

ON BEHALF OF OIL CONSERVATION DIVISION: HAILEE THOMPSON (by videoconference) DEAN MCCLURE (by videoconference) Energy, Minerals and Natural Resources Department Oil Conservation Division

1220 South Street Francis Drive
Santa Fe, NM 87505
dean.mcclure@state.nm.us

ON BEHALF OF EOG RESOURCES:
PAULA VANCE, ESQUIRE (by videoconference) Holland and Hart

110 North Guadalupe, Suite 1
Santa Fe, NM 87501
pmvance@hollandhart.com

JAMES PARROT, ESQUIRE (by videoconference)
Beatty \& Wozniak, P.C.
1675 Broadway, Suite 600
Denver, CO 80202
jparrot@bwenergylaw.com
(303) 407-4499

Page 3




| 1 | A P P E A R A N C E S (Cont'd) |
| :---: | :---: |
| 2 | ON BEHALF OF COLGATE ENERGY LLC: |
| 3 | DANA HARDY, ESQUIRE (by videoconference) |
| 4 | Hinkle Shanor LLP |
| 5 | P.O. Box 0268 |
| 6 | Santa FE, NM 87504 |
| 7 |  |
| 8 | ON BEHALF OF FLAT CREEK RESOURCES, LLC: |
| 9 | SHARON SHAHEEN, ESQUIRE (by videoconference) |
| 10 | Montgomery \& Andrews Law Firm |
| 11 | 325 Paseo De Peralta |
| 12 | Santa Fe, NM 87501 |
| 13 |  |
| 14 | ON BEHALF OF READ \& STEVENS, INC., AND OXY USA INC.: |
| 15 | ADAM RANKIN, ESQUIRE (by videoconference) |
| 16 | Holland and Hart |
| 17 | 110 North Guadalupe, Suite 1 |
| 18 | Santa Fe, NM 87501 |
| 19 |  |
| 20 | ON BEHALF OF NORTHERN OIL \& GAS ASSOCIATION: |
| 21 | BLAKE C. JONES, ESQUIRE (by videoconference) |
| 22 | Steptoe \& Johnson PLLC |
| 23 | 1780 Hughes Landing Boulevard, Suite 750 |
| 24 | The Woodlands, TX 77380 |
| 25 | (281) 203-5730 |
|  | Page 7 |




| 1 | E X H I B I T S |  |  |
| :---: | :---: | :---: | :---: |
| 2 | NO. | DESCRIPTION | ID/EVD |
| 3 | Cases 23640-23645: |  |  |
| 4 | Exhibit A | Testimony and Exhibits of |  |
| 5 |  | Landman Mark Haddock [ph] | 26/30 |
| 6 | Exhibit B | Testimony and Exhibits of |  |
| 7 |  | Geologist Christ Canton [ph] | 26/30 |
| 8 | Exhibit C | Attorney Hardy Self-Affirmed |  |
| 9 |  | Statement | 26/30 |
| 10 |  |  |  |
| 11 | NO. | DESCRIPTION | ID/EVD |
| 12 | Cases 23587-23590: |  |  |
| 13 | Exhibit A | Affirmation | $36 /$ |
| 14 | Exhibit A-1 | General Location Map | $36 /$ |
| 15 | Exhibit A-2 | Track Maps | $36 /$ |
| 16 | Exhibit A-3 | Track Ownership Maps | $36 /$ |
| 17 | Exhibit A-4 | Ownership Breakdown of |  |
| 18 |  | Interests; Pertinent Leases | $37 /$ |
| 19 | Exhibit A-5 | Chronology of Contacts | $37 /$ |
| 20 | Exhibit A-6 | C-102 Forms | $38 /$ |
| 21 | Exhibit A-7 | Well Proposal Letters | $38 /$ |
| 22 | Exhibit A-8 | Notice Letters | $38 /$ |
| 23 | Exhibit C | Affirmation of Notice | $38 /$ |
| 24 |  |  |  |
| 25 |  |  |  |
| Page 10 |  |  |  |


| 1 |  | E X H I B I T S (Cont'd) |  |
| :---: | :---: | :---: | :---: |
| 2 | NO. | DESCRIPTION | ID / EVD |
| 3 | Cases 23585 and 23586: |  |  |
| 4 | Exhibit A | Landman Testimony and |  |
| 5 |  | Exhibits | 65/66 |
| 6 | Exhibit B | Geology Testimony and |  |
| 7 |  | Exhibits | 65/66 |
| 8 | Exhibit C | Notice Testimony | 65/66 |
| 9 | 9 |  |  |
| 10 | NO. | DESCRIPTION | ID/EVD |
| 11 | Case 22853: |  |  |
| 12 | Exhibit 1 | Application and Proposed |  |
| 13 |  | Notice | 101/101 |
| 14 | Exhibit 2-A | Self-Verified Statement of |  |
| 15 |  | Matthew Pride | 103/109 |
| 16 | Exhibit 2-B | Lists of Tracts and Interest |  |
| 17 |  | Owners | 104/109 |
| 18 | Exhibit 2-C | Documents Prepared or Compiled |  |
| 19 |  | by Matthew Pride | 108/109 |
| 20 | Exhibit 2-D | Documents Prepared or Compiled |  |
| 21 |  | by Matthew Pride | 108/109 |
| 22 | Exhibit 3 | Testimony and Exhibits of |  |
| 23 |  | Geologist Harvin Broughton | 124/134 |
| 24 | Exhibit 4 | Affidavit of Certified |  |
| 25 |  | Notice | 101/101 |
|  |  |  | age 11 |


| 1 |  | E X H I B I T S (Cont'd) |  |
| :---: | :---: | :---: | :---: |
| 2 | NO. | DESCRIPTION | ID/EVD |
| 3 | Case 22853 (Cont'd) : |  |  |
| 4 | Exhibit 5 | Certified Notice Spreadsheet | 101/101 |
| 5 | Exhibit 6 | Affidavit of Publication | 101/101 |
| 6 | Exhibit 7 | Pooling Checklist | 101/101 |
| 7 |  |  |  |
| 8 | NO. | DESCRIPTION | ID/EVD |
| 9 | Case 23295: |  |  |
| 10 | Exhibit A | Testimony and Exhibits of |  |
| 11 |  | Landman John Coffman | 170/178 |
| 12 | Exhibit A-1 | C-102 forms of Landman John |  |
| 13 |  | Coffman | 172/178 |
| 14 | Exhibit A-2 | Ownership Report of Landman |  |
| 15 |  | John Coffman | 172/178 |
| 16 | Exhibit A-3 | Well proposal of Landman |  |
| 17 |  | John Coffman | 173/178 |
| 18 | Exhibit A-4 | Chronology of Contacts | 173/178 |
| 19 | Exhibit B-1 | Summary of Maximum Horizonta |  |
| 20 |  | Stress Direction | 208/218 |
| 21 | Exhibit B-2 | Structure Map | 208/218 |
| 22 | Exhibit B-3 | Isopach of Third Sand | 208/218 |
| 23 | Exhibit B-4 | Structural Cross Section | 208/218 |
| 24 | Exhibit B-5 | Phi-h Map | 208/218 |
| 25 | Exhibit B-6 | Wolfcamp Structure Map | 208/218 |
|  |  |  | age 12 |


| 1 | E X H I B I T S (Cont'd) |  |  |
| :---: | :---: | :---: | :---: |
| 2 | NO. | DESCRIPTION | ID/EVD |
| 3 | Case 23295 (Cont'd) : |  |  |
| 4 | Exhibit B-7 | Gun Barrel view of Showbiz |  |
| 5 |  | Well 301H | 208/218 |
| 6 | Exhibit B-8 | Proposed Target | 208/218 |
| 7 | Exhibit C | Written Statement of Mark |  |
| 8 |  | McCoy | 242/252 |
| 9 | Exhibit C-1 | Visual showing Third Bone |  |
| 10 |  | Spring Drilling | 244/252 |
| 11 | Exhibit C-2 | Graph Comparing Wolfcamp and |  |
| 12 |  | Bone Spring Testing | 244/252 |
| 13 | Exhibit C-3 | Graph Comparing Wolfcamp and |  |
| 14 |  | Bone Spring Testing | 244/252 |
| 15 | Exhibit C-4 | Reference to Hydraulic |  |
| 16 |  | Fracturing Test Site 2 Study | 244/252 |
| 17 | Exhibit C-5 | Proposed Plan to Protect |  |
| 18 |  | Correlative Rights | 244/252 |
| 19 | Exhibit C-6 | All Wells Referenced in $\mathrm{C}-1$, |  |
| 20 |  | $\mathrm{C}-2$, and $\mathrm{C}-3$ | 244/252 |
| 21 |  |  |  |
| 22 |  |  |  |
| 23 |  |  |  |
| 24 |  |  |  |
| 25 |  |  |  |
| Page 13 |  |  |  |

P R O C E E D I N G S
THE HEARING EXAMINER: We're on the record today in the OCD Hearings for July 20, 2023. My name is Rip Harwood, I'll be conducting these hearings, so welcome, everyone.

And we have a fairly large docket today. Before we get into the docket, could the folks for OCD, could you identify yourselves, the folks for OCD who will be participating in today's hearing?

MS. THOMPSON: My name is Hailee
Thompson. I'll be participating today.
MR. MCCLURE: Yes, Mr. Harwood. This is Dean McClure. I'm here for technical examiner as well.

THE HEARING EXAMINER: Okay. Thank you, both. Are there other technical examiners for OCD? Okay. That's what I thought. I thought maybe John Garcia would be joining us, but maybe he will later on.

Are there any announcements that you guys wish to make before we dive straight into the docket?

MR. MCCLURE: None from me,
Mr. Harwood.

> THE HEARING EXAMINER: Thank you,

Mr. McClure.
Ms. Thompson?
MS. THOMPSON: I have none at the moment.

THE HEARING EXAMINER: Okay. Let's see. Our docket today is 59 items deep. So without further ado, let's jump right into it. Let's see. I believe that cases number 1 and 2 are consolidated. That's case 22947, 22845 EOG Resources, Inc., and Tap Rock Operating, LLC.

May I have appearances for the record first for the applicant, then for other interested parties, and then any other interested persons?

MS. VANCE: Good morning, Mr. Hearing Examiner, Mr. McClure, Ms. Thompson.

Paula Vance with the Santa Fe office of Holland and Hart on behalf of EOG Resources.

MR. RODRIGUEZ: Good morning. Michael Rodriguez with Tap Rock Operating, LLC.

MS. BENNETT: Good morning, everyone.
Oh, I'm sorry. Go ahead.
MR. BRUCE: No. Go ahead, Deana.
MS. BENNETT: Deana Bennett on behalf of Marathon Oil Permian. We're not the applicant, we're just interested parties in the case and
monitoring the cases as they move forward.
THE HEARING EXAMINER: Okay. Thank you, Ms. Vance, Mr. Rodriguez, Ms. Bennett.

Ms. Vance, can you tell us where we are
in the case?
MR. BRUCE: Mr. Examiner, Jim Bruce entering an appearance for MRC Permian Company in both cases.

THE HEARING EXAMINER: Sorry, Mr.
Bruce, it's too late. No, just kidding.
All right. Ms. Vance, back to you.
MS. VANCE: Yes, Mr. Hearing Examiner. Both EOG and Tap Rock earlier this week filed a joint motion to continue the case and requested a status conference for the September 21 st docket. I believe the parties continue to discuss and negotiate. So that's where we're at.

Mr. Rodriguez may have something more to add, but that's my understanding right now.

THE HEARING EXAMINER: Mr. Rodriguez?
MR. RODRIGUEZ: Ms. Vance summed it up.
THE HEARING EXAMINER: Okay. Anybody else? All right. So I guess I'm not sure what the protocol is.

> Ms. Vance, did you all file an order
continuing this to 9/21, or do you rely on us to do that? What's the protocol?

MS. VANCE: We're already filed the joint motion, and $I$ believe we filed it in both cases. And so now if it's agreeable to the Division, we would just, you know, ask that the motion be granted, and we go ahead and continue the two cases.

THE HEARING EXAMINER: Okay. Well then, we'll get an order entered continuing these cases to 9/21.

MS. SALVIDREZ: Rip, this is Marlene. We won't issue an order. I will approve these continuances in the system.

THE HEARING EXAMINER: Perfect. I see. All right. That's excellent. Thank you, Marlene.

All right. Anything else in cases 22947, 22845?

Hearing silence, let's move along to cases, and correct me if I'm wrong, but I believe cases 3 through 8 on the docket all Devon Energy Production Company LP cases are consolidated. Let me hear an entry of appearance for the applicant in those cases.

> MR. SAVAGE: That's correct,

Mr. Hearing Examiner.

Good morning, Mr. Hearing Examiner, Technical Examiner. Darin Savage with Santa Fe office of Abadie and Schill appearing on behalf of Devon Energy Production Company.

THE HEARING EXAMINER: Okay. Thank you, Mr. Savage. Good morning.

Entry of appearance for any other interested parties or persons in cases 3 through 8 on the July 20th docket?

MS. MUNDS-DRY: Good morning,
Mr. Hearing Examiner. This is Ocean Munds-Dry with COG Operating, LLC.

MR. BRUCE: Mr. Examiner, Jim Bruce, entering an appearance on behalf of the Mewbourne Oil Company.

THE HEARING EXAMINER: Thank you, Ms. Munds-Dry and Mr. Bruce.

Anyone else?
MR. PARROT: Good morning, Mr. Hearing Examiner. This is James Parrot. I am traveling today, and I'm on my phone. And it just happened to cut out when you were announcing the last dockets. But I wanted to make sure. It sounded like you might be on 21967?

## THE HEARING EXAMINER: That's correct.

MR. PARROT: Thank you very much. Then this is James Parrot with Beatty and Wozniak on behalf of EOG Resources, which has entered an appearance in this case in the related matters.

THE HEARING EXAMINER: Okay. Thank you, Mr. Parrot.

I called cases 3 through 8 because they're consolidated. Do you have an interest in all of those cases or just 21967?

MR. PARROT: You're asking whether EOG has filed an appearance in all of those cases or whether EOG has working interest in the lands that are subject to all of those cases?

THE HEARING EXAMINER: I guess either. We're talking about all six of the cases, so $I$ just wanted some clarification.

MR. PARROT: Okay. Just one moment. I'll get back to you and answer that question. I've got to bring up the spreadsheet that I have that shows all the appearances that we've entered, and I'll get back to you in just a moment on that.

THE HEARING EXAMINER: Okay.
With that, Mr. Savage, let me turn it back over to you.

MR. SAVAGE: Yes. Thank you.

Page 19

Mr. Hearing Examiner, this case has been a bit of an ongoing case. These were some federal interest that had dropped out of the unit that had inadvertently terminated.

And we had to wait for BLM sale to come about and the BLM sale finally did. The particular owner of that was successful in acquiring that federal acreage.

And so now we need to do a few things to lay some groundwork before we go forward. And that would be a well proposal -- and Devon has an opportunity to kind of evaluate the Wolfcamp applications, and they think they can improve upon those. And they would like the opportunity to do some amended applications.

So looking at all this and the timeline, if the parties are amenable, we would like to do the final leg, the final stretch, hopefully, of these cases, shoot for November 16 th. That would allow for well proposal in September and filing new applications in October and shoot for November 16th deadline. That would be our preference.

THE HEARING EXAMINER: Okay. Anyone else have anything?

Ms. Munds-Dry, do you have anything to

| 1 | add to that? |
| :---: | :---: |
| 2 | MS. MUNDS-DRY: We have no objection to |
| 3 | that proposed date. Thank you. |
| 4 | THE HEARING EXAMINER: Mr. Parrot? |
| 5 | MR. PARROT: I can confirm that $\mathrm{D}-\mathrm{O}-\mathrm{G}$ |
| 6 | [sic] did enter an appearance in all five of the |
| 7 | matters that are numbers $3,4,5,6$, and 7 on the |
| 8 | docket worksheet this morning. |
| 9 | And no objection to the proposal. |
| 10 | THE HEARING EXAMINER: Okay. Well, |
| 11 | we're talking about 3 through 8 just to be clear, so. |
| 12 | MR. PARROT: Yes, sir. |
| 13 | THE HEARING EXAMINER: You said three |
| 14 | through seven. My arithmetic's not very good, but |
| 15 | that's short. |
| 16 | MR. PARROT: Oh, I'm sorry. So let's |
| 17 | see. |
| 18 | THE HEARING EXAMINER: So you're in all |
| 19 | six? |
| 20 | MR. PARROT: Let me just -- |
| 21 | THE HEARING EXAMINER: Go ahead. |
| 22 | MR. PARROT: Let me check on 21981. I |
| 23 | don't believe we have entered an appearance in that |
| 24 | case. It's just the first five. |
| 25 | THE HEARING EXAMINER: Okay. All |
|  | Page 21 |

right. Thank you, Mr. Parrot.
So the proposal then, if I'm understanding it is that these cases, 3 through 8, proceed to hearing on November 16, 2023?

Is that what I'm understanding, Mr. Savage?

MR. SAVAGE: Yeah. That would be the plan. I'd appreciate that.

THE HEARING EXAMINER: Okay. Ms. Salvidrez, what's the usual procedure for that? What do we need to do to make that happen?

MS. SALVIDREZ: the Division will issue a prehearing order in all of these cases.

THE HEARING EXAMINER: All right. Ms. Salvidrez is planning on retiring later this year, so you better hope by then that they have a replacement for Bill Brancard because we'll all be in trouble otherwise.

She's a knowledge base here, and, you know, there's no substitute for historical knowledge in state agencies. So $I$ never miss an opportunity to thank her for her assistance and experience.

Moving on, let's see here. Let me get to the docket sheet. Okay. So I think that does it for status conferences this morning. I believe we
have cases 9 through 14 consolidated, and they're all Colgate Operating, LLC. May $I$ have an entry of appearance for Colgate Operating in case number 23640?

