17 113:12 115:3 123:16,17 125:9 135:22 169:13 174:5 184:20 199:5 211:13 258:2 266:8 <b>talked</b> 43:5 81:19 83:6 84:10 85:1 91:21 135:13 154:3 164:4 169:15 172:18 174:4,6 183:2,9 183:20 184:11 193:12 209:18 230:12 236:21 254:19 275:10 276:14 283:25 <b>talking</b> 31:14 44:3 49:2 51:23 52:1 71:2 84:17 98:17 99:20 105:14 107:4 109:5 125:12 128:15 150:4 173:12 180:9,13 182:19 198:14 203:2 223:19 231:23 255:18 260:9,10	263:25 275:20 278:20 <b>talks</b> 32:10 59:14 262:24 <b>tank</b> 129:12,14 131:11,18 133:5 <b>tape</b> 213:6,23 279:1 <b>Tarrant</b> 29:13 <b>TCEQ</b> 49:3 50:20 <b>Tea</b> 194:21 <b>Teal</b> 5:25 6:2 35:2 38:4 43:2 44:21 53:7 58:1,6,8 59:22 60:3 68:13 68:16 71:10 73:5 73:10,14 75:14 83:3 84:3,24 99:25 100:4 107:9 108:1 109:3,10,16 110:12 111:3 116:19 117:23 118:1,20 119:19 119:23 121:11 122:3,15 123:1 124:17 134:22 142:14 175:18 176:6 177:25 178:15,18 179:12 204:6 234:14 236:22 236:24 237:22 238:5,10,11 239:23 240:5,8 240:12,22 241:5 241:8,9,23 242:21,23 243:1 243:10,21 258:7 258:14 259:21 266:24 268:10 269:13,22,24 273:25 276:8,11 276:14 <b>technical</b> 24:11,11 55:8 56:15 167:22,25 168:19,23 169:3
---	---	--	---	---

169:10 172:14 <b>technicals</b> 169:2 <b>technicians</b> 183:7 <b>techniques</b> 190:2 <b>technology</b> 50:9 <b>Tedi</b> 10:20,21 11:25 14:7 18:1 170:12 183:15 214:9 <b>telephone</b> 185:11 266:12 <b>tell</b> 20:25 21:25 22:15,20 86:16 89:1,7 92:6,19 94:6,10,14 95:19 114:25 115:15 115:15 122:15 122:25 149:2 158:8 168:22 183:9 192:7 211:6 219:14 221:8 228:8 234:17 237:4 246:5 253:3,4 271:13 <b>telling</b> 18:25 19:10 20:24 21:24 38:19 50:11 125:5 127:14 149:24 165:6 212:24 283:20 <b>temperature</b> 103:15 <b>template</b> 194:11 <b>ten</b> 213:7 221:19 <b>tend</b> 133:15 200:13 201:3,6 201:18,24 222:21 <b>tendered</b> 36:5 37:19 39:1 45:1 45:4 <b>tends</b> 133:23 <b>term</b> 114:24 115:1 197:9 205:18 <b>terminology</b> 195:7 195:14 <b>terms</b> 25:5 135:22	136:13 194:23 197:23 218:21 <b>territory</b> 225:23 226:4 <b>Test</b> 5:21,24 <b>tested</b> 269:19,24 <b>testified</b> 9:13 41:16 72:7,17 73:1,2 75:22 83:16 105:22 106:10,13 107:21 120:19 130:2 132:10 137:18 138:9 164:17 171:3 174:23 206:6 208:13 241:13 241:21 252:8,10 253:14 261:15 <b>testify</b> 38:24 88:21 88:24 89:8,23 92:25 93:5,8,13 164:5,14 166:14 166:18 170:3 286:18 <b>testifying</b> 137:6 206:24 274:18 276:25 <b>testimony</b> 9:7 41:13 70:7,24 76:22 82:20,22 84:4 86:24 101:23 112:22 130:2 135:4 136:12,13 137:19 154:7,9 182:1 191:11 202:2 203:8 204:14 215:18 224:22 234:1 237:10 239:15 239:19,22 241:1 242:2,5,17,18 244:16 251:8 254:3 261:2 265:22 267:4 274:23 276:1,6 276:12,17,21,22	279:11,13 290:17 291:1 <b>testing</b> 113:1 116:7 <b>tests</b> 101:14,15 121:6 177:16 <b>Texas</b> 1:11,21,22 1:22 2:4,10,14 2:20 3:7 4:23 5:3 5:6,8,18,19,21,23 6:1,4,13 11:19 33:13 55:16 56:20 57:9 139:1 139:5 154:11 161:2 163:14,18 168:8,19,24 169:11 173:21 189:15,19 206:17 272:22 290:11,15 291:6 291:11,15,21 292:15 293:9 <b>Thank</b> 9:11 24:6 34:12 162:6 214:5 216:25 232:2 260:22 269:7 270:15 287:10,11,12 <b>theirs</b> 78:16,16 <b>theory</b> 119:17 137:11 274:19 274:25 276:7 <b>therefor</b> 292:20 <b>Thermal</b> 5:10 