MS. HARDY: Good morning, Mr. Examiner.
Dana Hardy with Hinkle Shanor on behalf of Colgate.
THE HEARING EXAMINER: Good morning,
Ms. Hardy. Ms. Hardy, let me ask you. Am I right, are cases 9 through 14 consolidated?

MS. HARDY: Yes, Mr. Examiner. I would
like to consolidate them for presentation.
THE HEARING EXAMINER: Perfect. All right.

May I have entries of appearance for any other interested parties or persons in cases 9 through 14 on today's docket?

MS. BENNETT: Good morning, everyone. Deana Bennett from Modrall Sperling, and I'm entering an appearance in all of the cases for Avant Operating. And I am preserving Avant's rights to seek de novo review to the extent necessary. So no objection to the cases moving forward by affidavit.

THE HEARING EXAMINER: Thank you, Ms. Bennett.

MS. BENNETT: Thank you.
THE HEARING EXAMINER: Any other
interested parties or persons in these cases, 9 through 14? All right.

Ms. Hardy, you may proceed.
MS. HARDY: Thank you. In these cases, Colgate seeks to pool uncommitted interest within the Bone Spring and Wolfcamp formations underlying Sections 9 and 10, Township 20 South, Range 28 East, in Eddy County. And Colgate is requesting that Permian Resources be designated operator of the spacing units and wells.

In case number 23640 , Colgate seeks to pool interest in the Bone Spring formation underlying a 320-acre standard horizontal spacing unit comprised of the north half of the north half of Sections 9 and 10. That unit will be dedicated to the Koala 9 Fed Com 111H, 121H, and 131H wells.

In case number 23641 , Colgate seeks to pool uncommitted interest also in the Bone Spring underlying a 320 -acre standard horizontal spacing unit comprised of the north half of the south half of Sections 9 and 10. That unit will be dedicated to the Koala 9 Fed Com 113H, 123H, and 133H wells.

In case number 23642 , Colgate seeks to pool interest in the Bone Spring underlying a 320-acre standard horizontal spacing unit comprised of the
south half of the north half of Sections 9 and 10. That unit will be dedicated to the Koala 9 Fed Com $112 \mathrm{H}, 122 \mathrm{H}$, and 132 H wells.

And in case number 23643, this is another Bone Spring application seeking to pool interest in a 320-acre standing horizontal unit comprised of the south half of the south half of Sections 9 and 10. That unit will be dedicated to the Koala 9 Fed Com 114H, 124 H , and 134 H wells.

So those four cases involve the Bone Spring and collectively pool the bone spring underlying the entirety of Sections 9 and 10.

The two Wolfcamp cases are 23644 and 23645. And both of these cases are in a gas pool, which result in the larger spacing that makes these units standard spacing units.

In case number 23644 , Colgate seeks to pool the Wolfcamp underlying a 640-acre standard horizontal spacing unit comprised of the north half of Sections 9 and 10. That unit will be dedicated to the Koala 9 Fed Com 201H and 202 H wells.

In case number 23645 , Colgate seeks to pool uncommitted interest in the Wolfcamp underlying a 640-acre standard horizontal unit comprised of the south half of Sections 9 and 10. That unit will be
dedicated to the Koala 9 Fed Com 203 H and 204 H wells. The exhibit packets that we've submitted for these cases include Exhibit A, which is the testimony of Landman Mark Haddock [ph] and his related exhibits. The exhibits include the application and proposed notice of hearing, the C102s, the plot of tracts, ownership interest, and list of uncommitted interest to be pooled, and the sample well proposal letter, AFEs, and chronology of contacts.
(Cases 23640-23645 Exhibit A was marked for identification.)

Exhibit $B$ is the geology testimony of Geologist Chris Canton [ph] along with his exhibits that include a regional locator map, Wolfcamp and Bone Spring structure maps, cross section locator map, structural cross section, stratigraphic cross section, and a gun barrel diagram.
(Cases 23640-23645 Exhibit B was marked for identification.)

Exhibit C is my self-affirmed statement, which sets out when we sent the notice letter, $a$ chart of the date of the return receipts, as well as the certified mail cards. And we did timely publish notice in the Carlsbad Current-Argus on July
$6 t h$.
(Cases 23640-23645 Exhibit C was marked for identification.)

So with that, unless there are
questions, I ask that the exhibits be admitted into the record and that these cases be taken under advisement. Thank you.

THE HEARING EXAMINER: Thank you,
Ms. Hardy.
Ms. Bennett, questions for Ms. Hardy?
MS. BENNETT: Thank you. No questions.
THE HEARING EXAMINER: All right. Who
wants to go first for OCD? I don't see any hands leaping in the air, but any questions from OCD?

MR. MCCLURE: Do you want me to go first, Hailee, or?

MS. THOMPSON: Yeah. You can go first.
MR. MCCLURE: All right. Mr. Harwood,
I do have a couple of quick questions and clarifications, I guess, for Ms. Hardy.

Ms. Hardy, what is the requested drilling supervision and production supervision rates for all six of these cases?

MS. HARDY: For all six of the cases, it looks like the checklist states 8,000 and 800 .

MR. MCCLURE: I was going to say. Now that is in disagreement with the landman's statement and the proposal letter that went out to the interest owners.

MS. HARDY: Okay. So it looks to me like $I$ think the landman's testimony is actually correct. It's 10,000 and 1,000. So it looks like I'll need to submit corrected checklist.

MR. MCCLURE: Okay --
MS. HARDY: I can do that.
MR. MCCLURE: Oh. Go ahead?
MS. HARDY: I was just going to say sorry about that. I'll be happy to submit that shortly.

MR. MCCLURE: Okay. Sounds good. And while we're doing that, there's two other corrections for -- additional corrections. It looks like on the Bone Spring pools, docket number 9 through 12, it looks like the pool that's listed for that is a moral pool rather than the Bone Spring pool. The actual correct pool should be the Old Millman Ranch Bone Spring associated, pool code 48035.

MS. HARDY: 48035?
MR. MCCLURE: Yes, ma'am.
MS. HARDY: Okay -- as well.

MR. MCCLURE: It sounds good.
And then on your Wolfcamp cases, that's docket number 13 and 14. It appears that the admin made a minor typo. But it appears that the checklist has the primary product listed as oil when it should be gas.

MS. HARDY: Okay.
MR. MCCLURE: Beyond that, I think that's all the questions $I$ have for you, Ms. Hardy. Thank you.

MS. HARDY: Okay. Thank you. We'll get those corrected.

THE HEARING EXAMINER: Ms. Thompson?
MS. THOMPSON: I have no questions.
THE HEARING EXAMINER: I have a question for Ms. Thompson or Mr. McClure. With these deficiencies in the checklist, I'm assuming, and tell me if I'm wrong, we can take these cases under advisement. But do they need to be subject to continuance for, you know, questions which the amended the checklist might bring from other parties?

MS. THOMPSON: They can be taken under.
THE HEARING EXAMINER: Okay. All right.
MR. MCCLURE: I -- have to say, I
apologize. One thing that Mr. Brancard was he had taken under advisement but leave the record open for the submittal of the requested documents.

THE HEARING EXAMINER: Okay. Well, I'm getting an echo here. I'm not sure why that is. Anyone have any ideas on that?

MR. MCCLURE: Yeah, I'm having it as well. I think it may be on Ms. Hardy's side, but I could be mistaken.

THE HEARING EXAMINER: All right. Well then, Ms. Hardy, your exhibits will be admitted, and these cases will be taken under advisement with the proviso that you'll submit revised checklist and correct the other technical errors that Mr. McClure caught.
(Cases 23640-23645 Exhibit A, Exhibit $B$, and Exhibit $C$ was received into evidence.)

MS. HARDY: Thank you very much. I will do that.

THE HEARING EXAMINER: All right. Is there anything else in cases 9 through 14 on today's docket from anyone? All right.

In that case, we will move on to cases
15 through 18 on the docket. These are four cases of
the applicant is Flat Creek Resources, LLC. May I have an entry of appearance for the applicant?

MS. SHAHEEN: Thank you, Mr. Examiner. Sharon Shaheen on behalf of Flat Creek Resources, LLC.

THE HEARING EXAMINER: Good morning,
Ms. Shaheen. Am I correct that these four cases are consolidated?

MS. SHAHEEN: That is correct.
THE HEARING EXAMINER: Okay. Thanks. Entry of appearance for any other interested parties or persons in cases 15 through 18 on today's docket?

MS. VANCE: Good morning, Mr. Hearing Examiner. Paula Vance with the Santa Fe office of Holland and Hart on behalf of Devon Energy Production Company. And we're just making an entry of appearance to preserve rights. We are not objecting to the cases moving forward this morning.

THE HEARING EXAMINER: Okay. Thank you, Ms. Vance.

Any other interested parties or persons in these cases?

MS. VANCE: And just one note,
Mr. Hearing Examiner, Devon made an entry of appearance in just two of the cases, and that's case numbers 23588 and 23590.

THE HEARING EXAMINER: Thank you, Ms. Vance.

All right. I know that the hearing examiners are going to have questions for you in these cases, Ms. Shaheen. I'm just giving you a heads up.

There are apparently alternative requests that Flat Creek is seeking in these cases. So I'm giving you a heads up, you might want to explain those in your presentation so that we can streamline this and maybe answer some questions ahead of time.

But there are alternative requests here that are, how should we say, nonconformist. I won't use the word odd, but they're not usual. So with that, I'll turn it back over to you.

MS. SHAHEEN: Thank you, Mr. Examiner.
Good morning, everyone. Yes, I recognize these are a little bit unusual, but $I$ have done this one before with Titus in Simpaxi [ph] wells. And I think that was before Ms. Thompson's time, but I think Mr. McClure may have been around. That was the first part of 2020. It seems like that might have been right before the pandemic, but I lose track of time since we've had the pandemic. But those cases were case number 20897 and 20899 .

And the reason that we have this alternative request here has to do with the uncertainty of when we would have federal permits in hand because there are some lease expirations out there that are looming. So that is the basis for the request for the alternative approvals of spacing units.

I'll note at the outset that this concerns Sections 7 and 18 of Township 23 South, Range 26 East, in Eddy County. Case number 23587 and 23589 concern the west half. One is Bone Spring, the other is Wolfcamp.

Case numbers 23588 and 23590 concern the east half. One is in Bone Spring, and one is in Wolfcamp.

In case number 23587, Flat Creek seeks an order pooling all committed mineral interests in the Bone Spring in a nonstandard 640-acre, more or less, spacing unit comprised of the west half of Sections 7 and 18.

And as an alternative, a nonstandard 600-acre unit comprised of the west half, the northwest quarter of section 18 , the west half of the southwest quarter of Section 18, and the northeast quarter of the northwest quarter of Section 18 if
timing issues arise with the federal permits.
This will be dedicated to the Rena 7 Fed Com 601H well, and the footages are there in the affirmation as well as the checklist.

We did seek approval initially in this application for the nonstandard spacing unit; however, we'll be withdrawing that request for approval by hearing, and we'll be proceeding administratively with respect to that approval.

In case number 23588, applicant seeks an order from the Division pooling all -- excuse me. I'm going to skip to 23589 if you don't mind just to stay in the west half for now.

Applicant seeks an order from the Division pooling all uncommitted mineral interests in the Wolfcamp. These are Purple Sage wells. And this would be a standard 640-acre unit comprised of the west half of Sections 7 and 18.

As an alternative, using the same acreage that we proposed for the Bone Spring well, that's the west half of Section 7, northwest quarter of Section 18, west half of the southwest quarter of section 18, and the northeast quarter of the southwest quarter of Section 18. I hope I'm not getting these mixed up, my west half and my east half. And then
here, it says we will seek administrative approval of the alternative nonstandard spacing unit.

Going back now, we'll turn to the east half in case number 23588. Flat Creek seeks an order pooling all uncommitted mineral interest in the Bone Spring in the standard 640-acre spacing unit. Here, we'll have a proximity well with proximity tracts comprised of the east half of Section 7 and 18.

And as an alternative, a standard 520acre spacing unit comprised of the east half of Section 7, the northeast quarter of Section 18, and the northwest quarter of the southeast quarter of Section 18.

And I'll note here that we submitted an amended Exhibit A6 $I$ believe it is, with C-102s that reflect this proximity tract for the 603 H . I think that we included the 603 H , it wasn't identified as a priority well or it didn't indicate on the $C-102$ that it was a proximity well in the exhibit that we filed on Tuesday. But yesterday, we filed the amended exhibit for the 603 H .

And in case number 23590 , this is the Wolfcamp in the west half. Applicant seeks an order pooling all uncommitted mineral interest in the Wolfcamp Purple Sage. Standard 640-acre unit
comprised of the east half of Section 7 and 18.
As an alternative, here we seek a standard 480-acre unit comprised of the east half of Section 7 and the northeast quarter of Section 18. The first and last take points are all expected to be standard.

The affirmation is Exhibit A, and attached thereto is Exhibit A-1 with the general location map. The Exhibits $A-2$ are the tract maps, that's at PDF 44. The Exhibits A-3 are the tract ownership maps.
(Cases 23587-23590 Exhibit A through
Exhibit A-3 were marked for
identification.)
Here, we indicated primarily the ownership of Stateline Operating and Stateline -- I forget the name of the other Stateline entity, but they are both related to Flat Creek. And I'm looking for the paragraph here where we explain the relation there.

But we do have a management agreement or an operating agreement to make these applications on behalf of -- here it is, paragraph 16, Stateline Operating and Stateline Royalties is a partnership that Flat Creek manages whereby Stateline is the
record title owner of Flat Creek and Stateline's lease hold and minerals, and Flat Creek is the designated operator and manager of these assets, pursuant to a management services agreement.

Moving along. Exhibits A-3 indicate the ownership in each tract, primarily for Stateline Operating, Stateline Royalties. There are a number of unleased mineral interests in one tract here, and the unit ownership can be found in Exhibits $A-3$ and $A-4$. You can see the ownership breakdown of interests and the lists of the pertinent leases in Exhibits A4. (Cases 23587-23590 Exhibit A-4 was marked for identification.)

And basically, you'll see we've highlighted everyone there because we haven't finalized the number of leases, but there are asterisks there next to the names of folks where flat Creek is on the verge of signing leases.

The chronology of contacts with all of these owners is attached as Exhibit $A-5$, and we've separated that into the east half and the west half.
(Cases 23587-23590 Exhibit A-5 was marked for identification.)

C-102s, please take a look at the amended Exhibit A-6 that we filed yesterday. Exhibit

A7 includes all of the well proposal letters. Exhibit A8 includes the notice letters that went out, one to the east half folks and one to the west half folks. (Cases 23587-23590 Exhibit A-6, Exhibit A-7, and Exhibit A-8 were marked for identification.)

At tab four, we have the affirmation the geologist, along with the usual geology exhibits. I don't believe there's anything unusual here. We have the location map with the basin; the gun barrel; a structure map for the Bone Spring; a structure map for the Wolfcamp; cross section reference map; and cross section into isochores, one for the Bone Spring and one for the Wolfcamp.

Exhibit $C$ is my affirmation of notice. We've mailed to a number of people, some of whom were ultimately unlocatable, but we also published on July 20th. So we believe that we've satisfied the notice requirements.
(Cases 23587-23590 Exhibit $C$ was marked for identification.)

And with that, $I$ will stand for
questions.
THE HEARING EXAMINER: Okay. Ms. Vance, you first.

MS. VANCE: I don't have any questions at this time. Thank you.

THE HEARING EXAMINER: All right.
Ms. Thompson, let me ask you then to lead off if you have questions for Ms. Shaheen.

MS. THOMPSON: Yeah, I have a handful.
I guess first $I$ wanted to take a look at the tract maps, and have you explain a little bit more about Tract 7 and Tract 5 on the east and half west sides for the BLM. Are those on your included acreage, or are those not being part of the included acreage?

MS. SHAHEEN: So with respect to the first alternative, we are seeking to pool all of the tracts. Tracts 1 through 7 in the west half.

If we don't get the federal permits in time, we seek to pool Tracts 1 through 6. And I'll stop here because $I$ want to note that the landman is in attendance. If there are any questions that I can't answer, and also if I've gotten anything wrong, I would ask Mr. Gregory to speak up.

But that's my understanding. The alternative would be to pool Tracts 1 through 6. The preference would be to pool Tracts 1 through 7, assuming we can get the federal permits on time. And that's the west half.

So moving to the east half, it's a little more nuanced. Assuming we get the federal permits on time, we would pool all Tracts 1 through 5. In the Bone Spring, if we don't have the federal permits in time, we would pull Tracts 1 through 4. But in the Wolfcamp, with would only pool tracts 1 through 3. And we tried to indicate that there with the double red line. That was our hope that the answer to your question would be clear by looking at the double red lines.

MS. THOMPSON: Okay. I see that. And then moving down a little bit towards your ownership breakdown page. Can I assume that the highlighted yellow are the owners that you're pooling?

MS. SHAHEEN: That's right. Except for those -- well, I mean, we're pooling them now because we don't have the leases signed.

MS. THOMPSON: Right.
MS. SHAHEEN: And so we see there's some asterisks at the beginning of some of these folks, like Maria Elizabeth Caselbone [ph], and Cherry, and Phyllis.

MS. THOMPSON: Yeah.
MS. SHAHEEN: We have leases that we're executing as of today or this week.

MS. THOMPSON: Okay. So the ones in bold that are asterisked are ones that you're trying to execute?

MS. SHAHEEN: That's right.
MS. THOMPSON: Okay. So generally, we do ask that there be, like, something on this page that indicates that the yellow are the pool interest owners and, like, you know, ones that are, you know, signed like a JOA or an agreement are marked with something else to make it a little easier. I'm not sure if you would be able to resubmit this page.