30:21 <b>thermogenic</b> 72:3 72:5 74:18 75:4 137:8,13 138:14 275:10 <b>thick</b> 250:8,13 <b>thickness</b> 255:8 <b>thing</b> 22:23 31:24 64:22 115:12 117:17 122:9 148:20 152:3 164:22 176:13 181:16 189:25 190:18 195:25	197:22 209:19 219:24 220:3 228:24,25 230:21 231:22 <b>things</b> 90:20 94:23 115:10 127:3 136:16 137:25 168:16 179:7 182:10 217:24 218:17 222:21 247:24 254:16 278:2 286:2,5,6 <b>think</b> 10:24 18:3 22:18 42:16 57:16 61:3 81:11 87:2,9 91:23 95:14 96:22 97:5 104:16 109:20 117:25 119:1 121:4 122:9 125:21 126:16 126:18 135:6,7 145:20 158:10 158:13 159:10 161:22 168:18 169:13 170:25 172:5 174:16 176:17 181:17 181:20 183:2 184:22 186:3 191:14 192:14 193:3 194:24 197:23 198:22 208:13 209:2 210:5 213:5,7 214:12 217:15 218:23 222:10 231:9,21 233:24 235:5 244:14,22 244:24 246:21 250:6 255:17 260:20 262:9,19 264:25 272:16 272:16 273:2 278:3,19 283:11 <b>thinking</b> 64:20 166:11 216:14 225:21	<b>third</b> 152:23,25 273:20 <b>Thomas</b> 1:13,17 4:3,14,18 9:12 9:18 288:2 289:1 289:5,11 290:13 290:16,20 <b>thought</b> 57:16 82:12 86:16 91:11 92:24 93:5 137:25 185:21 217:11 <b>thousand</b> 32:10 47:19 64:16 67:19 109:15 184:24 <b>thousands</b> 197:17 223:1 <b>three</b> 14:21 22:2 77:12 96:23 97:2 97:7,19,23 98:17 98:19 100:4 140:24 142:5 169:2,5 171:18 184:12 194:23 196:23 253:16 <b>three-quarters</b> 221:19 <b>Thursday</b> 214:12 214:15,17,23 <b>tilt</b> 75:25 <b>tilted</b> 75:18 <b>tilting</b> 255:10 <b>tilts</b> 114:4 <b>time</b> 12:9 13:21 18:6,11 19:4 20:7 21:16 22:12 25:4 56:2,5 68:21 69:12 73:21 76:15 77:14 79:11 80:25 87:3,6 90:25 91:20 92:9 92:24 93:4 104:5 104:15,20 110:12 111:2 115:2 117:22 121:14 122:13
--	---	---	--	---

131:1,1,9 136:19 141:4 146:5 148:17 154:5 163:21 165:7,12 165:20 174:6 175:2,5,12,22 184:22 185:16 191:19,21 199:18 208:11 213:1,8,11 216:15,22 218:2 218:3,5,5 233:24 237:12 242:21 250:11 254:2 255:18 257:2 262:13 273:6 282:8 284:11 290:21 291:1 <b>times</b> 41:18 49:23 67:9 100:4,8 114:13,16 184:12 199:5 200:12 213:1,13 213:19 243:17 253:16 262:15 263:2,6 278:12 <b>time's</b> 266:17 <b>timing</b> 115:20 116:17 134:4,6,6 134:14 171:4 <b>title</b> 30:20 153:16 <b>titled</b> 5:4,7 <b>today</b> 8:20 56:19 57:9 69:25 73:24 74:6 77:5 81:7 85:7,8 96:24 97:1,25 101:18 104:12 108:21 124:24 133:22 134:1 155:5 169:8 173:12 174:23 191:25 198:24 204:5 217:13 218:6 232:12 234:3,16 234:22,25 253:19 265:22 <b>Today's</b> 8:2	<b>tokruhlik@hfbl...</b> 2:11 291:13 <b>told</b> 11:7 21:18 36:12,24 52:3 87:12 88:18,21 88:24 90:5 93:17 93:18 96:9 112:12 114:15 122:23 124:5,7 124:15 148:23 161:23 164:13 173:25 175:7 183:13 184:22 192:7 203:17 205:12 209:5 212:13 243:2,16 245:6,24 253:7 253:23 <b>Toll-Free</b> 292:16 293:10 <b>tons</b> 225:14 <b>tool</b> 65:20 67:12 <b>top</b> 16:15 28:12 32:8 46:22 49:12 70:9 79:15,16 105:18,25 107:5 140:25 153:1,12 156:21,24 159:17 162:8,20 195:3 200:25 202:13 221:5 250:7 259:17 269:16,21 276:2 <b>topic</b> 278:20 <b>total</b> 4:22 5:2,5,8 27:12 <b>tracer</b> 154:8 275:11 <b>track</b> 151:7 <b>Tracking</b> 161:3 <b>tract</b> 207:15,18 <b>tracts</b> 207:16 <b>trade</b> 169:2 <b>trails</b> 123:7 <b>training</b> 190:18 <b>transcript</b> 4:16 5:14 