MS. SHAHEEN: Absolutely. In the affirmation, it does state that the highlighted parties are to be pooled and that the asterisked parties are in the process of being leased. But if you would like for me to submit a revised --

MS. THOMPSON: Yeah because I'm not, like, actually seeing that quite easily on here.

MS. SHAHEEN: Okay.
MS. THOMPSON: That actually does bring me to my last point that $I$ was going to talk about, which is having multiple cases in one packet, which I have brought up at previous dockets before where when you have complex cases that are all, you know, more than one cases in one packet, makes it quite difficult
to see what's going on and quite a bit longer for me to review and get these orders sent out.

So in general, though not a
requirement, the Division has been requesting, you know, one case per packet, so.

MS. SHAHEEN: I apologize for missing that advice in the past, and I will definitely submit individual packets for each application going forward. And I'm happy to do that now if you'd prefer if it would make it easy for you.

MS. THOMPSON: This one is already submitted, so I would only do that way if Dean McClure asks for your to submit any other supplementary documents. But with that, I have no other questions. I turn it to Mr. McClure.

THE HEARING EXAMINER: Mr. McClure, before you proceed, let me just make the point. I just hope that all counsel paid attention to what Ms. Thompson said and the Division's preference in cases like Ms. Shaheen is presenting. I take that to heart, and you know, make note of it for your future applications.

Mr. McClure?
MR. MCCLURE: Thank you, Mr. Harwood.
Yes, Ms. Shaheen, where to start. I'm
just kidding. I guess a very quick point.
If you could please review your
templates and ensure that we have the correct website addresses on everything you have. I know in a couple of these, we still have the old state.nm.gov website addresses on these. I believe page 86 and 95 of 182 for all four of these exhibits.

MS. SHAHEEN: I appreciate that. I'm sorry that we missed that. You said pages 86 and 95 ?

MR. MCCLURE: Yes, 86 and 95 of 182 total on what I'm looking at. It looks like it's your notice to the interest owners, I guess. Oh, go ahead. I'm sorry.

MS. SHAHEEN: No. I was just saying so it's emnrd.state.nm.us; that's not the correct address? Is that --

MR. MCCLURE: Let me bring it up right now.

MS. SHAHEEN: It pulls up the webpage, and I could be getting confused. But when I click on it there, it does pull up the webpage. And maybe it's just being --

MR. MCCLURE: Well, I'm thinking it's still being auto forwarded at the moment. But $I$ think the correct website should be emnrd.nm.gov I believe
should be in there instead of the emnrd.state.nm.us. That's my understanding at least.

MS. SHAHEEN: I have it posted on my corkboard, here. And I will double check as soon as we're done.

MR. MCCLURE: Okay. Thank you. I guess the more important stuff -- that was just kind of a sidebar.

I was going to say you referenced cases
20897 and 20899. Now I do see in those cases where you did request an alternative spacing unit or alternative pool area, I guess. But within the hearing orders that were issued for that $R-21204$ and R-21206; is it your understanding that there was anything actually granted by the Division in regard to an alternative pooled area?

MS. SHAHEEN: My recollection, and now it's three years ago, and I'm a little bit older. My recollection is that those were approved as requested. But I'm happy to go back and take a look at them and confirm that, or if it's something different, to let you know.

MR. MCCLURE: Yeah. I was going to say, just doing a quick read through them, it doesn't appear that there's any additional language that's in
there beyond what the template was at that time.
And I know there's the Exhibit A in there because it looks like it predates the current application checklist or whatnot it's called. But in regard to that Exhibit $A$, it didn't appear that there was any reference to anything different from, I guess, whatever the primary request was, I guess, for those cases.

So I guess, in these particular cases, bringing the question to now, is these spacing units that are proposed pooled areas that are listed in the application checklist, is that the, I guess, primary request here or not because it seemed like when you were presenting, maybe what you had initially stated as the first request wasn't necessarily always in alignment with what's in the application checklist.

So I guess I wasn't sure maybe what the first request, if that's the way of saying it is for each of these cases.

MS. SHAHEEN: The first request for each of these cases is that we pull the entirety of the east half and the west half -- sorry the entirety of the east half in Sections 7 and 18. And that would include the federal land. That's the first and preferred spacing unit -- or as you pooled acreage,
that's the preferred.
But if we don't get those federal
permits, then we have to pull out the federal leases, and those are the second preferred pooled area. Does that help?

MR. MCCLURE: Yeah. So just to confirm, and that would also go for the west half as well for the entirety of the west half rather than excluding that southeast quarter of the southwest quarter of Section 18?

MS. SHAHEEN: Right.
MR. MCCLURE: Okay. Thank you. Yeah. I don't know what the Division's thoughts will be on here. I wonder if it might be approach of if you don't get it, you may just have to come back and amend the order perhaps. But we'll discuss that and see what we want to do.

Regardless though, could you maybe go into a little bit detail about the federal lease? I know on our GIS, it says NM 092900, and it's showing it as being authorized currently. But maybe they're referencing there in your exhibits that referenced that it may be getting terminated; is that correct?

MS. SHAHEEN: I don't believe the lease's expirations relate to the federal leases. The
lease expirations, $I$ believe, relate to the state leases.

So the issue with the federal leases is we don't know whether we will get the federal permits in time to drill before the state lease's expiration comes up. That's the issue.

So for us to come back and ask to amend, if we don't get the federal permits, it defeats the purpose because at that point, it's taken a while for orders to come out from the Division. The lease expirations may already be here. Yeah.

MR. MCCLURE: So to confirm your concern here, it's that one or more of the state leases may terminate before the BLM approves the APD to drill a well to hold that acreage; is that correct?

MS. SHAHEEN: You said it so much
better than $I$ did. Yes. That is correct.
MR. MCCLURE: So then as an
alternative, your plan then is to submit an APD that excludes the federal acreage so as not to need an BLM APD; is that what you're saying?

MS. SHAHEEN: I haven't drilled down, but I think that if we did submit an APD that did not include the federal acreage, then we would not need a federal APD and we would not need a com agreement with

BLM.
MR. MCCLURE: I mean, yeah. I mean, you're absolutely correct. But $I$ mean, in order to hold that state acreage, you'd have to go ahead and drill the well. That excludes the federal acreage; correct?

MS. SHAHEEN: That's right. And we would have to have that pooled in advance before drilling. And so that's why we're asking for the approval of the alternative at this point so that when it comes down to do we have the permits or not and we need to drill, then we can go ahead and drill without having to file an amended application.

If there weren't the lease expirations, we would do exactly what we're suggesting, which is to come back with amended applications. But because we have these lease expirations and because I did this once before, we were hoping that this would be something that the Division would approve.

MR. MCCLURE: Okay. So I guess just to confirm then, essentially what Flat Creek's plan here would be is to submit the current APDs; one to the BLM, one to us. The one to us would exclude the federal acreage, the one to the BLM would include it. And then if the BLM does not approve
the APD that includes the federal acreage, Flat Creek would then proceed to drill based on the state APD, which presumably, at that point, would have already been approved, assuming that you don't get approval for the federal APD before the state leases terminate?

MS. SHAHEEN: Right now, there are three federal permits pending, so they're currently waiting on the engineering phase for final approval. So we've already started the process of getting the federal permits. We just don't know when they'll get approved.

And if we get to the point, and again, Mr. Gregory is online here if he wants to weigh in and testify and provide any additional information, but if we get to the point where, hey, we don't have the federal permits yet; they're not giving us any indication as to when we're going to get them, then $I$ think they would choose the second alternative, the least preferred alternative, and go forward and leave out the federal acreage and then seek just your state APD approving the pooling for the state and the private fee lands.

So I don't think we would be having two sets of permits pending at the same time. We've got the federal permits pending right now. If we don't
get them in time, then we'll turn to the state and get the state APDs.

MR. MCCLURE: I guess do you know a timeline on when the state land office wishes to terminate the state leases?

MS. SHAHEEN: If I remember correctly, the first lease expiration may be coming up in November, but I'm not certain about that. Mr. Gregory may have that information a little more handy. I don't have that.

MR. GREGORY: Yeah. Good morning, everybody. This is Mike Gregory.

THE HEARING EXAMINER: Mr. Gregory, hold on just a second. If you're going to provide factual testimony, $I$ need to swear you in as a witness.

MIKE GREGORY, called as a witness and having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

THE HEARING EXAMINER: All right. Go ahead.

THE WITNESS: Yeah. So we've got four state leases that expire November 1st. And yeah.

I think y'all were saying it exactly
correct, where we've got federal APDs pending. We're waiting on just one of the phases right now, the engineering phase.

Our hope is that we get those permits and can drill the wells in order to satisfy the November lease expirations with the state land office. In the event we cannot get the permits in time, then we will plan to just seek permits from NMOCD and drill on the shorter alternative units.

MR. MCCLURE: Okay. I understand.
Thank you, Mr. Gregory. I guess the only follow up I have to that is on the how the state leases are set, you need to not only have it drilled, but also be producing prior to November; is that correct, or?

THE WITNESS: We're working with the state land office right now. We've been in communication with them since early March of this year. And so, we're working hand in hand with them. They advised that we get back with them after this hearing to touch base on plans to go forward.

MR. MCCLURE: Did it sound like there was the possibility of simply extending those state leases so they wouldn't terminate?

THE WITNESS: Yeah. I don't -- I don't want to speak for the state land office. They didn't
say yes or no to that question. So I think the possibility is there, but $I$ can't speak for them. And they didn't provide any guarantees or anything by any means.

MR. MCCLURE: Okay. Thank you. Okay. I got a little bit more follow up question, maybe touching a little bit on Ms. Thompson's question earlier. I don't know if it'd be better for Ms. Shaheen or Mr. Gregory, but however you wish to proceed, Ms. Shaheen.

MS. SHAHEEN: I'm happy to give it a shot, and $I$ will refer it to Mr. Gregory if $I$ don't have an answer.

MR. MCCLURE: Okay. Sounds good.
Just to confirm, so as far as pooling the unleased mineral interest owners that have the star next to them, I guess, are we only pooling them in case the lease agreement that's not executed yet does not go through then? Because we're thinking they're going to be executed within the week is what'd you'd mentioned earlier; correct, Ms. Shaheen?

MS. SHAHEEN: Well, that was my understanding about some of these, but you know, there's no guarantee as to when someone's going to sign something. But they have been working hand in
hand. Mr. Gregory has been working hand in hand with a number of these folks and with their counsel. Some of them have counsel, to come to an agreement as soon as possible.

MR. MCCLURE: Okay. Yeah. Thank you. Yeah, I understand where you're coming from. I was just confirming as to what the thought was, I guess, behind that. I think that may be all my questions. Thank you, Ms. Shaheen.

MS. SHAHEEN: Thank you, Mr. McClure. And I would offer, I can take a look at the transcripts from those Titus cases and point out anywhere there that might be helpful related to your question about the orders in those cases if you'd like. Just let me know.

MR. MCCLURE: I guess towards that end, presuming, I guess, somewhat dependent on what Mr. Harwood is thinking, but it could be beneficial if you wanted to submit some sort of follow up in that regard because looking at the hearing order and the exhibit attached, it doesn't seem, at least at this later date, that the Division had authorized, you know, what was requested for in the application.

But you know, as you point out, I didn't go through and read the transcript, so I'm not
sure what might have been spoken to within the hearing itself. But it could potentially be beneficial to the Division in determining what we wish to do in these cases, $I$ guess, if we had something in that regard.

I guess what are your thoughts toward that end, Mr. Harwood?

THE HEARING EXAMINER: Well, a lot of this is, frankly, over my head. But it sounds to me, from my uninformed layperson's perspective, that we're not clear whether there is Division precedent for what's been requested here.

I guess my thoughts, based on listening to this exchange, are whether or not we can proceed to take this case under advisement at this time or whether we need to continue it until such time as we have a better understanding of whether or not what's being requested essentially hedging Flat Creek's bets is either authorized or in the best interest of OCD and its goals.

I guess those are my thoughts, Mr. McClure and Ms. Thompson and Ms. Shaheen. And why don't you all chime in and correct me if I'm wrong, which is pretty usual.

MS. SHAHEEN: I might just say that there's precedent in doing this with respect to
vertical wells. And I know no one's drilling vertical wells these days, but the idea to do that with Titus came out of the history of doing that with vertical wells.

And I'll take a look at the transcript, and maybe what $I$ can do is file a supplemental affirmation perhaps for me or maybe $I$ could just point out the page and line numbers in the transcript where I think indicate that the Division was amenable to approving the alternatives in those previous cases.

MR. MCCLURE: And I guess, what are your thoughts in regard to continuing the case to a later docket in the near future where we could revisit your submittal?

MS. SHAHEEN: I don't know that it's necessary. I think if we make the supplemental referral to the transcript, unless you believe it would somehow be helpful to hear from me again, I don't know that there's any additional facts that we need to have that aren't already available to the Division. I can give that some thought, but I would suggest that it be taken under advisement, leave the record open for me to supplement with those transcript citations.

$$
\text { I guess what } I \text { don't want is for the }
$$

Division to deny the applications without giving us another opportunity if you felt it was necessary to hear from us again. That would be my only concern.

THE HEARING EXAMINER: Let me ask you this, Ms. Shaheen. Let's assume the worst-case scenario. You go back to the transcripts, and they do not provide support for the precedent you believe may exist, you know, in support of the application in these four cases. Then what?

MS. SHAHEEN: I would probably confer with Titus's folks if $I$ read the transcripts and there wasn't an indication that the Division was planning to approve both alternatives.

And I too, like you, can be wrong often, but my very strong recollection is that the Division approved both alternatives even if it may not be evident in the Exhibit $A$. But I'll need to take a look at that before $I$ can weigh in further.

THE HEARING EXAMINER: Okay.
Mr. McClure, Ms. Thompson, final thoughts on how the two of you would prefer to proceed here, either continuance or taken under advisement with the discussed supplementation?

MR. MCCLURE: Do you have thoughts,
Ms. Thompson?

MS. THOMPSON: Yeah, I've not quite seen something like this before. The biggest, I guess, problem is, I guess, whether or not you actually do get those federal leases because when writing an order, we do attach the checklist that pretty much lays out what you're allowed to have and what you're not allowed to have. The order's not super specific as far as whether or not you're having those leases. It could cause problems down the road. I guess we could potentially take it under advisement; however, I would definitely request that supplementary document that Mr . McClure was asking for along with the one $I$ was asking for as far as the full parties, so.

THE HEARING EXAMINER: You know, I'm thinking Ms. Shaheen, that probably the safer course for $O C D$ in a case like this where the precedent is uncertain is for us to continue this case rather than take it under advisement. I mean, we can admit your exhibits and continue the case pending submission of, you know, this additional information and poof that's been discussed; would that be acceptable? I know it's not your preference, but.

MS. SHAHEEN: Right. If that's the
Division's preference, I won't argue with you. I
would just simply ask that we be put on the next docket, which would be August 3rd.

THE HEARING EXAMINER: Ms. Salvidrez, can we squeeze Flat Creek into that docket?

MS. SALVIDREZ: Yes. I will continue these four cases to August 3rd.

THE HEARING EXAMINER: Okay.
MS. SHAHEEN: Thank you, Marleen.
THE HEARING EXAMINER: Okay. Anything else from anyone else on these four cases, the Flat Creek Cases, 15 through 18?

MS. SHAHEEN: If you don't mind, I want to make sure that I'm providing Ms. Thompson and Mr. McClure with everything they need. And that is the revised $A-4$ indicating on the Exhibit that the highlighted parties are those that who are being pooled, and the asterisks relate to anticipated leases; and then provide citations to the transcripts in the Titus cases. Is that it, or is there anything else?

MS. THOMPSON: And then can you double check that link for the OCD website?

MS. SHAHEEN: Oh, right. I agree with Mr. McClure. In the future, I need to make sure it's the .gov address.

MR. MCCLURE: And Ms. Shaheen, I think that pretty much encapsulates what we were looking at as far as the Titus cases. I mean, if you wanted to add an extra paragraph or something there at your discretion, that'd be fine. But I mean, we're not really looking for a big ten-page legal argument by any stretch of the imagination, though. Just some sort of citation should be fine.

MS. SHAHEEN: Okay. I'll make it brief. Thank you.

MR. MCCLURE: Yep. Thank you. The only other thing $I$ was going to say is earlier, I'd referenced that $I$ didn't think the application checklist had included your primary request, that being the entirety of the west half and the east half, and I am mistaken on that. I didn't notice that there's an extra field that is added to the admin checklist in these cases, that being alternative description. So I was accidentally reading that instead of the primary description, I guess.

So I guess, no questions in regard to that. Just stating that $I$ was mistaken earlier in what I said. But thank you, Ms. Shaheen.

Thank you, Mr. Harwood.
THE HEARING EXAMINER: Sure. I'm glad

I'm not the only one.
Okay. Anything else from anyone in these cases 15 through 18? I'm hearing nothing.

I note that we've been going almost an hour. But since cases 19 through 22 can be disposed of quickly, I'm proposing that we do that, and then we'll take a ten-minute break.

Hearing no opposition, to that, let's call cases 19 through 22. They're all Matador Production Company cases. May I have an entry of appearance for the applicant in those cases?

MS. VANCE: Yes. Hello, again. Good morning, Examiners. Paula Vance with the Santa Fe office of Holland and Hart on behalf of the applicant, Matador Production Company.

THE HEARING EXAMINER: Thank you, Ms. Vance.

And entry of appearance for any other interested parties or persons in cases 19 through 22?

MR. SAVAGE: Good morning, Mr. Hearing Examiner.

Good morning, Technical Examiners.
Darin Savage with Abadie and Schill on behalf of Coterra Energy and Cimarex Energy Company, et al.

THE HEARING EXAMINER: Thank you,
Mr. Savage.
Anyone --
MR. PARROT: Good morning, all. This
is --
THE HEARING EXAMINER: Yeah.
MR. PARROT: Apologies, Mr. Examiner.
Good morning, all. This is James
Parrot from Beatty and Wozniak on behalf of EOG Resources, Inc., entering an appearance.