13:3,6,12 16:11,14 18:8	68:6 70:7 71:2 73:17 76:12,18 77:24 82:21 113:7 130:16 136:20 154:10 205:22 290:17 290:19 292:24 <b>transcripts</b> 11:22 262:20 <b>transfer</b> 114:3 <b>transmissive</b> 118:14 <b>transmitting</b> 112:1 <b>trashed</b> 96:7 <b>traversing</b> 24:17 30:3 <b>Travis</b> 146:19 <b>TRCP</b> 292:8,17 <b>treat</b> 149:4 265:16 <b>tree</b> 225:13 <b>trees</b> 130:21 <b>tremendous</b> 168:7 225:17 <b>trial</b> 206:12 <b>triangular</b> 42:24 43:8 <b>tried</b> 114:16 213:19 <b>trigger</b> 103:5 <b>Trinity</b> 76:1 107:22 111:12 111:16 117:11 225:5 255:14 <b>Troy</b> 2:8 8:14 291:10 <b>true</b> 12:21,24 13:9 36:25 39:7 40:12 47:16 48:25 49:1 65:5,13 67:5 103:7 110:13 119:7 120:20 122:21 124:22 124:23 131:16 138:16 198:20 201:8 230:20 233:11 234:5 248:19 256:10 256:17 257:18	264:11,15 289:3 290:17 <b>trust</b> 230:5 <b>truth</b> 9:8,9,9 30:2 39:23 88:10,15 88:18 203:8 <b>truthfully</b> 265:23 <b>try</b> 92:3 106:23 122:24 213:1 218:21 229:17 238:23 243:20 286:1 <b>trying</b> 30:8 137:1 202:6,9 220:2 237:3 243:12 245:19 262:19 273:2 278:25 <b>tubing</b> 222:1,3 <b>turn</b> 24:1 42:11 44:9 217:2 248:11 266:13 <b>turned</b> 14:22 <b>turns</b> 12:19 18:4 18:20 40:2 <b>twenty</b> 186:25 187:1 189:4 <b>twice</b> 191:14 <b>Twin</b> 247:3 <b>two</b> 4:16 5:14 22:11 26:5 30:7 38:7 54:1 98:2 117:19 118:18 138:18 140:24 142:4 162:12 168:14 174:9,9 174:11 178:20 184:11,24 189:7 207:1,15,17 215:9,24 241:20 253:15 259:13 259:13,16 260:24 268:2,4,6 282:18 <b>two-stage</b> 65:21 <b>type</b> 25:14 27:10 71:24 111:11 112:2 138:6,10 177:20 190:18	192:19 194:7 218:14,20 <b>typed</b> 15:1 192:18 193:1 <b>typeover</b> 15:10,17 <b>typical</b> 271:9 <b>typically</b> 11:15 129:15 188:20 222:1 257:8 271:14,24,25
<b>U</b>				
<b>UIC</b> 171:8,9 <b>ultimately</b> 205:4 <b>un</b> 127:12 <b>unappealable</b> 274:10,12,13 <b>uncemented</b> 70:18 83:22 117:20 176:18 258:8,11 258:14,15,19,22 259:7,12 <b>unconformity</b> 75:24 83:6,15 86:18,19,24 87:2 101:25 102:25 103:18 127:12 225:3,3 254:14 254:18 255:3 <b>undergraduate</b> 189:18 <b>underground</b> 171:10 220:1 <b>understand</b> 19:23 20:5 37:1 68:12 78:25 82:17 85:13 88:8 95:25 101:23 103:18 182:23 194:22 194:24 197:18 202:11 209:3 218:23 220:14 222:6 225:11 226:19 228:16 234:1 235:22 237:3 243:20 250:1 261:2 276:19 278:19				

<b>understanding</b> 21:4 36:16 82:19 128:21 147:9 182:18 229:12	80:5,9 290:3,5 290:10 291:18	212:13,15 281:6 281:6	77:6,15,18,19,24 78:6,9,22 80:13 80:14,23 81:8,12 81:13,15,16,18 81:20,22,23 82:1 82:4,5,15 83:1,8 84:16,25 88:1,3 88:11 92:18 99:20,22,25 100:5,5,10,11,17 100:18,23,25 101:4,5,11,14,15 101:19 102:23 103:1,21 104:1 107:2,9 108:1,2 108:8,15 110:5 110:11,17,17,18 110:18 111:1,2,4 113:1,13 119:3 119:12 120:16 121:13 122:4,17 123:2,13 124:18 125:16 126:12 129:10,21 130:4 130:12,13,14,18 131:12,20 132:2 132:6 133:2,6,17 133:24 134:5,14 137:11 142:4,6 155:20,23 160:3 160:8,14,19,23 161:1,7,11 162:2 162:17,22 163:8 163:14 175:8,16 175:18 176:3,5 176:23 177:25 178:14,16,23 179:2,11 182:13 182:19,21 201:5 205:4 208:4,9,24 221:14 227:10 233:17,20 236:20 237:17 237:21 238:2,12 239:4,16 240:9 240:10,21 241:1 241:22 242:20 243:9,13,14,15	243:21 244:6 245:2,8,9,12,15 246:9,16,19,21 246:22,24 247:1 247:7,8,9,10,17 247:20,22,25,25 257:13 260:4,14 260:16 267:1 268:13 273:12 274:5