THE HEARING EXAMINER: Thank you, Mr. Parrot.

Anyone else? Okay. My understanding is that there was a motion to dismiss filed in all four of these cases. If I'm not mistaken, it was filed after OCD's deadline, but $I$ think it will be granted anyway. And I'm not sure this is news to anyone.

Ms. Salvidrez, could you fill us in on the procedural details of that?

MS. SALVIDREZ: I will dismiss these four cases.

THE HEARING EXAMINER: Okay. I'm hearing silence from everybody. I assume that's a consensus request, and that's what everyone wants?

MS. VANCE: Yes, Mr. Hearing Examiner. And as indicated in our motion to dismiss, Matador will refile similar applications at a later date.

THE HEARING EXAMINER: Okay. Thank you, Ms. Vance.

Anything else from anyone in cases 19
through 22?
MR. PARROT: Nothing from EOG. Thank you.

MR. SAVAGE: Nothing. Thank you.
THE HEARING EXAMINER: Okay. Well, thank you, all.

Let's see. It's almost 30 minutes after the hour. Let's take a break and reconvene at 40 minutes after the hour. We'll see you all back in 13 minutes.
(Off the record.)
THE REPORTER: We are now back on the record.

THE HEARING EXAMINER: That's great. Thank you, Ms. Fulton.

Okay, everyone. Let's see. Where does that take us to? Cases 23 and 24 on today's docket, 23585 and 586. I believe those are consolidated. May I have an appearance for the record from the applicant
in those two cases?
MS. MCLEAN: Yes, Mr. Examiner. Jackie McLean with Hinkle Shanor on behalf of Mewbourne Oil Company.

THE HEARING EXAMINER: Good morning,
Ms. McLean.
MS. MCLEAN: Good morning.
THE HEARING EXAMINER: Welcome aboard.
MS. MCLEAN: Thank you.
THE HEARING EXAMINER: Am I correct that these are consolidated?

MS. MCLEAN: That is correct.
THE HEARING EXAMINER: All right. Entry
of appearance for any other interested persons in cases 23 and 24 or interested parties?

MS. BENNETT: Good morning, everyone. Deana Bennet from Modrall Sperling in Albuquerque, New Mexico, on behalf of Marathon Oil Permian in these two cases. And I'm entering our appearance to preserve Marathon's rights to seek de novo review to the extent necessary. But $I$ have no objection to the cases proceeding by affidavit.

THE HEARING EXAMINER: Thank you, Ms. Bennett.
Anyone else? Okay.

Ms. McLean, back to you.
MS. MCLEAN: Thank you.
In case numbers 23585 and 23586,
Mewbourne is seeking an order pooling all uncommitted interest in the Bone Spring formation in the west half of Sections 21 and 28, Township 18 South, Range 35 East in Lea County.

And in case number 23585, Mewbourne is seeking an order pooling all committed interests in the Bone Spring formation underlying a 328-acre standard horizontal spacing unit comprised of the west half west half of Sections 21 and 28, Township 18 South, Range 35 East. And Mewbourne seeks to dedicate the unit to the Belgian Blue $28 / 21$ State Com number 501H well.

And then in case number 23586,
Mewbourne seeks an order pooling uncommitted interests in the Bone Spring formation underlying a 320-acre standard horizontal spacing unit comprised of the east half west half of Sections 21 and 28, Township 18 South, Range 35 East. And the unit will be dedicated to the Belgian Blue $28 / 21$ State Com number 523 H well.

The exhibit packets in case numbers 23585 and 23586 , which were submitted to the Division for these cases contain Exhibit $A$, which is the land
professional's testimony and related land exhibits, including the application and proposed notice of hearing, $C-102 s$ for the wells, a plot of tracts, ownership interest, a list of the uncommitted interest pool, as well as a sample well proposal letter, AFEs, and a chronology of contact.
(Cases 23585 and 23586 Exhibit A was marked for identification.)

Exhibit $B$ is the geology testimony and related exhibits which include a location map, Bone Springs sub-c structure map, and a stratigraphic cross section.
(Cases 23585 and 23586 Exhibit $B$ was marked for identification.)

And finally, Exhibit $C$, which is the notice testimony, sets out when our firm sent the notice letter to the interested parties, a chart that provides a date each notice letter, and the date each return was received, as well as the certified mail cards in support. And finally, an affidavit of publication from the Hobbs News-Sun, which shows that we timely published on June 11, 2023.
(Cases 23585 and 23586 Exhibit $C$ was marked for identification.)

And with that, I ask that Exhibits A,

| 1 | $B$, and $C$ be admitted into the record in case numbers |
| :---: | :---: |
| 2 | 23585 and 23586 and that these cases be taken under |
| 3 | advisement. And I'm happy to answer any questions |
| 4 | that you might have about these cases. |
| 5 | THE HEARING EXAMINER: Thank you, |
| 6 | Ms. McLean. |
| 7 | Ms. Bennett? |
| 8 | MS. BENNETT: Thank you. I have no |
| 9 | questions. |
| 10 | THE HEARING EXAMINER: All right. This |
| 11 | time, we'll start with Mr. McClure. |
| 12 | MR. MCCLURE: Yes. Mr. Harwood, I have |
| 13 | no questions for either of these cases. |
| 14 | THE HEARING EXAMINER: Ms. Thompson? |
| 15 | MS. THOMPSON: Yes. I have no |
| 16 | questions for these cases. |
| 17 | THE HEARING EXAMINER: All right. |
| 18 | Well, Ms. McLean, thank you for your brevity. Your |
| 19 | Exhibits A through C will be admitted, and cases 23 |
| 20 | and 24 will be taken under advisement. |
| 21 | (Cases 23585 and 23586 Exhibit A, |
| 22 | Exhibit B, and Exhibit $C$ were received |
| 23 | into evidence.) |
| 24 | MS. MCLEAN: Thank you. I appreciate |
| 25 | it. |
|  | Page 66 |

THE HEARING EXAMINER: Anything else from anyone in cases 23 and 24 on today's docket? Hearing nothing, we will move right along to case number 25, which is case 23633, Oxy USA Inc. Entry of appearance for the applicant, please. MR. RANKIN: Good morning, Mr. Examiner. May it please the Division, Adam Rankin appearing on behalf of the applicant in this case.

THE HEARING EXAMINER: Good morning, Mr. Rankin.

Entry of appearance for any other interested parties or persons in case number 25? All right. For the record, $I$ hear silence.

So Mr. Rankin, given that there's no opposition $I$ guess, you can take this away by affidavit.

MR. RANKIN: Thank you, Mr. Hearing Examiner.

This case has been continued from the pervious docket due to the need to perfect notice by publication. We presented this case in full at the previous docket and identified that the notice of publication was two days late.

For that reason, we have continued the case to this docket for purposes of perfecting that
notice. Otherwise, Oxy has submitted its supplemental exhibits that were requested by the Division. And at this time, we would ask that the case be taken under advisement.

THE HEARING EXAMINER: Thank you,
Mr. Rankin, especially for jogging my memory.
Let me ask if Ms. Thompson or
Mr. McClure have any additional questions for
Mr. Rankin based on what's been submitted in the interim.

MR. MCCLURE: No questions here, Mr. Harwood. It looks like they submitted as requested. And I don't see any entries in the case file in regard to additional entries of appearance or anything, so I think I'm satisfied.

MS. THOMPSON: I have no questions.
THE HEARING EXAMINER: Okay.
Mr. Rankin, your case will be taken under advisement.
MR. RANKIN: Thank you very much.
THE HEARING EXAMINER: Okay. Thank you.

Anything else in case number 23633? Okay.

That brings us to the next block of cases, which is a large block. Let's see, we are
talking cases number 26 through 57. These are Cimarex Energy Company and Read and Stevens, Inc., cases. All of these cases involve those two entities.

Let me first have an entry of appearance for Cimarex Energy Company, please.

You're muted, Mr. Zimsky, if you're trying to talk.

MR. SAVAGE: Thank you. Good morning, Mr. Hearing Examiner.

Good morning, Technical Examiners.
Darin Savage with Abadie Schill on behalf of Cimarex Energy Company. Also present is Bill Zimsky from Abadie Schill's Durango office.

MR. ZIMSKY: Good morning.
THE HEARING EXAMINER: Okay. Thank you, Mr. Savage.

Let me have entries of appearance for Read and Stevens, Inc., please.

MR. RANKIN: Good morning, Mr. Hearing Examiner. Adam Rankin with the Sante Fe office of Holland and Hart, appearing on behalf of the applicant in this case, Read and Stevens, and Permian Resources Operating, LLC. And with me today is my colleague, Paula Vance.

> THE HEARING EXAMINER: Thank you,

Mr. Rankin.
Okay. Entry of appearance for any other parties? I realize this is a long list of cases. So entry of appearance for other parties in this set of cases?

MR. JONES: Good morning, Mr. Examiner. Blake Jones with Steptoe and Johnson, appearing on behalf of Northern Oil and Gas who is an interested party in the Sections 5 and 8 cases, those being case number 23448 through 23455, 23594 through 23597, and 23516 through 23523.

THE HEARING EXAMINER: Thank you, Mr. Jones.

Others?
MR. MORGAN: Yes. Good morning, Mr. Examiner. Scott Morgan with Cavin and Ingram, appearing on behalf of Sandstone Properties, LLC., in the Bane and the Joker cases, which are 42 through 57 on the docket.

Our understanding at this time is that the parties are not seeking to pool any interests that may be owned by Sandstone. I think the title reflects that we're here to simply preserve rights if necessary.

> THE HEARING EXAMINER: Thank you,

Mr. Morgan.
Anyone else? Okay.
Let me tell everybody what the Division has decided to do, and Mr. McClure, Ms. Thompson, jump in and correct me if I'm wrong.

There was a motion to continue these cases that was filed. And I might add, vigorously opposed. The Division has decided, given the magnitude of these cases and the amount of time that they are expected to take, that we will continue the cases, and not necessarily for the reasons requested in the motion for continuance by the way, so don't take this as a reflection of how the OCD may have evaluated or may evaluate that motion. But it's simply from the perspective of $O C D$ and its time constraints today.

The decision is to continue these cases to a special hearing date. I'll ask Ms. Salvidrez to chime in and provide the dates. I think this has been discussed already with folks via email, and there may have been a date that's already been settled upon.

But anyway, that's the way we're going to proceed in these cases. We're going to set aside a day to hear this particular block of cases, maybe two days if necessary.

Ms. Salvidrez, would you take it from here on the dates that we're talking about?

And then we'll hear from all the parties and see if we can't pick a day.

MS. SALVIDREZ: Well, sure, Rip.
So the dates that we have are Wednesday/Thursday, August 9th and 10th; Wednesday/Thursday August 23rd/24th; Wednesday/Thursday September 13th/14th; Wednesday/Thursday September 27th/28th.

THE HEARING EXAMINER: Okay. Thank you.

Mr. Rankin, let me hear from you first.
MR. RANKIN: Thank you, Mr. Hearing Examiner.

And I'll just state, we're obviously disappointed not to be able to present our case today but understand and appreciate the Division's willingness to set these cases for a special hearing date so that we can, nevertheless, proceed at the earliest opportunity.

In light of that and our preference, we are requesting a hearing on the 9th and 10th of August. Our witnesses are not available for the second options there. So in order to proceed on the
earliest date, we're asking for August 9th and 10th. THE HEARING EXAMINER: Thank you,

Mr. Rankin.
Mr. Savage?
MR. SAVAGE: Yes. Thank you,
Mr. Hearing Examiner. We appreciate the wisdom of the OCD, the Division, and we realize that there are many factors involved regarding the magnitude of these cases.

In our motion, in wrestling and grappling with some of the issues in these cases, there was an issue that we believe is an issue of first impression for the Division that the Division has not resolved or opined about. And we describe a little bit about it in the top two options and questions in our motion. We believe that this issue is essential to receive some feedback from the Division on the issue prior to the hearing on the merits. In effect, we think it would be not -- be essential, it would help to have some kind of declaratory ruling.

Read and Stevens has pointed out the importance of the unresolved issue in their response as it involves the allocation statute 70-2-17. There appear to be two approaches available to Cimarex for
satisfying the statute, but which approach depends on how the Division defines and applies certain terms of the statue and the correlative rights.

Therefore, as a foundational matter,
Cimarex really needs feedback from the Division in order to determine which approach applies. And therefore, respectfully, we would like to have the opportunity to brief the issue and have a short prehearing conference prior to the hearing on the merits.

And therefore, we would like to have the hearing on merits the September 13th and 14th. So that would still fit in the timeline and time allocation of the OCD, but it would add just one additional step that is essential for proceeding on the case with this kind of magnitude.

And despite Read and Stevens' argument that these cases are simple, they are not. They are very complicated, and the issues involved are very complicated and novel. So I would thank the Division for the consideration of this request.

THE HEARING EXAMINER: Thank you,
Mr. Savage.
Mr. Jones or Mr. Morgan, do you have things to add? I mainly want to hear about your
availability on these now two sets of proposed dates.
MR. JONES: Both sets of dates work for Northern Oil and Gas. Nothing further to add. Thank you.

MR. MORGAN: Mr. Examiner, both sets of dates work for Sandstone Properties as well.

THE HEARING EXAMINER: Okay. Thank you.

Mr. Rankin, $I$ want to just briefly return to you and ask you if you agree with Mr. Savage that there's a need for further briefing on an issue of first impression before this proceeds to hearing on the merits?

MR. RANKIN: Mr. Examiner, I do not agree that this requires briefing. This is a pretty straightforward issue about correlative rights. The statute is very clear on what's required for allocation of production under a pooling order within a spacing unit. And it's required and mandated, and there's really no flexibility.

First impression here is not the geology or complexity of engineering, it's simply the position that Cimarex is taking about requesting the Division to essentially shut off the ability of working interest owners to access their underlying
minerals. So our view is it's not complex at all.
But if Mr. Savage would like to brief the issue, he's certainly welcome to do so. You know, I can't stop him from doing that, but $I$ don't think it's necessary. And we would of course respond.

But my concern is in burdening the parties and the Division with long, you know, cumbersome briefing on an issue that is really, frankly, very straightforward. And I see it, Mr. Examiner, as a, you know, not only a burden, but also, you know, $I$ have concerns about it ultimately delaying a hearing on the merits. So number one.

And then number two, we do not have full witness -- on the 13th or 14 th.

THE HEARING EXAMINER: I'm sorry. You cut out there, MR. Rankin. You don't have witnesses available on September the 13th or 14th?

MR. RANKIN: That's correct. Not all of our witnesses are available those dates.

THE HEARING EXAMINER: If we selected those dates, could you get those people to be available?

MR. RANKIN: Unfortunately, no.
Unfortunately, I would not be able to.
THE HEARING EXAMINER: Okay.

MR. SAVAGE: Mr. Harwood, if I may say that there is another selection option subsequent to the 13 th and 14 th, and that would be the last set of dates in September. That would be available within the framework that the Division is proposing.

MR. RANKIN: Mr. Examiner, I haven't heard whether Cimarex's witnesses are unavailable for August 9th or 10 th yet. And $I$ guess, you know, before we move to the very last date that has been provided, I'd like to know whether Cimarex's witnesses would be available for the $9 t h$ or $10 t h$.

THE HEARING EXAMINER: I thought I heard they were.

MR. SAVAGE: Mr. Harwood, we believe that the witnesses would be available for those dates in August, but we believe that that would be premature considering the need for additional briefing and preference would be a prehearing conference.

THE HEARING EXAMINER: Okay.
Mr. Savage, what are your dates in September that you're proposing?

MR. SAVAGE: 13th and 14 th is what we had proposed, but --

THE HEARING EXAMINER: I'm sorry.
Mr. Rankin, the dates in September that
you're proposing?
MR. RANKIN: I'm sorry, Mr. Examiner. We do not propose dates in September. We're proposing the 9th and 10th of August. We don't have witness availability for the August 23rd, 24 th, or the September 13th or 14 th dates.

THE HEARING EXAMINER: Okay. Who was it that mentioned the dates later in September? What dates were those?

Is that you, Mr. Savage?
MR. SAVAGE: Yes.
Marlene, can you provide the last set of dates in September?

MS. SALVIDREZ: Sure, Mr. Savage. It is Wednesday/Thursday September 27th/28th.

MR. SAVAGE: Yes. So, you know, that is a large set of time frame for Read and Stevens to not be available with witnesses. You would think that they would be available over one of those options in September.

THE HEARING EXAMINER: Well, we haven't heard that they aren't.

So Mr. Rankin, that's the question to you. Would your witnesses be available September 27 th and 28th?

MR. RANKIN: Witnesses are available those dates, Mr. Examiner; however, I have heard that both Cimarex and Permian both have witnesses available for the 9th and 10th. So our strong preference wo be to take the earliest date for which all parties are available.

And let me just take the moment to remind the examiners in the Division where we are and how we got here. These cases and this contested hearing that was set for today has been pending since April at which date, on April 6, both parties, Cimarex and Permian, agreed that day would be the date for the hearing.

And prior to that, both parties had sent out well proposals to one another. Cimarex was well aware, based on the dates in the well proposals, that Permian was seeking to pool both the Bone Spring and Wolfcamp. So these well proposals and the knowledge of what each company's plans were and have been, have been known for some time. And so at this point, we've been waiting for more than three months to have a contested hearing.

The only thing that's new, which really isn't, but apparently, it's new to Cimarex, is that the Wolfcamp is a viable formation in this area.

And given that, we really don't see any justification for going beyond the earliest available date to both parties. And so we ask that we set this case for hearing on the 9th and 10th of August.

THE HEARING EXAMINER: Okay.
MR. SAVAGE: Mr. Harwood, if I could add just a little bit of coloring to that?