<b>understands</b> 214:19	<b>vague</b> 202:7	<b>waiver</b> 207:20	<b>watered</b> 130:3	
<b>understood</b> 113:6	<b>value</b> 150:5 286:15 286:19	<b>waj</b> 240:13	<b>watering</b> 129:15 129:21 130:11 130:17,23	
<b>Undiscovered</b> 5:4 5:7 27:11	<b>valve</b> 68:14,18	<b>walk</b> 95:4,19	<b>waters</b> 47:22 64:13,16 259:25	
<b>Unit</b> 5:22,25 6:2,5 58:1 268:10,11 269:13,14,17 273:25,25	<b>varies</b> 63:16	<b>Walker</b> 2:19 8:22 291:20	<b>watery</b> 263:22	
<b>United</b> 129:3	<b>various</b> 52:17 59:15 63:19 70:11 93:1 94:23 98:14 108:25 122:24 127:3,3 136:16 187:24 188:19	<b>want</b> 16:10 24:24 41:16 65:6 68:7 82:8 85:5 88:5 98:4 123:17 148:12 155:16 213:13,22 220:9 233:24 242:13 246:1,15,18 266:8 270:23	<b>water's</b> 46:7	
<b>unitization</b> 188:21	<b>vary</b> 63:20	<b>wanted</b> 14:5,17,18 17:15 20:25 21:19,25 119:2 152:14 166:14 215:16 265:2 278:9,10 285:1	<b>wave</b> 148:14	
<b>unprotested</b> 139:16,21 146:23 147:9 165:21 195:17 196:4	<b>Verbally</b> 95:1	<b>wasn't</b> 14:2 21:3 21:12 37:6 40:1 43:13 86:2 90:18 127:14 128:5 131:16 134:8 136:4,18 139:13 140:10,12 141:23 142:7 145:14,14 170:24 178:22 181:23 183:17 189:11 199:13 211:11 238:20 244:14,18 251:1 262:22	<b>way</b> 20:20 21:24 23:13 47:7 57:11 83:12,13 87:25 88:2 105:18 107:11,21 111:9 112:9 113:6 116:19 117:10 121:3 123:5,6 128:23 137:2 147:14 148:8 159:9 175:13 177:14 196:12 197:10 221:6,23 224:11,24 227:4 258:15 261:5,10 263:16 277:2,7 277:10,13,16,19	
<b>unusual</b> 246:10	<b>versus</b> 8:4 111:13 137:3 146:23 171:5	<b>water</b> 6:6,7 16:19 17:1 38:5,7 46:10 47:23 49:2 49:6,15,16,25 50:20 51:18,19 51:21 52:13 53:7 53:12 65:4 66:1 66:16,24 70:22 74:16,18 75:2,5 75:11,15 76:5,6 76:13,14,23 77:1	<b>wayman</b> 3:10 6:17 8:18 150:22 153:1,5 156:23 159:17	
<b>updip</b> 227:7	<b>vertical</b> 50:3 106:19 118:18 125:23 231:24 258:4 260:17		<b>ways</b> 162:11	
<b>upper</b> 117:10	<b>VIDEOGRAPH...</b> 3:5 8:1 52:22 53:1 54:12,15 99:13,16 150:13 150:16 213:24 214:2 217:4 226:10,13 248:5 248:8 278:21 279:2,5 287:13		<b>web</b> 161:5	
<b>upward</b> 75:25 104:10 254:7,20 254:25 256:14 256:14,20 257:19	<b>videotaped</b> 1:12 8:3		<b>webcast</b> 272:9 277:23	
<b>usable-quality</b> 49:25 51:21	<b>video@merittex...</b> 3:8		<b>website</b> 27:13 92:23 181:18,24	
<b>use</b> 15:9,16 70:13 71:4 77:18 112:8 130:13 151:16 151:16,25,25 156:9 157:23 192:21 194:11 194:23 200:13 204:7 210:19 211:8 222:10 226:20 257:8	<b>Viola</b> 32:9		<b>Wednesday</b> 214:11,17,23	
<b>usually</b> 194:20 208:18 221:12	<b>virtue</b> 168:9			
<b>utilities</b> 173:16	<b>volume</b> 4:16 5:14 25:12 235:10 236:3			
<b>utility</b> 173:18	<b>volumetric</b> 105:25			
	<b>W</b>			
	<b>W</b> 3:6 162:11			
	<b>Wa</b> 240:14,15,17			
	<b>wait</b> 9:1 67:2 141:3,3 184:17			
<b>v</b> 1:3,5,10 2:16 30:23 34:4,5,6				