THE HEARING EXAMINER: Sure. Go ahead.
MR. SAVAGE: Okay. Thank you. I don't mean to be going back and forth like this, but these are important issues.

So to put it in perspective, Cimarex filed these applications initially for these lands. Then Read and Stevens asked for an objection and a continuance. We accommodated that so they could do their well proposals and file competing applications. And then that was for the Bone Spring.

And then they wanted additional pooling applications for the Wolfcamp. And there is a lot of controversy in this area over how you would approach the development of the Wolfcamp or even if you should approach the development of the Wolfcamp, which raised a lot of issues.

But nonetheless, Cimarex and the Division accommodated their need for time for the
competing applications. And as we developed our cases, we came to confront and encounter the very default issues. And as a result, prior to the deadline, we ask for this continuance, and we think it is in the best interest.

Mr. Harwood, typically, in competing applications, you look at the AFEs. And the AFEs might show variations between 15 and 20 percent differences in the cost.

Here we have a magnitude of difference in cost of probably 100 percent. It's an additional quarter of a billion dollars to drill Read and Stevens' plan versus Cimarex's plan. And that is a huge amount.

And it warrants the additional time. We're still trying to stay in the time frame of the Division. And we're just asking for the Division's consideration on some very important issues.

THE HEARING EXAMINER: Okay. Well, here's what I'm proposing we do, and Mr. McClure or Ms. Thompson, feel free to jump in if you wish.

I'm not somebody who likes to see cases delayed and delayed. On the other hand, I think when people generally request more briefing on an issue, it's probably in the best interest to provide them
that. So given the short time frame between now and August the 9th, what I'm proposing, Mr. Savage, is that you have your brief into us by July the 26 , next Wednesday, and then a response brief to the Division by, let's say, August the 3rd.

Mr. Rankin, are those dates acceptable to the two of you? That will give the Division a little time to review your briefing. We won't need any reply brief; we can get it all in your brief in chief and your response. We'll review those.

And then on august the $9 t h$, we'll start out with Mr. Savage's issue of first impression and deal with that first. But have all your witnesses ready to proceed on August the 9th.

How does that sound to you guys?
MR. RANKIN: Mr. Examiner, would you mind, just so $I$ understand the timing and the sequencing. Would you mind recapitulating that for me, so I get it just right?

THE HEARING EXAMINER: Sure. I'm proposing that Mr . Savage have the brief he wants to file in by the 26, next Wednesday. And then you have your brief into us by the Wednesday After that, August the 3rd.

MR. RANKIN: Okay.

THE HEARING EXAMINER: I know it's a short time frame, but I'm trying to accommodate everybody.

MR. RANKIN: And then we, nevertheless, plan on an August 9th and 10th hearing?

THE HEARING EXAMINER: I think so. You know, this is the best, fairest compromise I can come up with on short order.

MR. RANKIN: Mr. Examiner, I fully endorse your approach, I don't necessarily believe that briefing is required. I would vehemently oppose stringing this case out, this contest out, over the issues that Cimarex themselves have brought to the table.

And so I agree with you and I'm happy to comply. And we can turn around a response brief by August 3rd and be prepared to go to hearing on the 9 th and 10th.

THE HEARING EXAMINER: Mr. Savage, can you get your brief in by next Wednesday?

MR. SAVAGE: Yes, Mr. Harwood. I can get the briefing.

The difficulty with that short fuse is that we have in place outstanding Wolfcamp applications. And we have also a motion in place
addressing what the Division should do with those Wolfcamp applications, whether they should be dismissed or whether they should be included. We really need feedback from the division to make that determination of what to do with those Wolfcamp applications that Cimarex has in place. I don't think we can do it within that time frame that's proposed.

So the feedback we want from the Division, our decision about how to present the elements that are in place depends directly on the feedback we've received.

THE HEARING EXAMINER: Are you talking about feedback on your pending motion for continuance?

MR. SAVAGE: No. The feedback from the brief that we propose. We need basically some kind of declaratory ruling from the Division on the unresolved issue of first impression that we will be discussing. THE HEARING EXAMINER: Well, you know, Mr. Savage, I think what you're going to have to do is just be ready to proceed to hearing on August the 9th. You know, give it your best shot in the briefing. If there was a declaratory ruling in your favor at the outset of the hearing on the 9th, then maybe some of this goes away. But $I$ think you should simply have it
all in by the $9 t h$ and be prepared to proceed on the merits.

MR. SAVAGE: That's fair.
THE HEARING EXAMINER: Okay.
MR. SAVAGE: Mr. Examiner, if we could do an alternate form, similar to what Ms. Sheehan, I guess, did this morning. We could present two packets, providing alternate options for the Division to consider. I think we could approach it that way. Thank you.

THE HEARING EXAMINER: Okay. It remains unresolved whether or not that approach is something the Division can consider, but I'll leave it up to your ingenuity, Mr. Savage. I think the only thing we can do that's fair to everybody is go ahead on the 9th and 10th, and you all get in whatever briefing you think is dispositive of these issues between now and then by the deadlines we discussed.

MR. SAVAGE: All right. That's fair enough. We appreciate that. Thank you. We can do that.

THE HEARING EXAMINER: Based on that discussion, anything else from you, Mr. Jones, or you, Mr. Morgan?

## MR. JONES: Nothing further. Thanks.

MR. MORGAN: Nothing further from Sandstone. Thank you.

THE HEARING EXAMINER: Mr. McClure or Ms. Thompson, anything you wish to add?

MR. MCCLURE: Nothing from me,
Mr. Harwood.
MS. THOMPSON: Nothing from me.
THE HEARING EXAMINER: All right.
Okay. Is there anything else in cases 26 through 57 on today's docket? Okay. Hearing nothing. Wait. Somebody was talking --

MR. SAVAGE: Yes. I'm sorry,
Mr. Harwood. Just one more item to be able to manage the approach as we prepare for August 9.

It would be nice to have, like, some kind of guidance in terms of a supplemental prehearing order maybe where we can propose supplements to the hearing packets that represent the additional alternative approach pursuant to the brief.

We just as for some kind of timeline as that hearing approaches the week before. Anything supplemental that both parties would like to submit as exhibits, we can do so. And then any objections to those following that. And then we should be prepared for the August 9 hearing.

MR. RANKIN: Mr. Examiner, may I add to Mr. Savage's comments?

THE HEARING EXAMINER: Sure.
MR. RANKIN: I appreciate Mr. Savage raising this question because I actually had intended to myself.

You know, Mr. Examiner, given the nature of this case and the fact that the parties have been planning and preparing for this contested hearing for several months, we do have, we believe, a nearly complete set of exhibits and testify. So I don't believe that there's a need to really make many adjustments or changes to the prehearing order that's in place other than, really, to amend the date. I do believe that, you know, including the dates of the briefing would also make sense.

The one other item that $I$ think $I$ would like to see, Mr. Examiner, is, as you may be aware, Cimarex has submitted a request for an issuance of a subpoena on some production of documents. And so we are anticipating being able to work with Cimarex to come to an agreement on the scope and to produce those documents without having to come back to the Division on objections.

But in light of those requests and the
documents that we anticipate producing, we expect that Cimarex may have some additional exhibits or testimony that they would like, you know, to contribute to the hearing. So given that, we ask that the prehearing order would be amended to require any additional exhibits and testimony to be submitted and served one week in advance of the hearing.

THE HEARING EXAMINER: Okay. Let's see. That would be August the 2nd. That's the day before the response brief is due. Does that pose a problem for you?

MR. RANKIN: That would be our response brief, Mr. Examiner. And that wouldn't be a problem for us.

THE HEARING EXAMINER: Okay. So additional exhibits deadline August 2 nd?

MR. RANKIN: I think that's appropriate for both sides.

THE HEARING EXAMINER: Additional, I should say, exhibits and witness testimony deadline?

MR. RANKIN: Correct.
THE HEARING EXAMINER: Is that workable for you, Mr. Savage?

MR. SAVAGE: Yeah. That's appropriate. Thank you.

Mr. Rankin, that's a very good idea.
THE HEARING EXAMINER: Okay. All
right. Okay. So we'll get out an amended prehearing order that includes those three dates. I'm making notes to self.

And I know you're both experienced at this, far more than I am. But when and if we get to the presentation of these cases, I just ask you both to do your best to be thinking about how we streamline the presentation so that it includes all the information that the technical examiners will need to consider for all of these cases without any repetition. Maybe that'll be a challenge, but I'm sure the two of you can rise to it.

The goal will be to hear everything we need to hear, and nothing more and nothing twice; does that make sense?

MR. RANKIN: Mr. Examiner, on that point, I would recommend that we simply ask each witness to confirm that the adoption of their testimony under oath, and then proceed immediately to cross examination and examination by the examiners rather than take the unnecessary time to have each witness summarize their testimony.

So my recommendation would be simply to

Page 89
proceed on the written submissions, and then go right into cross without summary.

THE HEARING EXAMINER: I don't want to get into the details of how that happens. It sounds like a good idea, and I would encourage you and Mr. Savage to confer between now and then on, you know, the procedural details of how to carry that out; okay?

MR. RANKIN: Will do. Appreciate it.
THE HEARING EXAMINER: All right.
Great. All right. Thank you, guys.
Let's see. Anything else then in cases 26 through 57? Okay. All right. Thank you, all, for that discussion.

And let's move onto the next to last item on today's document, item 58, case 23295. That's Cimarex Energy Company, entry of appearance for Cimarex, please.

MR. SAVAGE: Yes. Good morning, Mr. Hearing Examiner.

Good morning, Technical Examiners.
Darin Savage with Abadie Schill Santa
Fe office on behalf of Cimarex Energy Company.
THE HEARING EXAMINER: What a surprise, Mr. Savage.

MR. SAVAGE: Wearing me out today.
THE HEARING EXAMINER: Entry of appearance for any other interested parties in this case 58?

MR. BRUCE: Mr. Examiner, Jim Bruce representing Pride Energy Company. And this case should also be combined with the final case, 22853.

THE HEARING EXAMINER: Okay. Thank you, Mr. Bruce. Yes. I see Ms. Sulvidrez's ellipsis here, and I just overlooked them. All right.

So Mr. Savage, I take it you enter an appearance in 22853 as an interested party?

MR. SAVAGE: Yes. This is a contested case between the two, so yes. We are entering an appearance. We have entered an appearance, but we also have competing exhibits and testimony.

THE HEARING EXAMINER: Okay. So you both have witnesses this morning?

MR. SAVAGE: We do. We have witnesses available.

MR. BRUCE: Yes.
THE HEARING EXAMINER: Okay. Before we get into that then, let me ask are there any other interested parties in cases 23295, 22853?

MS. MUNDS-DRY: Good morning,

Mr. Hearing Examiner. Ocean Munds-Dry for COG Operating, LLC, and Concho Oil and Gas, LLC.

THE HEARING EXAMINER: Okay. Thank you, Ms. Munds-Dry.

Anyone else?
MS. BENNETT: Good morning. Deana Bennett from Modrall Sperling, and we've entered an appearance in both cases on behalf of Chevron and on behalf of Marathon Oil Permian, LLC. And if I inadvertently didn't enter an appearance on both cases on behalf of both entities, $I$ intended to do so. And so I'm doing so today. Thank you.

THE HEARING EXAMINER: Thank you, Ms. Bennett.

Anyone else in these two cases?
Ms. Munds-Dry, Ms. Bennett, are you offering any kind of exhibits or testimony in these cases?

MS. MUNDS-DRY: For COG and Concho, no, we are not. Thank you, Mr. Harwood.

THE HEARING EXAMINER: Okay.
MS. BENNETT: Thank you, Mr. Harwood. We are not either.

THE HEARING EXAMINER: All right. But
I take it you want the opportunity to ask questions
and cross-examine witnesses?
MS. BENNETT: Mr. Harwood, Deana
Bennett here. I don't intend to, but I suppose if something really juicy happens, I might not be able to help myself. But it's not my intention to ask any questions today or offer any comments on any exhibits.

THE HEARING EXAMINER: Thank you.
MS. MUNDS-DRY: And Mr. Harwood, I'll just say ditto. I'll try to resist temptation, but I do not intend to ask any cross-examination.

THE HEARING EXAMINER: Okay. All right. Thank you both. All right.

So do you all have all your witnesses here and available to testify?

MR. BRUCE: I believe so.
MR. SAVAGE: I believe so, Mr. Harwood.
THE HEARING EXAMINER: How many witnesses are we talking about?

MR. BRUCE: I have two, a landman and a geologist.

MR. SAVAGE: And Cimarex has three. That would be a landman, geologist, and reservoir engineer.

THE HEARING EXAMINER: Okay. All
right. I don't have their names, but I'm assuming
that those five individuals are present and accounted for at this hearing?

MR. BRUCE: They should be online I believe.

THE HEARING EXAMINER: Okay. All
right. Give me the names, I guess. That's probably the best way to proceed.

MR. BRUCE: Mr. Examiner, Pride's
landman is Matthew Pride, and then the geologist is
Harvin Broughton. That's $H-A-R-V-I-N$
$\mathrm{B}-\mathrm{R}-\mathrm{O}-\mathrm{U}-\mathrm{G}-\mathrm{H}-\mathrm{T}-\mathrm{O}-\mathrm{N}$.
THE HEARING EXAMINER: $\mathrm{B}-\mathrm{R}-\mathrm{O}-\mathrm{U}-\mathrm{G}-\mathrm{H}$ ?
MR. BRUCE: Yes.
THE HEARING EXAMINER: Okay.
Mr. Savage?
MR. SAVAGE: Yes. Cimarex's landman is
John Coffman. Our Geologist is Staci Mueller. And our engineer is Mark McCoy.

THE HEARING EXAMINER: Okay. All right. Would those five people, if you haven't turned on your screen, would you turn on your screen? All of you turn on your screens.

I see Mr. McCoy, Ms. Mueller,
Mr. Broughton.
MR. PRIDE: This is Matthew Pride. I'm
calling in by phone.
THE HEARING EXAMINER: Okay. All
right, Mr. Pride. Okay.
All right. Would all five of you
please raise your right hand?
All right. So given that these two cases are consolidated and separate applicants, have you guys figured out who goes first, Mr. Savage, Mr. Bruce? I would think that's something you guys probably had agreed on.

MR. BRUCE: To tell you the truth, I don't think Mr. Savage and I have talked about that.

MR. SAVAGE: We have not, but --
THE HEARING EXAMINER: You want to flip a coin, or who's going first?

MR. SAVAGE: Mr. Bruce, who do you want to go first?

MR. BRUCE: You know, it doesn't matter to me. Yeah. Maybe a coin flip.

MR. SAVAGE: You know, you filed the application initially, and you know, we were brought in through negotiations and having to file a competing application. So maybe you should go first.

MR. BRUCE: I don't mind going first.
THE HEARING EXAMINER: I'm not sure we
could trust either of you on a coin toss anyway, so. Mr. Bruce, why don't you lead off?

MR. BRUCE: Okay. Do you mind if I make a very brief opening statement, Mr. Harwood?

THE HEARING EXAMINER: The key word is brief.

MR. BRUCE: It will be.
These cases involve the same lands, the west half west half of Sections 12 and 13, 19 South 34 East. Pride is pooling the Wolfcamp formation and Cimarex is pooling the Bone Spring formation. And just in case you haven't guessed it, this is going to be a brief preview of the cases you just discussed between Cimarex and Read and Stevens.

Cimarex wants to bar Pride from developing. Pride's well is proposed to be in the upper Wolfcamp. Cimarex wants to prevent Pride from developing the upper Wolfcamp.

Cimarex says the third Bone Spring completion will produce from the upper Wolfcamp, but there are a couple of problems here. The Bone Spring and the Wolfcamp are placed in different pools by the Division. That's one item. Item two, Cimarex is not set to form a Wolf/Bone pool.

And this is extremely important,

Cimarex owns a 50 percent interest in the Bone Spring. They also own 5 percent in the Wolfcamp. But Pride owns zero percent in the Bone Spring as opposed to 25 percent in the Wolfcamp.

Under Cimarex's plan, the third Bone Spring well would drain the upper Wolfcamp. And under the current situation, all production would be allocated to the third Bone Spring well. Pride wouldn't recover a dime of production.

This is a classic violation of correlative rights. And as a result, Pride's application must be approved. Thank you.

MR. SAVAGE: Mr. Harwood, if I could provide a short introduction that provides our perspective and context, and then let Mr. Bruce proceed? Ours is pretty short, and it would provide the Division with a full view of the two opposing sides.

THE HEARING EXAMINER: Since these cases are combined, Mr. Savage, I just would, you know, this will be your opening statement in your case as well as a response to Mr. Bruce's statement. Is that okay?

MR. SAVAGE: Yes. If I could just do a short statement that would respond to Mr. Bruce, and
then we can proceed with Mr. Bruce, that would be great.

THE HEARING EXAMINER: Most of it's over my head. Bear in mind, it's all for elucidation of Mr. McClure and Ms. Thompson.

MR. SAVAGE: Thank you.
Mr. Bruce is correct about the description of the subject lands and the development of the subject lands. It's Thursday, and tomorrow I note that Oppenheimer was opening up in theatres. I've been thinking about Robert J. Oppenheimer.

He was a big fan of the Heisenberg
Uncertainty Principle, and this principle says that you can't know both the speed and the position of an electron at the same time. It's one or it's the other.

And that is the guiding principle that the Division should keep in mind for these competing cases because in these cases, we will provide expert witness who will show that given the nature of the reservoir and the geology in these lands, you can't drill and develop both the third Bone Spring formation and the upper Wolfcamp formation in the manner proposed by Pride Energy and at the same time prevent waste, achieve optimal production, protect correlative
rights, and avoid the drilling of unnecessary wells as it required and mandated by the Division.

As you will see, these cases, given the landing zone of Pride Energy's Go State well along with the nature of the geology, requires the development of either the third Bone Spring or the upper Wolfcamp. This is clearly an either/or situation.

Cimarex's expert witness will show that the third Bone Spring should be drilled and developed, and that drilling the upper Wolfcamp based on the landing zone proposed by Pride Energy should be prohibited under the Oil and Gas Act because it would result in the drilling of unnecessary wells resulting in waste and fail to meet optimum levels of production in the subject plans. Thank you.

THE HEARING EXAMINER: Thank you, Mr. Savage.

Let me ask as a preliminary matter, do either of you have objections to the expertise of your opponent's experts?

MR. BRUCE: I do not.
MR. SAVAGE: No objection.
THE HEARING EXAMINER: Well, let me ask you, Mr. McClure, Ms. Thompson, are you familiar with
these experts; do you want to question their expertise?

MR. MCCLURE: Mr. Harwood, I don't have any objections to them being qualified as experts.

MS. THOMPSON: I have no objections.
MR. SAVAGE: Mr. Harwood, if I might just point out. Mr. McCoy, our reservoir engineer, he has not testified before the Division before. If you want, he could describe his credentials briefly. And we provided a resume for the Division's review.

THE HEARING EXAMINER: Okay. Let's limit those credential-type questions then to folks who have not previously testified before the Division. And let's dispense with them for witnesses who have. That in mind, Mr. Bruce, since you're going first, you can call your first witness. Go ahead, Mr. Bruce.

MR. BRUCE: Mr. Examiner, just to get these administrative items out of the way, I have submitted seven exhibits. Exhibit 1 is simply the application and the proposed notice. Exhibit 4 is the affidavit of certified notice. Exhibit 5 is the certified notice spreadsheet. Exhibit 6 is the affidavit of publication. and Exhibit 7 is the pooling checklist.


business?
A No. We have not been involved in a case like this before.

Q Okay. Secondly, there's your self-verified statement, and you have attached various attachments, there's a land plot, C-102, those are Exhibit 2-A to your affidavit.
(Case 22853 Exhibit $2-A$ was marked for identification.)

Now in this case, first and foremost, Pride is seeking to first pool the Wolfcamp formation in the west half west half of Sections 12 and 13 of 19, 34; correct?

A That's correct.
Q And your exhibits give the Wolfcamp pool the pool code that you contact the Division's Hobbs office regarding that information?

A Yes, I did.
Q And in Cimarex's case, they're seeking to pool only the Bone Spring formation; is that --

A Yes.
Q Let's go into the interest ownership a little bit. Exhibit $2 B$ is your list of tracts and interest owners. It shows that Pride Energy owns the Bone Spring formation in Tract 3, the west half of the

| 1 | northwest quarter? |
| :---: | :---: |
| 2 | (Case 22853 Exhibit $2-B$ was marked for |
| 3 | identification.) |
| 4 | A No. Pride Energy owns Wolfcamp 25 percent |
| 5 | in Wolfcamp in Tract 3. |
| 6 | Q Okay. I think the tract number is the same |
| 7 | in Cimarex's exhibits as yours. Does Pride Energy own |
| 8 | any interest in the Bone Spring formation in this -- |
| 9 | A No, we don't. |
| 10 | Q -- in these well units? |
| 11 | A No, we do not. |
| 12 | Q And what is your understanding as to |
| 13 | Cimarex's ownership in your well unit? |
| 14 | A In the Wolfcamp, Cimarex owns 50 percent |
| 15 | working interest -- excuse me -- 50 percent in Bone |
| 16 | Springs, but 25 percent in the Wolfcamp. |
| 17 | Q What about in the Bone Springs? |
| 18 | A In the Bone Springs, Cimarex owns 50 |
| 19 | percent, but owns 25 percent in the Wolfcamp. |
| 20 | Q Okay. And there are exhibits, a sample |
| 21 | proposal letter to the parties, and then a summary of |
| 22 | interest; those were prepared by you or under your |
| 23 | supervision? |
| 24 | A Yes, they were. |
| 25 | Q In looking at your ownership list, there are |
|  | Page 104 |

a ton of people to be force pooled. What is the reason for this? You've been in touch with these people; what is their general impression?

A Well, Tract number 1 is the tract that is divided up among several owners. And so we proposed the wells, and -- and none of them have signed a joint operating agreement or anything, so.

Q They've been informed about what's going on by both sides obviously?

A Yes. We've informed them with our well proposals and AFEs.

Q Are they just kind of sitting on the fence to see what happens?

A Yes.
Q So it's not for lack of negotiations, just nobody's made up their mind on what they want to do yet; is that a fair statement?

A That's correct. I've discussed with many of those owners, and they're just basically sitting on the fence and waiting and not doing anything.

Q Finally, your AFE for the Wolfcamp well, is that AFE fair and reasonable in Lea County?

A Yes -- yes.
Q Now $I$ want to ask follow up questions that just came in over the few days. In your affidavit,
you state that Pride is targeting the best zone in the Wolfcamp; is that fair to say?

A Yes. The upper Wolfcamp being the best zone in the Wolfcamp.

Q And Cimarex wants you to lower your landing zone -- and I'll get into this with Mr. Broughton too -- wants you to lower your landing zone by about 200 feet; correct?

A Yes.
Q Does Pride want to do this?
A No, we do not.
Q In your experience, is that lower Wolfcamp as good as the upper Wolfcamp producibility-wise?

A No, it is not.
Q And to your knowledge, there is no Wolf/Bone pool in this immediate area that would allocate productions somehow among the Wolfcamp and lower third Bone Spring; is there?

A No. There is no Wolf/Bone pool in this general area.

Q And is it a fair representation that if the reserves in your upper Wolfcamp are produced by that third Bone Spring well, they would be reported as by third Bone Spring production; wouldn't they?

A That's correct.

Q And you would get zippo?
A Yes. We wouldn't receive anything.
Q I'm just going through my notes here a little bit, Mr. Pride. Bear with me.

Regarding that prior myriad of cases, you were probably listening into that status conference on those cases; were you not?

A Yes, I -- I did.
Q Were you provided with as copy of a letter from Cimarex to CM Resources discussing proposal over in that area?

A Yes.
Q And I didn't have time to get this on the record. It's a very recent record, a letter, June 15. Doesn't it basically say that Cimarex's third Bone Spring well in this area will produce the primary concentrations of hydrocarbons in the Wolfcamp, which are in the upper Wolfcamp?

A Yes, that's what it specifically says.
Q Would that be fair to Pride Energy Company?
A No, it would not be.
Q One final question. I think Chevron submitted a letter of support to Cimarex. From the data you've seen, is Chevron's interest in the Bone Spring the same as it is in the Wolf Camp?

| 1 | A To my knowledge, it is the same. |
| :---: | :---: |
| 2 | Q So what Cimarex is proposing has no adverse |
| 3 | effect on Chevron either way? |
| 4 | A No, it doesn't. |
| 5 | Q Okay. Was Exhibit 2 and attachments A |
| 6 | through D, were those documents prepared by you or |
| 7 | under your supervision or complied from company |
| 8 | business records? |
| 9 | (Case 22853 Exhibit $2-C$ and Exhibit 2-D |
| 10 | was marked for identification.) |
| 11 | A Yes, they were. |
| 12 | Q And in your opinion, is the approval of |
| 13 | Pride's application to pool the Wolfcamp formation in |
| 14 | the interest of conservation and the prevention of |
| 15 | waste? |
| 16 | A Yes, it is. |
| 17 | Q And as to Cimarex's pooling application, you |
| 18 | don't have any interest in that, so you don't care |
| 19 | really? |
| 20 | A Well -- |
| 21 | Q Other than preventing you from drilling your |
| 22 | well? |
| 23 | A Yes, that's right. |
| 24 | MR. BRUCE: Thank you, Mr. Pride. |
| 25 | And Mr. Examiner, I tender Exhibit 2 |
|  | Page 108 |

and its attachments into evidence and turn over the witness.

THE HEARING EXAMINER: Thank you,
Mr. Bruce.
Any objection, Mr. Savage?
MR. SAVAGE: No objection. Thank you.
(Case 22853 Exhibit 2-A through Exhibit
2-D were received into evidence.)
THE HEARING EXAMINER: All right.
Questions for Mr. Pride?
Mr. Savage, questions for Mr. Pride?
MR. SAVAGE: Yes. Do you want me to begin my cross examination at this time?

THE HEARING EXAMINER: Yes.
MR. SAVAGE: Okay. CROSS-EXAMINATION

BY MR. SAVAGE:
Q Mr. Pride, thank you for your time and consideration of the questions $I$ will be asking.

If $I$ say anything that you didn't hear or didn't understand, please let me know and ask me to repeat it.

If you need extra time to consider and address the question, that is not a problem, so do not feel rushed in any way. And if you feel rushed,
please let me know.
A All right.
Q So you said that Pride has been operating for about four years; is that correct?

A We've been operating wells for close to 40 years.

Q Oh, I'm sorry. I misheard. Forty years. So how long have you worked in this area of Lea County, the area surrounding the subject plans?

A We've been in Lea County for a little over 20 years.

Q Okay. So Pride has drilled wells in the upper Wolfcamp and in the subject lands or lands surrounding the subject lands?

A Not -- not in the Wolfcamp in the -- in the subject lands or the land --

Q I guess I need to define, you know, the subject lands, you know, being the legal description that we provided.

And then the surrounding area, it looks like on the maps, that is possibly about six miles west and five miles east. Somewhere in those parameters. So you have not drilled upper Wolfcamp wells in this area?

A Not in this immediate area.

Q Okay. Have you drilled wells in the third Bone Spring in the subject lands or the surrounding area of interest?

A We -- we drilled -- yes. We drilled Bone Spring wells in Section 13.

Q In Section 13. Okay. And if I'm looking correctly at the OCD records, those would be the Go State wells in the Bone Spring, 101H, 102, 203, 204; looks like there's about six wells?

A That's correct.
Q Okay. And in any of these units, did you also drill any wells in the Wolfcamp?

A No.
Q So you never did any co-development? It was just the Bone Spring that you drilled and not the Wolfcamp?

A Yes. And the Go State wells -- the Bone Spring wells are holding the leases, but we may drill Wolfcamp wells in the future. At the time we were drilling the Bone Spring wells, we were holding the leases, and there was no need to drill any additional wells at this time. But we will -- we may drill Wolfcamp wells in the future.

Q To put this in larger perspective, you've been operating, you said, for 20 years, and you have
no Wolfcamp wells in the surrounding area; is that correct?

A In this immediate area, that's correct.
Q Okay. Thank you. Would it be fair to say, based on your experience, your long experience of 20 years in this area, operators typically don't drill both formations in the unit, they drill one or the other, and that most of the wells are in the Bone Spring and not the Wolfcamp as your wells are in Section 13?

A No. That's -- there's many -- there's been many third Bone Spring and upper Wolfcamp wells drilled in the same spacing unit throughout Lea and Eddy County.

Q Well, Eddy County is not in the surrounding area; would you agree with that?

A Well, throughout Lea County.
Q And we're talking about a particular area of Lea County; would you agree with that?

A What was the question?
Q You were talking about a particular, specific area of Lea County, and that is the immediate area surrounding the subject lands; is that correct?

A Yeah. There are wells in the general area that have produced from the third Bone Spring as well
as the upper Wolfcamp in the same spacing unit.
Q Okay. Would it be fair to refer to these as co-development units?

A What do you mean by co-development? I mean --

Q Co-developing the Bone Spring and the Wolfcamp?

A Yes. Some of the other wells were drilled to both formations and produced in the same spacing unit.

Q Okay. Do you know how many co-development units there might be in this area?

A Oh, I don't know how many right off the top of my head, but.

Q Okay. So there could just be maybe a couple, a handful. You don't know how many; correct?

A -- know how many.
Q Okay. Mr. Pride, you stated in your testimony that there is not uniform ownership in the Bone Spring and Wolfcamp formations, and I'll quote from your written testimony "Adopting Cimarex's position will severely adversely affect the correlative rights of the interest owners in the Wolfcamp formation." Is this a true and correct representation of your statement?

A Yes.
Q So you're saying it will severely adversely affect the correlative rights of all the interest owners?

A I'm saying that the -- there are different owners in the Wolfcamp, and also the third Bone Springs. They differ. And Pride does not own any interest in the Bone spring -- or the third Bone Spring. Cimarex owns twice as much interest in the third Bone Spring as it does in the Wolfcamp. And there may be other owners -- both. I'm not too sure.

Q Okay. Let me just clarify if I could. When you say the owner in the Wolfcamp without correlative rights adversely severely affected, you're meaning that the owner wouldn't receive the same share of production in the Bone Spring if it were drilled than it would receive in the Wolfcamp. And you're pointing out that that applies to Pride, it applies to Cimarex, but you also seem to be implying that it applies to all the other owners?

A What I'm saying is that the interest differs than the Wolfcamp and the third Bone Spring. So if a third Bone Spring well is drilled, then the Wolfcamp -- the owners in the Wolfcamp are not going to receive any revenue from that.

Q Okay. Looking at the ownership in both Wolfcamp and the ownership in the Bone Spring, isn't it true that about every owner owns the exact same share in the Bone Spring as it does in the Wolfcamp? And there's 19 owners listed, excluding the curative.

So every owner would own the exact same share in the Wolfcamp and the Bone Spring except for pride as you point out, and except for Cimarex; is that correct?

A Well, I don't know the answer to that question as to the Bone Spring. The list that we prepared, the owners are the owners in the Wolfcamp.

Q Okay. So you haven't provided that information. But would it surprise you that that is the case for all of the remining owners?

A I really don't -- I really don't know. I don't have the list of the owners of the Bone Spring. We're only including the Wolfcamp.

Q Okay. So far, can we assume that that is the case and, in my view, looking at the two ownerships, it is the case.

But hypothetically, let's assume that it is the case. And if it is the case, and we're under that assumption, Cimarex drills the Bone Spring and produces the Bone Spring, wouldn't all of the
remaining owners, except for Pride and Cimarex, receive their fair share of their amount of production from the bone spring from those subject lands?

A Under that -- under your assumption, they would. But Pride still would not receive a dime.

Q Okay. We understand that. You know, we appreciate that. But all the remaining owners would receive their fair share, and their correlative rights would be protected; correct?

A Under your -- under your assumption, they would.

Q Okay. And, in fact, if the Bone Spring happened to produce more, all the owners, except for Pride and Cimarex, their correlative rights would be enhanced; is that corrected under that assumption?

A Well, under that assumption, if they produce more -- I mean, we're just assuming things now.

Q Okay. Thank you. Another question I would like to clarify, you say in your statement there are two separate reservoirs in the Wolfcamp and Bone Spring formations in your testimony. Is that correct that you say that there are two separate reservoirs?

A Yes. And the OCD recognizes the Wolfcamp as a separate -- separate formation or pool from the Bone Spring. And Pride believes that both reservoirs
should be developed separately.
Q Okay. So you're using the term "reservoir."
Is "reservoir: different from "formation" in your understanding?

MR. BRUCE: I object to that. He didn't use the term "reservoirs." He said they're designated into different pools by the Division.

I think Mr. Savage's representation is mischaracterizing what Mr. Pride said.

THE HEARING EXAMINER: Mr. Savage, just rephrase the question, please.

MR. SAVAGE: I will. Thank you. I'm
looking at his testimony right now trying to see if there was some clarification in there. It says, I'm not mistaken, Mr. Pride testified "The OCD recognizes the Wolfcamp as a separate formation from the Bone Spring formation. Pride believes both reservoirs" -and $I$ understood that to mean the equation of the Wolfcamp formation as a reservoir and the Bone Spring formation as a reservoir. Mr. Pride believes both reservoirs should and must be separately developed. So that was the information $I$ was asking about for classification.

BY MR. SAVAGE:
Q If I can rephrase the question, then let me
ask this. Is reservoir and formation the same thing?
A Yeah. What $I$ was saying is that the OCD recognizes the Wolfcamp as a separate formation of pool from the Bone Spring pool.

Q Okay. So not reservoir necessarily?
A Many times, those words are interchanged within the industry.

Q You feel that they're interchangeable. Okay. I appreciate that comment. I'll reserve that question for Pride's geologist when we arrive there. But I thank you for the clarification.

As Mr. Bruce pointed out, Cimarex had asked you to lower your proposed landing zone a bit as a compromise that would allow both Pride and Cimarex to go forward with their development; is that correct?

A That is correct.
Q But you refused to do this; am I right?
A Yes. We -- we didn't want to lower the landing zone. My question, $I$ guess, to Cimarex if they think it's going to be communicated, why don't they raise their landing point by 200 feet?

Q Well, is it true that your ownership, as you point out, is in the whole Wolfcamp formation; correct?

A Yes.

| 1 | Q And it's not in the Bone Spring. So if you |
| :---: | :---: |
| 2 | wanted to develop your rights to the full potential, |
| 3 | wouldn't lowering the landing zone, wouldn't that put |
| 4 | your wellbore squarely in the Wolfcamp for full |
| 5 | development of the Wolfcamp? |
| 6 | A Well, I'm not a geologist -- the geologist |
| 7 | that picked the location where to drill. |
| 8 | Q Okay. And the geologist that's testifying |
| 9 | today pick the location to drill? |
| 10 | A No -- no. Our in-house geologist picked |
| 11 | that. |
| 12 | Q Okay. Is the in-house geologist available |
| 13 | today? |
| 14 | A No, he is not. |
| 15 | MR. SAVAGE: Okay. All right. Thank |
| 16 | you, Mr. Pride. I appreciate your time. |
| 17 | I have no further questions. |
| 18 | THE HEARING EXAMINER: Mr. Bruce, brief |
| 19 | redirect, if any? |
| 20 | MR. BRUCE: Let me see. No more |
| 21 | questions, Mr. Examiner. |
| 22 | THE HEARING EXAMINER: Thank you, |
| 23 | Mr. Bruce. |
| 24 | Mr. McClure, questions for Mr. Pride? |
| 25 | MR. MCCLURE: Yes, Mr. Harwood. I do |
|  | Page 119 |

have a potentially quick question. It may be something for the geologist, perhaps.