<p><b>week</b> 90:8 93:10 94:5 211:11 213:7 <b>Weekly</b> 131:3 <b>weeks</b> 174:9,11 215:24,24 <b>weeping</b> 70:9 72:8 106:12 231:8 261:14 275:21 <b>weighs</b> 225:14 <b>Welcome</b> 153:1,5 156:23 159:17 <b>wellbore</b> 43:1,16 43:24,25 44:4 <b>wells</b> 5:17 24:10 24:16 25:6 29:10 30:3 31:9,11,15 31:19,22 32:14 35:2 38:4,5 43:2 45:15,15,18,19 45:20 47:11,11 47:11,22,24 52:17 54:1 64:5 64:12,22,24 66:20 67:15,23 71:10 73:11 74:21 76:5 78:7 78:10 80:14,15 80:23 81:1,6,8 81:22 82:15 83:1 83:3,5 84:3,16 84:24 85:18,22 86:14,17 87:25 88:1,3 99:24 100:4 102:21 108:1 109:4,8,11 109:12,13,15,16 109:25 110:1,11 110:12,19 111:2 111:6 116:19,20 116:24 117:2,6 117:19,23 118:2 118:18 119:12 119:19,23,25 121:11,18 122:3 122:15 123:1 124:17 125:4,19 127:6,19 133:2</p>	<p>134:21,22 135:4 142:4,16,18 155:23 161:7 162:22 175:9,9 175:18,19 176:5 176:6 177:14,25 178:1,15,17,18 178:23 179:2,11 179:12,17 197:10,14 199:1 204:6,20 207:15 207:17,18 220:18 221:6 227:8,10,10,16 227:24 228:3,4,8 229:6 234:14 236:22,24 237:22 238:5,10 238:11,12 239:23 240:5,8 240:12,22 241:5 241:8,24 242:21 242:23,24 243:9 243:10,13,14,21 243:22 244:1 247:2 252:1 254:14 259:16 266:24 268:13 268:16 274:3,6 <b>Wells-Newark</b> 26:9,12 <b>well's</b> 258:7 <b>went</b> 15:4 18:21 25:20 27:18 79:11 127:2 136:19 170:21 172:15 187:1,4 188:4,5 189:6,16 206:6 211:14,19 211:20 212:1 215:10 226:18 228:23 232:8 264:21 272:11 274:13 <b>weren't</b> 18:21 19:2 41:2 55:17 90:11 178:1 188:7 236:25 238:14</p>	<p>241:9 <b>west</b> 2:13 31:12 255:23 291:15 292:14 293:8 <b>we'll</b> 23:6,20,20 25:2 91:19 99:5 99:7 213:8 225:5 <b>we're</b> 51:23 52:1,5 96:25 213:5 255:18 260:9,9 286:23 <b>we've</b> 135:13 145:2 173:11 236:20 254:19 262:21 264:6 <b>whatever's</b> 261:9 <b>whatsoever</b> 179:18 226:25 251:9 <b>what-if's</b> 239:10 <b>wife</b> 189:11 <b>Williams</b> 180:15 181:5 272:11 277:12 282:19 <b>WILSON</b> 2:13 291:14 <b>Wireline</b> 154:12 <b>Wise</b> 26:13 29:14 29:18 <b>withheld</b> 97:22 <b>witness</b> 1:18 9:10 34:5,7,9,11 67:4 79:19,21 82:23 93:22 123:25 143:14 166:4 170:23 208:22 209:12,13 211:3 252:10 265:4 266:14 269:6 278:17 280:19 286:10 287:5,8 287:12 288:2 290:16,18,19 <b>word</b> 70:9,13 106:11 124:12 154:11 199:4 200:13,16 201:6 204:7 208:14 222:11 224:3</p>	<p>226:20 <b>wording</b> 194:14 <b>words</b> 79:6 110:3 115:16 117:9 182:6 189:11 204:3 210:20 211:8 212:9,10 212:21,21,22 220:10 227:6 228:20 <b>wordy</b> 193:17 <b>work</b> 45:14 56:13 94:19 121:9 147:3 167:18 170:21 171:3 173:25 174:7,19 183:10 185:25 186:9 187:1,4 188:5,10 189:6 189:12,16 190:6 192:1 194:21 206:6 <b>worked</b> 10:23 12:1 147:16 167:16 169:12 173:15 173:20,23 187:15 190:4,13 190:19,23 191:3 209:6 <b>working</b> 6:10 55:3 93:10 99:3 147:3 148:4 174:3 179:20 187:21 190:11 207:2,3 216:4 <b>workings</b> 16:4 <b>workload</b> 21:15 <b>works</b> 10:22 128:17 232:9 <b>Worth</b> 1:22 2:10 2:20 3:7 4:22 5:2 5:6,8 32:9 291:11,21 292:15 293:9 <b>wouldn't</b> 16:2 20:18 55:11 73:9 74:15,16 97:21 105:20 117:15</p>	<p>118:20 119:1,18 119:24 126:2 137:10 141:21 145:12 166:15 182:7 210:12 217:22 245:12 283:19 286:1 <b>Wow</b> 92:3 <b>write</b> 195:11 <b>writing</b> 286:24 <b>written</b> 169:23 181:13 210:8 230:15 252:5 284:2 <b>wrong</b> 155:2 162:11 224:3 <b>wrote</b> 19:5 21:5 233:2 286:13,16 <b>W-15's</b> 135:8,11 <b>W3</b> 46:11</p> <hr/> <p style="text-align: center;"><b>X</b></p> <hr/> <p><b>X</b> 45:24 124:3 <b>XTO</b> 45:24 46:12 47:11</p> <hr/> <p style="text-align: center;"><b>Y</b></p> <hr/> <p><b>yeah</b> 21:8 29:22 57:24 79:20 90:24 91:18 125:1 153:22 156:10 165:19 179:25 194:22 202:16 207:12 208:1 212:9 276:20 <b>year</b> 58:6 69:21 88:16 168:14 185:4 188:11 <b>years</b> 10:2,24 12:2 32:24 33:2 55:1 77:11,12,19 78:13 84:15 112:11 115:11 147:1,17 148:5 148:22 168:13 169:1,4,12 172:4 172:14 178:8,8</p>