A quick clerical issue for Mr. Bruce.
MR. BRUCE: Yes.
MR. MCCLURE: It appears that there may have been a slight typo, just so you're aware, on your pool code in both Mr. Pride's testimony as well as the application checklist.

MR. BRUCE: Okay.
MR. MCCLURE: I think it's as simple as I think the eight and two was reversed. It should be 98247, rather than 92847.

MR. BRUCE: Okay. I will check on that. And I also noted another typo, which is I think I had wrong footage in the surface hole location. So I was going to correct that anyway, so.

MR. MCCLURE: Okay. Sounds good. Yeah. Just before anything's settled, we'll just need a new application checklist. Essentially, an amended one. Thank you.

Mr. Pride, this may be questions for your geologist. If so, then I'll pull back my question, and I'll just ask the geologist.

Just for two very quick questions, just to make sure, I guess, I'm on the same page. Is Pride
in agreement that Cirmarex's wells would produce from the Wolfcamp if they're drilled as proposed?

THE WITNESS: Yeah, I mean that -- that may be a question more for the geologist as far as on where they would produce from. But I mean, they -their landing point is in the third Bone Spring.

MR. MCCLURE: Okay. Thank you. I'll go ahead and withdraw that question then and probably this next one as well. But just confirm, I guess, is Pride in agreement that their wells, as proposed, would produce from the Bone Spring?

THE WITNESS: No. We think that our well is going to produce from the Wolfcamp.

MR. MCCLURE: Okay. So then Pride's position is that you're in disagreement that your wells, as proposed, will not drain from the Bone Spring?

THE WITNESS: Yes. That's what our view is that we're going -- we would produce from the upper Wolfcamp formation.

MR. MCCLURE: And only from the upper Wolfcamp?

THE WITNESS: Yes.
MR. MCCLURE: Okay. Thank you. No more questions, Mr. Pride.

Thank you, Mr. Bruce.
And thank you, Mr. Hardwood.
THE HEARING EXAMINER: Thank you.
Ms. Thompson, questions for Mr. Pride?
MR. MCCLURE: You might be muted,
Ms. Thompson, if you're trying to talk.
THE HEARING EXAMINER: She must have left it to you, Mr. McClure. All right. So may this witness be excused?

MR. BRUCE: Yes, Mr. Examiner.
THE HEARING EXAMINER: Mr. Savage?
MR. SAVAGE: Yes. That would be fine.
Thank you.
THE HEARING EXAMINER: Okay. It's five minutes after the hour. Folks, what's the preference? Would you like a ten-minute break before we call the next witness?

I guess, Mr. Bruce, that would be your last witness; correct?

MR. BRUCE: Correct. Yeah. I'd like a short break, you know, even if it's just five minutes, and I'm pretty sure we can finish up with my last witness by about noon.

THE HEARING EXAMINER: Okay. Well, let's take a break until 1:15. I'm sorry. I'm going

```
to try and remember to say until 15 minutes after the
hour because I'm in Eastern Time. So 11:15 your time,
folks. We'll go off the record for now and be back at
15 after.
                            (Off the record.)
                            THE REPORTER: Back on the record.
                            THE HEARING EXAMINER: Mr. Savage, are
you here?
                    And Mr. Bruce?
                    MR. BRUCE: I am.
                    MR. SAVAGE: Yes. Thank you.
                    THE HEARING EXAMINER: I see
Mr. Savage's smiling face.
                    Mr. Bruce, you may call your next
witness -- your last witness; right?
                    MR. BRUCE: Correct.
                    THE HEARING EXAMINER: Okay.
                    MR. BRUCE: Yes. I'll call
Mr. Broughton as my witness.
                    HARVIN BROUGHTON,
called as a witness and having been first duly sworn
to tell the truth, the whole truth, and nothing but
the truth, was examined and testified as follows:
/ /
/ /
```



Q Yes, Exhibit 3. Yeah, that is yours.
A Yes.
Q And do you adopt those as your testimony and exhibits?

A Yes -- yes, sir. I do.
Q Okay. And let me ask you since you're the geologist for this case. Pride wants to drill in the upper Wolfcamp. And Mr. Pride addressed this too, but is whether you're looking at Lea County or Eddy County, is the upper Wolfcamp generally recognized as the best zone to test in the Wolfcamp?

A In -- in this area, it seems like it is the best -- best part of the Wolfcamp, yes. I -- I did not review any deeper Wolfcamp wells in -- in further down parts of the section, but just the activity in this interval suggests that it is the best.

Q And Cimarex has requested Pride to lower its landing zone by 200 feet. Are you getting into shales, or what are you getting into there when you do that?

A Well it's -- it would be getting into poorer quality reservoir. You know, I'm -- I'm not a completions engineer or a frack engineer and I don't want to sound like I'm offering myself up as that.

But you know, I would -- you know, on the
issue of -- of moving the landing depth down, the primary zones in the Wolfcamp that you would want to access or frack would be those upper sands. So it would be up to a -- to a frack engineer to decide how low you could go and actually still access those sands.

And I wouldn't -- you know, I wouldn't put a footage on that. Maybe you could lower it some, but -- but again, I wouldn't -- I wouldn't make the decision on how -- if you could or how far down you would want to move your -- or could move your wellbore and still access the -- the better high permeability sands at the top of the formation.

Q Okay. And let me see. As usual, I'm running through all my handwritten notes. I've got to decipher them.

One thing, you've seen the same correspondence from Cimarex, and you've looked at their exhibits tendered for this hearing?

A Yes, sir. I have, yes.
Q What is your general impression of what they're saying regarding the production of the upper Wolfcamp from their third Bone Spring well if you could?

A Well, I'm -- I guess I'm a little confused
by a couple of different documents that I've seen. You know, in preparation for this, I ran across some other cases and some of the -- of the cases that were discussed prior to the beginning of our hearing.

And on their -- on their motion to continue the hearing -- the hearing dated July 17th of 2023, on page 2 , they have a question where within that question, they clearly state that the third Bone Spring appears to contribute approximately 74 percent to the production, and the percentage from the upper Wolfcamp appears to contribute 26 percent. And that would be from a Bone Spring -- third Bone Spring well landed in the third Bone Spring.

So that's -- that's suggesting that wells drilled in the -- in the lower part of the third Bone Spring sand are, you know, getting roughly three quarters -- but 25 percent from -- from below the top of the Wolfcamp.

But then I found -- I was given this Cimarex letter dated June 15, 2023. And this is -- this is in reference to the Mighty Pheasant wells. And I think we've already touched on this -- this exhibit, but Cimarex is now claiming that the hydrocarbons will primarily come from the upper Wolfcamp.

```
                        So those -- those seem to be a little
```

contradictory to me. I don't know what the answer is. But it seems like that's kind of the -- you know, and I realize that's six miles away from -- or roughly six miles away from the Go State 401 H , but I wouldn't suspect that you'd have that drastic of a change over that -- between the -- you know, the interaction between the two formations over that -- that type of interval.

So I was a little confused by how they were -- about the numbers there and what -- what they believed was coming from where.

Q And have you looked at offsetting Wolfcamp production over to the east? I believe there's some Mewbourne wells over there.

A I have looked at that, yes.
Q What kind of wells are
they?
A Well those -- those are very good wells. There's about a dozen wells over there. Some of them Mewbourne, some of them drilled by a company called Katana. And you know, the -- the first Mewbourne well in Section 20 and 29 -- and the reason $I$ focused on these is these are -- these are two-mile wells, so these are similar to what -- what we were proposing up at the -- the Go State. You know, recovered 457,000
barrels of oil in just 20 months, which is pretty good well.

The other one just to the east of it recovered 430,000 barrels in 33 months, which is considerably more than the -- than the Wolfcamp -than the third Bone Spring wells up in Section 11 and 12 that Cimarex has.

Matter of fact, because those wells recovered, respectively, 296,000 and 250,000 , but over a ten-year period. These wells made these volumes -the wolf -- the Mewbourne wells made these volumes in -- one of them in less than two years, and the other one in -- in just a little less than three years. So there -- there's something different about the top of the Wolfcamp there that's making those so prolific, I believe.

Q So a couple of things. What are the names of Cimarex's Wolfcamp wells nearby? Those are the Teal wells?

A Those are third Bone Spring wells.
Q Yeah.
A One of them is the Quail State 1H, and that's one legal location to the west of -- of the -- in Section 11. And then the other well is the Teal 12 State Com 2H, that's in the -- the east half
of the west half of Section 12. So those -- both of those are 1-mile laterals.

Q Okay. But it seems to me, based on the results of the Katana and Mewbourne wells that the upper Wolfcamp is a viable target?

A Oh, it's absolutely a viable target.
Q And Cimarex third Bone Spring wells you just mentioned aren't as productive as those Wolfcamp wells?

A Well, $I$ mean, let me -- let me say this. This -- this is a good third Bone Spring area. And those wells, I think, probably are good. But that doesn't mean that the Wolfcamp's not good.

So it's kind of a good problem to have where you've got two highly prospective zones that lie right on top of each other. It's just the, you know, the depth severance complicates how it gets -- how it gets developed. But, you know, the third -- third Bone Spring is a good interval there, for sure.

Q Okay. But you are dealing with wells that are, what, more than two miles deep?

A Yeah. They're -- they're -- yeah. They're 10,000 foot-ish. T-B-D.

Q Yeah. So I mean, the only way you get these is to drill these wells; is that a fair statement?

A Well, I think it would be -- I think it would not be a good situation to not -- to not at least get to test the Wolfcamp in this area, particularly since there's good Wolfcamp, you know, just east of there.

The -- the toe of these Mewbourne wells is just two miles east of the heel of the -- of the proposed Go State well. So it's really -- really not that far away, and, you know, ban -- banning drill of the -- or at least testing of the Wolfcamp in this area would be -- I think it would be a mess, but that's -- that's my opinion.

MR. BRUCE: I'm just, once again, going through my handwritten notes here, Mr. Examiner, so give me a second.

BY MR. BRUCE:
Q I might have one or two more follow up questions, but do you have anything other than what was stated above? Do you believe Pride's tests are a good situation to test the upper Wolfcamp in this immediate area?

A Well, if you're the -- if you're the owner of Wolfcamp rights, you're certainly going to want to land a well in the Wolfcamp.

And I guess there's a big argument about
whether a third Bone Spring landing, you know, what exactly it drains, and an upper Wolfcamp landing -I'm talking about just the landing of the wellbore -you know, what it actually drains.

And I'm, you know, I'm not trying to address that, although there certainly is more than likely interaction between those two formations or possibly reservoirs if you want to say it that way. But you know, that's brought about by -- by the fracking activity.

So you know, the fracks, you know, again, I -- I just have a geologist working knowledge of hydraulic fracturing, but the industry convention is that fracks do grow up and down as well as laterally, you know, in this case, east and west. So by a certain degree. And a completion engineer would have to -- to design the frack to exploit the, you know, the depths that you're trying to contact.

Q One final thing. We haven't really talked about this, Mr. Broughton.

A Okay.
Q Actually, a number of years ago, people started drilling, say second Bone Spring wells. You took a section of land, they might drill four Bone Spring wells, and then started drilling six and even
eight wells in that section, in the second Bone Spring sand.

A That's correct.
Q And there was often talk about the parent-child relationship among those wells; are you familiar with that?

A Yeah. I'm familiar with parent-child relationship. But it doesn't just apply to second or third Bone Spring wells. That -- that applies to a lot of different intervals.

Q And if recall, I've done a number of cases on that, it means when you're drilling these wells in fairly close proximity, it's better to complete them at the same time, and then they compete equally for reserves; is that correct?

A Well --
Q Or if you drill a well and then wait a year or two and drill another well, it might not be as nearby, it might not be as productive?

A Yeah. I think evidence has shown that waiting a certain period of time can be detrimental to the -- to the second well. So, you know, if you look at the area between the Quail State number 1 and the Teal -- the Teal 12 State Com number 2 H , you know, those would be parent wells.

And drilling another third Bone Spring, you know, landing at that same depth, we would possibly expect to see some depletion, you know, through there because these wells have removed, you know, well over a half a million barrels of oil, you know, over ten years. So it would not be surprising to see some depletion in that -- pressure depletion is what I'm talking about -- in that area.

MR. BRUCE: Yeah. Okay. Okay. I just wanted to get that into the record. Thank you, Mr. Broughton.

And Mr. Examiner, I move the admission of Pride's Exhibit 3.

THE HEARING EXAMINER: Any objection, Mr. Savage?

MR. SAVAGE: No objection. Thank you.
THE HEARING EXAMINER: Pride's 3 will be admitted.
(Case 22853 Exhibit 3 was received into evidence.)

MR. BRUCE: And I pass the witness.
THE HEARING EXAMINER: Mr. Savage, cross-examination?

MR. SAVAGE: Thank you. Yes. Hold on just a minute. Okay.


#### Abstract

CROSS-EXAMINATION


BY MR. SAVAGE:
Q Mr. Broughton, good morning. Thank you for your time --

A Good morning.
Q Thank you for your time and consideration of my questions.

Again, I give this preface. If during my questioning $I$ say anything that you didn't hear or didn't understand, please let me know and ask me to repeat it.

A All right.
Q If you need extra time to consider and/or address the question, that is not a problem, so do not feel rushed. And if you feel rushed, let me know.

A Okay.
Q Mr. Broughton, I want to start off going back a little bit to the questions that Mr. McClure, Technical Examiner, raised a little bit.

But to get there, I want to see if I can clarify some things about the difference between formation -- Bone Spring formation, Wolfcamp formation -- and reservoir.

Formation and reservoir are not equivalent and not the same things; is that correct?

A Not -- not always. There's -- I suppose there could be a case where they are, but --

Q Okay. just so I'm understanding, some hypotheticals. So could have the Bone Spring formation, you could have reservoir in there, and then you could have a separate Wolfcamp formation -- upper Wolfcamp, you could have a reservoir in there, or you could have the third Bone Spring and upper Wolfcamp and you could have, for example, a single reservoir that crosses two formations; is that correct?

A That is -- that is true, yes.
Q Okay. So in that scenario, depending on where that reservoir might exist between those two formations, if you drill, let's say the third Bone Spring or if you drill the upper Wolfcamp, you could have production from both formations. For example, you have, like, 75 percent from the Bone Spring and 25 percent from the Wolfcamp; correct?

A Yes. I believe -- yes.
Q As a possibility?
A Possibility, sure.
Q Okay. So therefore, you really need to be careful when you analyze production from formations and make distinctions about the reservoir; would you agree with that?

A Oh, absolutely.
Q Okay. Now Mr. Bruce has brought up this proposal letter a number of times. And it sounds like you have a reviewed a number of documents. And it looks like these are from the cases involving the Mighty Pheasant, Loosey Goosey, and Joker and Bane wells; is that correct?

A That -- that would be correct, yes.
Q In your review of these, do those cases look incredibly complicated?

A You know, from a reservoir engineering, maybe. In geology and fracking and -- and all those factors they might be very complicated.

From a land standpoint -- from a regulatory standpoint -- and of course, I'm not a landman or an attorney, but it -- it's surprising to me that people owning -- owning interest in the Wolfcamp are not allowed to drill Wolfcamp wells. That -- that just, logically, doesn't make much sense to me.

Q Okay. But you'd agree that the geological science -- engineering could be very, very complicated in those cases?

A Sure. It -- it could be. If you're trying to figure out where frack jobs are going up or down -- or left or right, and you're trying to figure
out more than where the frack job is coming is where the -- where the fluids are actually coming from. I mean, that's -- that's pretty challenging I would say.

Q Okay. And you, yourself, had some confusion over it sounds like you looked at a motion, and the motion talked about -- what was it -- 74 percent, 26 percent?

A Right.
Q Nd then you looked at the well proposal, and it talked about reducing the upper Wolfcamp?

A Yeah, I mean, they -- they seem to be in direct opposition to each other, those comments.

Q What -- if you were informed that the well proposal was part of a application that pooled the upper Wolfcamp separately?

A You're going to have to repeat that for me. Sorry.

Q Would it help inform and resolve the confusion if you were told that that particular well proposal was part of an application to pool the Wolfcamp separately?

A I'm -- I'm sorry. I don't -- I don't understand.

Q So if I remember right, the motion that you looked at, it was a single option that if you pool
just the Bone Spring and you produced you would get, let's assume, 75 percent production from the Bone Spring and 25 percent from the upper Wolfcamp.

A Okay. so we're assuming that; right?
Q Right. We're assuming that.
A Okay.
Q Now, if you were trying to, you know, have those differences in production conform to pooled units, you could, as an alternative, for example, pool the Bone Spring and say that you're accounting for 75 percent, which would then be viewed as 100 percent, and then pool the Wolfcamp. And what you get out of the Wolfcamp would be the 100 percent that the upper Wolfcamp from that pooled unit; would you agree with that?

A I -- I don't follow that at all. I'm terribly sorry. I'm not --

Q I understand. And therefore, I would say that's a reflection of how complicating trying to apply the regulatory rules to the geological sciences as best you can is a very complicated process.

A Right -- right. I think that's the complicated part is how -- how the rules fit what we think the geology is.

Q So would you agree then that that letter,
which was part of a pooling application of the Wolfcamp and not the Bone Spring was -- is taken out of context in these proceedings?

A I don't know if it's taken out of context or not. All $I$ know is $I$ read what $I$ read, and it seems to be in contradiction to itself. That's all I know.

Q Okay. But it's possible that providing the right context, it would resolve those differences. That confusion would resolve itself?

A Well, one of them clearly states a very specific percentage coming from the Bone Spring. I'm talking about the motion to -- I mean, very specific numbers. It's not like 75/25; it's 74/26. So somebody has worked to get that information; right? To get those numbers.