--	---	--	---	--

186:23,24,25 187:13 189:4 202:2,20 203:13 205:14 209:1,2 233:18 236:25 244:2 254:8 255:15 271:10 272:24 278:7 <b>yellow</b> 46:20 <b>Yep</b> 202:3 <b>yesterday</b> 22:17 23:11 215:6 232:11 <b>you-all</b> 89:23 <b>y'all</b> 92:16 93:5 191:12 <b>y'all's</b> 14:4	<hr/> <b>1</b> <hr/> 1 4:14,16 5:13,15 7:7 10:3,6,16 11:1,4 12:12,17 12:22 13:8,13 14:13,24 15:1 18:16 22:22 23:8 23:10,21 32:6 37:3 42:11 79:19 82:9 139:4 162:14 192:14 194:16 195:3 200:23 201:1 202:13 214:6 233:11 248:13 290:23 <b>1H</b> 6:2,5 58:1 268:11,11 269:13,14,17,22 269:24 273:25 274:1 <b>1.2</b> 6:13 <b>1.62</b> 141:1,5 <b>1/12/2011</b> 151:12 <b>1/6/2011</b> 157:24 <b>1:32</b> 99:15,17 <b>10</b> 4:14 5:13 6:1,3 6:3 37:12,16 38:22 41:23 59:25 61:20 71:12,16 101:5 105:23 133:14 136:3 200:21 207:18 250:21 272:12 <b>10th</b> 58:4 215:7 <b>10.a</b> 202:15,16 <b>10:06</b> 1:19 8:2 <b>100</b> 117:7 122:11 <b>11</b> 5:14 39:6 41:8 41:11,21 136:7,8 153:13 290:19 290:24 292:10 <b>11:00</b> 153:18 <b>11:04</b> 52:25 <b>11:07</b> 52:25 53:2 <b>11:09</b> 54:13,14	<b>11:26</b> 54:14,16 <b>117</b> 109:7,23 <b>12</b> 4:16 5:17 6:18 17:17 45:9,11,13 63:12,13 64:6 151:15 290:20 <b>12/10</b> 38:22 <b>12/11</b> 38:21 <b>12/31/12</b> 292:13 293:7 <b>12:22</b> 99:14,15 <b>1200</b> 253:17 <b>1201</b> 3:2 292:2 <b>12133</b> 1:24 293:12 <b>125</b> 5:16 <b>126</b> 5:16 44:10 <b>128</b> 6:11 <b>13</b> 5:19 6:18 28:11 28:18 48:8,10,11 48:12,15 49:17 50:14 51:13 52:4 53:13,25 54:5 58:14,19,23,24 59:18 60:4,6,10 60:21,22 61:21 62:1,6,17,21 63:3 65:24 125:22 126:10 126:11 146:22 150:4 152:5,24 157:1 <b>13(a)</b> 66:7 126:3 <b>13(e)</b> 80:2 <b>130</b> 16:25 17:9 19:5 <b>131</b> 16:18 17:9 19:5 <b>132</b> 16:22 17:9 19:5 <b>133</b> 19:5 <b>1350</b> 3:6 292:14 293:8 <b>138</b> 6:13 <b>14</b> 5:21 6:4 36:7 39:10 50:17,18 50:20 51:2 62:14 160:5,9 286:14 <b>14th</b> 37:23 38:2,9	39:3 135:17 <b>142</b> 6:15 <b>15</b> 5:23 6:7 53:3,6 269:20 <b>150</b> 6:16 <b>1512</b> 152:10 <b>155</b> 6:20 <b>158</b> 6:22 <b>16</b> 4:16 6:1 57:19 57:22 58:13 59:21 141:1,4 163:4 209:2 <b>17</b> 6:3 61:13,16 <b>17th</b> 165:3 271:16 <b>1700</b> 3:2 292:2 <b>175</b> 51:7 52:14 <b>179:5</b> 7:7 <b>18</b> 6:6 76:2,8 280:18,24 281:1 <b>180</b> 4:4 <b>1800</b> 253:17 <b>19</b> 6:8 16:12 96:10 96:13 279:22 280:8,10,11,15 280:25 <b>195</b> 47:24 49:10 <b>1981</b> 187:20 <b>1985</b> 187:20 <b>1986</b> 188:5 <b>1988</b> 167:19 168:14 188:14 <b>1990s</b> 82:5 <b>1995</b> 241:22	32:24 33:2 51:5 52:18 62:4 97:8 97:11 115:11 147:1 148:22 168:12 169:12 209:2 233:18 252:22 271:10 272:24 278:6 <b>20-something</b> 186:23,24 <b>200</b> 48:22 51:11 53:21 54:3,4 64:17 65:25 66:7 71:4,8 239:10 <b>2000-3000</b> 129:16 <b>2005</b> 6:7 76:14,23 77:1 78:11,17 85:20 86:1 100:11,18,24 101:5,12 111:1 116:9,18 131:9 201:15 237:5,6 237:17 238:2,2 238:10,12,25 239:17 240:4 <b>2007</b> 4:20 5:1,10 30:24 34:8 59:11 186:21 <b>2008</b> 186:20 207:22 <b>2009</b> 58:10 78:17 116:18 129:9,22 130:24 132:1 201:16 238:5 240:2 <b>2010</b> 6:1,4,12 38:2 39:10 58:5 60:1 61:20,24 62:1,4 62:14 85:21 91:6 101:16,20 128:23 178:22 184:25 185:2,4 269:20,25 <b>2011</b> 1:14,19 4:14 4:17 5:15 6:17 6:18,18 8:2 10:17 16:12 68:22 90:11
<hr/> <b>Z</b> <hr/> <b>zero</b> 196:6 257:11 261:22 <b>zone</b> 66:16 70:9 266:25 <b>zones</b> 49:25 50:3 51:19,22 65:7,9 70:11 106:10 116:20 266:25				
<hr/> <b>#</b> <hr/> <b>#1</b> 1:5 2:16 290:5 291:18 <b>#133</b> 292:14 293:8 <b>#947</b> 292:12 293:6				
<hr/> <b>0</b> <hr/> <b>000645</b> 6:11 <b>000651</b> 6:11 <b>06</b> 158:4 <b>06252</b> 158:2,5,18 <b>06259</b> 159:9 <b>06260</b> 159:15 <b>06261</b> 159:24 <b>06456</b> 163:2,11 <b>06457</b> 160:2 <b>06458</b> 160:7 <b>06459</b> 160:12 <b>06461</b> 162:2,5				
			<hr/> <b>2</b> <hr/> <b>2</b> 4:2,16 5:17 6:12 7:8 16:6,9,15 18:7 45:15,18 48:16,17 130:25 131:2 162:15 194:16 195:1,3 199:19 200:3 <b>2nd</b> 186:20 <b>2,000</b> 131:5 <b>2-day</b> 271:18,21 <b>2:45</b> 150:14,15 <b>20</b> 4:17 5:15 6:3,9 6:21,22 16:12	

105:1 139:13 150:25 151:15 152:5,24 156:16 156:19 157:1,12 157:22 159:12 159:21,25 160:5 160:9,15 163:4 185:4 214:8 215:1 232:25 271:17 282:18 288:3 290:13,19 290:20 292:10 <b>203</b> 292:8,17 <b>203.3</b> 293:1 <b>205</b> 4:16 <b>208</b> 16:16 18:6 <b>21</b> 6:10 56:1 98:1,6 98:8,10,24 99:2 <b>2100</b> 2:19 291:21 <b>212</b> 4:16 <b>213:19</b> 7:8 <b>214.939.4421</b> 3:3 292:3 <b>214.965.8700</b> 2:5 291:6 <b>215</b> 191:21 <b>217</b> 4:5 <b>22</b> 4:18 6:11 128:6 128:8 129:1 282:18 <b>22nd</b> 282:20 <b>23</b> 6:13 138:20,23 139:4,23 140:24 144:9 <b>2300</b> 100:2 104:16 104:21 118:2 <b>232</b> 4:5 <b>24</b> 4:20 6:15 42:23 142:19,21,25 <b>2400</b> 100:9 <b>242:10</b> 7:9 <b>25</b> 5:1 6:16 150:18 150:21 151:3,19 152:2,23 153:5,8 154:1 251:3 <b>251</b> 158:6 <b>252</b> 158:7 <b>2522</b> 152:10	<b>253</b> 158:6 <b>257</b> 4:6 <b>26</b> 6:1,4,20 155:8 155:11,18 156:16 157:9 158:11,12 159:14 160:11 163:1 <b>26th</b> 59:25 <b>26-A</b> 6:22 158:14 158:16,18 159:15 160:11 163:2 165:23 <b>260</b> 4:6 <b>2612</b> 152:11 <b>265</b> 4:7 <b>27</b> 5:4,7 6:23 268:1 268:5 273:16,19 <b>270</b> 46:7 64:14 <b>273</b> 4:7 6:23 <b>2750</b> 2:4 291:5 <b>279</b> 4:8 <b>28</b> 281:5 <b>28th</b> 269:25 <b>284</b> 4:8 <b>285:11</b> 7:10 <b>286</b> 4:9 <b>288</b> 4:10 <b>290</b> 4:11 <hr/> <b>3</b> <hr/> <b>3</b> 4:14,18 5:15 6:18 7:9 22:8,10,15 22:21 23:13,13 24:2 28:23 34:16 35:6 42:2,12 79:14,18 100:8 120:23 125:13 130:1 133:14 136:8 142:3 153:13 162:9,10 192:14 195:3 200:21,22,23 201:1,1 232:5 258:3,3 <b>3A</b> 22:24 23:5,8,10 23:15,21 35:2 37:3 39:19	135:13 <b>3D</b> 23:1 43:17,19 248:25 249:2 251:2,5 268:14 <b>3rd</b> 10:17 19:5 89:11,15,20,21 156:19 214:8 <b>3,000</b> 130:25 131:2 131:5 <b>3-A</b> 248:12,23,24 249:7 250:19 251:9,20,23 252:7 <b>3-D</b> 34:25 <b>3.13</b> 5:19 <b>3:08</b> 150:15,17 <b>30</b> 69:2 71:11,15 105:23 106:2 261:13,18,21 262:12 <b>300</b> 64:17 <b>307</b> 3:6 292:14 293:8 <b>31st</b> 186:21 <b>32</b> 5:10 <b>320</b> 64:14 268:18 <b>325</b> 2:4 291:5 <b>331</b> 46:2,4,16,21 47:3 <b>34</b> 64:3 <b>355</b> 47:7 <b>36</b> 5:12 <b>3600</b> 1:22 2:9 291:11 <b>37</b> 5:13 207:24 271:24 <b>37/38</b> 188:23 206:21 207:17 <b>38</b> 207:24 271:24 290:24 <b>394</b> 258:22 <b>397</b> 52:15 <hr/> <b>4</b> <hr/> <b>4</b> 4:20 7:10 24:22 24:25 25:4 30:23 34:4,5,6 120:23 125:14 133:13	200:25 202:13 290:23 <b>4,580</b> 269:18 <b>4,810</b> 269:23 <b>4:27</b> 213:25 214:1 <b>4:31</b> 214:1,3 <b>4:44</b> 226:11,12 <b>4:48</b> 226:12,14 <b>40</b> 290:23 <b>400</b> 71:3,15,21 100:11 105:7,10 105:25 106:4,7 239:9 268:19 <b>41</b> 5:14 <b>410</b> 258:9 <b>427</b> 52:15 258:10 258:10,13,18,18 <b>43RD</b> 1:5 290:5 <b>430</b> 25:25 26:3,8 <b>45</b> 5:17 <b>4580</b> 258:24,25 259:2 <b>465</b> 121:21 257:9 <b>4706</b> 46:15,21 47:3 <b>48</b> 5:19 68:5 125:19 <b>4810</b> 258:9,10,13 258:19 <b>4850</b> 121:4 221:6 258:23 <hr/> <b>5</b> <hr/> <b>5</b> 5:1 6:16 25:22,23 26:3 28:19 55:19 69:13,20 71:4 104:16,21,22,25 105:19 109:6,24 116:24 157:10 157:18 159:10 187:8,9 195:2 196:16 250:24 257:8 261:16 262:12 <b>5th</b> 150:25 <b>5,000</b> 231:25 <b>5,000-gallon</b> 131:18 <b>5,304</b> 47:7	<b>5-mile</b> 109:2 <b>5:15</b> 248:6,7 <b>5:26</b> 248:7,9 <b>50</b> 5:21 72:2,3 100:24 137:7,8 137:12,12 138:7 239:10 <b>50/50</b> 275:10 <b>5000-gallon</b> 131:10 <b>512.472.7600</b> 2:14 291:16 <b>53</b> 5:23 <b>535</b> 30:24 <b>535-549</b> 34:11 <b>549</b> 30:24 <b>56</b> 41:24 42:1,8 43:5,16 44:3 249:1,6 251:2 <b>566</b> 64:14 <b>57</b> 6:1 <b>5800</b> 250:6 <b>5850</b> 250:6 <hr/> <b>6</b> <hr/> <b>6</b> 5:4 24:1,3,8 27:4 27:6 28:2,6,6,25 29:25 34:15,19 34:20 55:19 156:16 157:12 157:22 159:12 159:21,25 160:14 187:8,9 279:23 280:5,8 280:13,14,23 281:1,3 <b>6E</b> 55:19 <b>6-E</b> 187:9,10 <b>6:06</b> 279:3,4 <b>6:11</b> 279:4,6 <b>6:19</b> 1:20 287:14 <b>60</b> 226:8 <b>600</b> 47:18 66:22 <b>61</b> 6:3 <b>616</b> 64:15 <b>6249</b> 152:11 <b>6406</b> 29:3,7 <b>6456</b> 163:3
---	---	--	---	--

66 5:15 41:21	817.336.3042 3:7			
67 42:20	292:15 293:9			
68 5:15	817.870.8700 2:10			
	291:12			
<hr/> <b>7</b> <hr/>	8243 46:17			
7 5:7 27:21,23 28:4	845 269:19			
28:16,21,22 29:9	85 159:6			
37:10 79:15,15	850 64:2,7 100:6			
79:16 129:25	239:5,8			
269:12 270:3	86 159:6			
281:19	88 187:2			
7B-0268629 5:13	8808 9:22			
11:20				
7th 2:13 3:6	<hr/> <b>9</b> <hr/>			
271:17 291:15	9 1:14,19 4:4 5:12			
292:14 293:8	8:2 35:25 36:3			
7.a 269:8	38:14 258:3			
700 66:22	282:3 288:3			
705 269:25	290:13			
711 2:13 291:15	9th 232:12			
72 187:5	90 149:21 274:12			
75201 2:4 291:6	90-day 279:18			
75270-2041 3:3	900 64:15			
292:3	91 30:23 34:4,5,6			
76 6:6	940-631-1701			
76102 2:20 3:7	154:16			
291:21 292:15	947 1:20			
293:9	96 6:8			
76102-5341 2:10	97 6:9			
291:11	98 6:10			
777 1:21 2:9,19				
291:11,21				
78701 2:14 291:15				
<hr/> <b>8</b> <hr/>				
8 5:10 32:3,5 34:2				
100:9 281:24				
8th 18:3 215:1				
232:12,24 233:2				
800 99:21 100:7,8				
239:3,6,8 244:6				
800.336.4000				
292:16 293:10				
81 187:5				
817.334.7230 2:20				
291:22				
817.335.1203 3:8				
292:16 293:10				