And then I come to the other -- the letter -- the supplement the proposal to drill dated June 15 and it says that the wells landed in the lower third Bone Spring will produce primarily from the Wolfcamp. So I -- those just seem in opposition to me.

Q Within the pooled unit of the Wolfcamp; correct?

A I don't know what context I could see that would -- would change my opinion of that.

Q Okay. Well, fair enough. It's fair to leave it there, it is a complicated matter to discuss, and it can take a long time to resolve it.

A Okay. Sure.
Q Lets go back to the reservoir, this reservoir --

A Okay.
Q -- that may exist in the Bone Spring and part of the Wolfcamp. Are you familiar with baffles and barriers within the reservoir?

A Yes. I am familiar with the concept of that, yes.

Q Okay. Did you analyze whether or not there's any baffling or natural barriers between the third Bone Spring and the upper Wolfcamp?

A Yes. And I don't believe there are any -any baffles. And when $I$ think, more specifically, they're -- they're frack baffles, you know, or frack barriers.

You know, some formations might have a hard, tight interval on them that would prevent a frack -- a frack job from penetrating either from above or below. Yeah.

I -- I agree that there are no -- you know, and I looked at the Cimarex geology presentation also,
and $I$ am in agreement with that.
Q Okay. So you drill the third Bone Spring. You produce maybe 74 percent from the Bone Spring and maybe 26 percent from the Wolfcamp.

A Right.
Q You drill the upper Wolfcamp, and you pool probably, it sounds like to me, primarily, from the Bone Spring; is that correct? Because that's where the -- if you assume that's where the location of the reservoir is.

A I -- I don't agree with that. I mean, the -- the upper Wolfcamp sands can be quite prolific from -- you know, it's demonstrated by the Mewbourne wells that I showed you. I -- I would absolutely not say that the predominance of the production would be coming from the Bone Spring. Not in that scenario.

Q Would you say that without a baffle, you'd have communication between the formation and the reservoir?

A I would say it's likely. But I -- to a degree, I couldn't -- couldn't say.

Q Okay. You emphatically said, it sounds like, that if you drilled the third Bone Spring that you would pool from the upper Wolfcamp because of the communication; correct?

A It would pull to some degree. I mean, it certainly could for sure.

Q Okay. And therefore, ergo, if I understand what you're saying, if you drill the upper Wolfcamp, especially where the Pride proposes his well, I think it's very close to the base of the third Bone Spring, about 100 feet --

A Roughly 100 feet, yes.
Q That could very well pull from the third Bone Spring; correct?

A Yes and no. You know, when you're -- when you're landing a well -- any well, the completion engineer is going to try to decide how far up, how far down, how far out the frack needs to go to exploit the -- the interval that he's trying to -- to contact. So in this case, you have 100 feet plus or minus.

You know, you -- the completion engineer could design a frack around growing up roughly 100 feet and down whatever it grows and -- and not specifically try to -- to frack past the -- the top of the Wolfcamp formation or that -- that boundary, whether -- whatever you call it. The -- the formation or reservoir or whatever you call it, not try to frack into that.

So that would just be relying on people to
do the right thing and only design their frack to go, you know, based on volumes and rates, to only go certain -- certain distance.

Q Okay. And I remember right, you said you were not a completion engineer?

A I am -- I am not, no. I am not. But I -but I've worked with a lot of them, and so the opinions $I$ express on fracking are a summary of knowledge I've gained through people I've worked with, industry publications, and, you know, that.

But $I$ don't design frack jobs or analyze the data from frack jobs. So $I$ want to be clear on that.

Q Okay. And Pride Energy had the opportunity to provide a completion engineer or a reservoir engineer today to help inform the Division; you'd agree with that?

A Say that again, please?
Q Pride Energy had an opportunity to provide a completion engineer or reservoir engineer to this proceeding; you'd agree with that?

A Well, I -- I don't know if that's the case or not. I mean, I don't know.

Q But you do know that they did not because --
A Oh, I -- I think it's obvious. Yes, sir.
Q Thank you. Is it possible to drill in one
formation where the reservoir exists, straddles formations and run the production potential of the reservoir; drill into one of the formations to the reservoir; and permanently damage, possibly, the reservoir?

A How are you defining damage?
Q Undermining the optimal production potential.

A I -- I don't know that you could damage it. You might -- you might remove some of the reserves from it, but $I$ don't know if $I$ would call that damage.

Q Okay. If I could just get a little bit of context on your background.

A Uh-huh.
Q You have worked in the area of Lea County surrounding the subject lands, how long have you worked in that area?

A I worked for Concho Resources for 11 years. I was mainly up on the northwest shelf, so a little bit north of here. And then, you know, my last year and a half or so was in the basin on -- on Wolfcamp, third Bone Spring-type wells.

Q Okay. I believe Mr. Pride explained this, but you were retained by Pride Energy to testify in this matter?

A Yes, sir. Tha's correct.
Q But you're not the geologist who helped develop the Go State wells or the Pride wells from their inception?

A No -- no, sir. You're correct. I am not.
Q Okay. So for example, you did not advise Pride Energy on such matters as depth and location of the 401 H well --

A No.
Q -- take points --
A $\quad$ No.
Q -- best landing zone?
A No. But I see what they've done, and I agree with it. I just -- I wasn't the one who picked it. I mean, they're -- they're drilling it just with accordance to normal setbacks.

So I mean, as long as that fits, you know, I agree with the landing depth, so -- but I am -- you're right. I am not the person who -- who staked the well and did the well plan and all that.

Q And it's obvious the Division does not have the opportunity to talk to the geologist who was involved in that?

A Yeah. I don't know.
Q Do you have any idea of the general ratio of

Bone Spring wells compared to Wolfcamp wells in the general area of interest surrounding the subject lands?

A There's a whole lot -- I don't know what the -- I wouldn't have a numerical, you know, comparison. But I know there's a whole bunch of lower Bone Spring wells, and not that many upper Wolfcamp wells yet.

Q So there's a whole bunch of Bone Spring --
A Yes,
Q -- and very few Wolfcamp?
A At this time, yeah. I mean, I remember 20 years ago, there weren't any horizontal Wolfcamp or Bone Spring wells. So you start somewhere; right?

Q Twenty years ago, there was only Bone Spring; correct?

A Yeah, and it was just getting started maybe 25 years ago. But I mean, to not -- to not test this in this area $I$ think would be a mistake.

Q Okay. So Pride Energy has Bone Spring wells in this area. And in fact, we discussed -- I assume you heard in the previous testimony -- six Go State wells?

A Uh-huh.
Q Those are all in the Bone Spring?

A I -- I did not include those wells in my review. But -- but if Mr. Pride says they are, they are.

Q Would it be possible for Pride Energy or an operator who has an existing Bone Spring well to test the Wolfcamp in that unit and not undermine an existing unit with the test?

A Could you please repeat that for me?
Q Yeah. Would it be possible for an operator who has drilled in the existing Bone Spring well in the unit, could they not test -- these wells are in the same area; correct? They are in Section 13?

A I believe that's right. Yes, sir.
Q Okay. So they're in Section 13. So they're basically in the subject lands. They just happen to be right adjacent if $I$ understand the layout?

A Okay. Yeah. Okay.
Q Okay?
A Sure.
Q Okay. So is it possible that Pride Energy could test the Wolfcamp in the subject lands in one of those existing units for potential production?

A I guess it's possible, but $I$ mean, the -their plan is to do Section 12 and 13, a two-mile lateral. I mean, you're going to run into the same --
you're going to run into the same issues possibly with the Wolfcamp directly underlying the Bone Spring. I -- I don't know if that helps anything or not. Maybe it does.

Q Okay. Could you explain from a geological perspective why most units in this area, both historically and currently in the subject lands, have mostly the Bone Spring and not the Wolfcamp? And if they do, if they drill the Wolfcamp, is it either/or scenario, or do you agree with that?

A I'm not certain that it's an either/or scenario. That would come down to the completion and the completion engineers and -- and all that. You know, I don't know that there necessarily mutually exclusive.

As far as why the Bone Spring is more -currently more prolific, it's because that was a successful interval, and that's where people were targeting.

Now -- now they've figured out that the Bone Spring might -- I mean, the Wolfcamp might actually be better, at least in certain areas, so that's becoming -- I mean, there's Wolfcamp wells being drilled, you know, all over the place. That might be the hottest play in -- in New Mexico.

Q Within this surrounding area? It's obviously not the hottest place --

A Well, it's going to move from area to area. It's not going to stay in one place; right? People are going to test other areas. Just because it's not now doesn't mean it won't be in a year or two years or five years.

Q Or 50 years.
A You pick the time frame.
Q Okay. Thank you. Finally in your analysis of the subject land, did you compare the Bone Spring's potential for production as a comparison with the Wolfcamp's potential for production?

A Well, I -- I did that through the production numbers that I -- that I gave earlier to -- to Mr. Bruce. So yeah. I did compare the -- the production of those Mewbourne wells down in Section 29 -- 20, 29 and the, you know, to the -- to the two Cimarex wells up in 11 and 12.

Q And talking about the subject lands, did you compare the Bone Spring's potential for production with the Wolfcamp's potential for production?

A Just looking at the formation thicknesses and presence, yes.

Q And would it be fair to say that the Bone

Spring's potential for production is greater than the Wolfcamp's potential for production $I$ the subject lands?

A Not necessarily, no. I -- I looked at the Cimarex presentation -- geologist presentation, and she had done some $S-O$ phi-h maps, and while that's all good work, and $I$ agree with all of that, you know, the S-O phi-h, they're using that as a proxy for potential.

And I think there's -- there's more to deliverability to the wellbore, more than -- more to production than just the $S-O$ phi-h. So she's showing a -- you know, it's a -- it's a quite good, thick third Bone Spring sand interval. It's 240 feet thick, roughly. And she's computing twice as much $\mathrm{S}-\mathrm{O}$ phi-h. And I don't -- I don't disagree with that.

But that's not the only -- that's not the only factor that determines the productivity of a well.

Q But it's possibly something that could be resolved one way or the other with the right data?

A It -- it would be more easily resolved with a Wolfcamp wellbore actually. You can calculate whatever you want. At some point, somewhere around here, someone's going to need to drill an upper

Wolfcamp well. And either it'll -- or it'll be good, or it won't, so.

Q And Pride Energy could do that in one of their existing Bone Spring wells and the subject lands in Section 13?

> A I -- I can't say that. But I mean, possibly. I don't know that, but possibly.

MR. SAVAGE: Okay. Thank you,
Mr. Broughton. That's all the questions I have.
MR. BROUGHTON: You're welcome.
THE HEARING EXAMINER: Thank you,
Mr. Savage.
Mr. Bruce, redirect for Mr. Broughton?
MR. BRUCE: I don't think so. I think I may reserve in case something comes up during their technical testimony, just briefly recall him. But at this point, $I$ pass on that.

THE HEARING EXAMINER: Okay. Thank you.

Then at this time, Ms. Thompson, we'll start with you. Questions for Mr. Broughton, the Pride geologist?

MS. THOMPSON: Hi, yes. Apologies again for my dropping off. I had some internet difficulties earlier.

When it comes to the depth between the Wolfcamp and the Bone Spring formations, you're saying that there would be communications within those pools --

THE WITNESS: Well, there certainly could be, yes.

MS. THOMPSON: I'm trying to word my question correctly. How much of an overlap, in general, when it comes to these horizontal wells when it comes to fracking when they're within that, like, what was it, 100 feet $I$ believe is what they were saying on top of each other?

THE WITNESS: Findings -- what do you mean by overlap? How far apart would the wellbores land?

MS. THOMPSON: Right.
THE WITNESS: Well, I mean it depends on your completion. You kind of start with what you think you can drain and what you need to drain, and you design your -- your lateral landing depth based on that. So I mean, it could be 300 feet, 400 feet, 200 feet. It's hard to put -- it's hard to put a number on it without getting a completion engineer involved in it and deciding what -- what you can access.

The most important thing in my opinion
to landing an upper Wolfcamp well is that you can access those sands up at the -- up at the top of the, you know, up near the top of the Wolfcamp formation top.

MS. THOMPSON: Do you know what the total depth of the upper Wolfcamp is, like, from -- to the depth -- by chance?

THE WITNESS: Well, short answer is yes. How quickly can $I$ find it is another -- another issue. Let me see here. I've got -- I've got something with it on there. I just want to make sure I'm -- let me do this. I put that in my presentation. I think it's -- it should be on -- apologies, I don't have that number handy.

MS. THOMPSON: Okay. Is it safe to say that, like, by them requesting you to move it down by 200 feet, you would be outside of that upper Wolfcamp?

THE WITNESS: Yeah. So -- so in -- in my type log that's my last exhibit, attachment $F$, the top of the Wolfcamp is at most exactly at 10,900 feet; okay? And it might be -- you know, and I've got the landing depth a little bit deeper than what they're saying. I've got it about 200 feet in.

And I've -- I've tried to -- you know, this well that I'm using is -- is in the southeast
southeast of Section 13. And of course, our subject well is in the southwest southwest of Section 13. So there's a little bit of structural difference. But I mean, essentially, they've got a -- Pride has an estimated landing depth of 11,092 , which would -which would put you, you know, 150-ish feet from the top of the Wolfcamp. Somewhere between 100 and 150.

MS. THOMPSON: Okay. And then I'm not sure if they had talked about where their well was supposed to be at, but it's going to be, like, essentially, right on top of the formation -THE WITNESS: Yeah.

MS. THOMPSON: -- in the Bone Spring?
THE WITNESS: Their two existing wells that I've referenced, the Teal and the -- let's see. The Teal -- the Teal State and the Quail State are -are both roughly 100 feet above the top of the Wolfcamp, roughly. So I would assume that their landing depth for this -- for their new proposal, the Showbiz well would be in that -- in that range.

MS. THOMPSON: Okay. And that gives about 250 feet difference, so.

THE WITNESS: Correct.
MS. THOMPSON: Okay. Let's see here.
You said that this was also a wildcat well --
exploratory well?
THE WITNESS: I wouldn't call it a wildcat or -- I would call it a maybe a step out from what we kind of know there in -- from the Mewbourne wells and the Katana wells a couple of sections to the east. I don't know if wildcat's the word, but.

MR. BRUCE: Ms. Thompson, this is Jim Bruce. There is the Airport Wolfcamp pool that's about a mile and a half to the north. And I almost put that on my pleadings, but the OCD informed us otherwise. So the Mewbourne wells, and then the Airport Wolfcamp would be the two nearest Wolfcamp pools.

MS. THOMPSON: Okay. Yeah. I'm not sure if $I$ have any other questions at the moment, but I'm going to go ahead and turn it over to Mr. McClure.

THE HEARING EXAMINER: MS. Thompson, thank you.

Mr. McClure, your turn.
MR. MCCLURE: Thank you, Mr. Harwood. I do have a few questions for Mr. Boughton.

I guess my very first question is, Mr. Boughton, are aware of any disagreement with the pick for the top of the Wolfcamp, base of the Bone Spring in this area between yourselves and Cimarex?

THE WITNESS: No. I -- no.
MR. MCCLURE: Okay. Earlier in
testimony, not to try to put words in your mouth or anything. But if $I$ recall, you referenced higher permeability sandstones towards the top of the Wolfcamp; is that correct?

THE WITNESS: Yes. Higher porosity and permeability.

MR. MCCLURE: I guess are these situated right at the top of the Wolfcamp, right against the base of the Bone Spring?

THE WITNESS: Depends on which well you look at. In some cases, they probably are. In -- in my type log, there's a little bit of separation between them. But I -- but I wouldn't call that a -I wouldn't call that a baffle or barrier that -- that little, short interval between them, so.

MR. MCCLURE: Now, I assume that when you mentioned higher permeability, a relative term. But $I$ guess do you have kind of a -- of magnitude of what you believe that permeability may be?

THE WITNESS: I don't -- I don't have a number that $I$ could give you. But I'm -- I'm looking, and I'm kind of -- I'm kind of thinking about these Mewbourne wells over to the southwest. And to make
those kind of fluid volumes, you must have -- I'm just anecdotally, you must have pressure and good permeability.

MR. MCCLURE: So I mean, it's not in the nanodarcy then is what you're saying? It's higher permeability than that?

THE WITNESS: Right. Well, it would certainly be --

MR. MCCLURE: Perhaps microdarcy -- oh I'm sorry --

THE WITNESS: Right -- right. I don't think it would be nanodarcy. I don't.

MR. MCCLURE: And I'd you reference that you think it might be in the millidarcy, then?

THE WITNESS: It would be in the millidarcy range pretty certainly.

MR. MCCLURE: Okay. Thank you. Yeah. That was essentially all $I$ was trying to gather was just a very general --

THE WITNESS: Right.
MR. MCCLURE: -- sense of how many zeros you have after the period.

THE WITNESS: I'm sorry -- I'm sorry I don't have number for you, but I don't have --

MR. MCCLURE: Oh, no, no.

THE WITNESS: -- a number for you. MR. MCCLURE: Okay. Now earlier I guess, and again, not to put words in your mouth. It almost seemed like perhaps Pride seeded that there could be production going across the barrier between -- let me restart that question. I'm sorry.

It almost seemed like you would perhaps seeded that Pride wells could potentially be producing from the Bone Spring; is that an accurate statement, and if so, is it that you're seeding the possibility, but not that you believe it would be producing from the Bone Spring?

THE WITNESS: I'm seeding the possibility that that could happen. To what -- you know, if it's happening and to what degree, $I$ would not, you know, be able to -- to speak directly to that. But -- but it's certainly -- I mean, you've got two prolific reservoirs, one on top of the other -- or formations, however you want to say it. It -- you know, it's hard to imagine with, you know, fracking that there wouldn't be some communication between the two, up or down.

MR. MCCLURE: But I guess, backing up a little bit to Mr. Pride's testimony, it was his belief that Pride's well -- and not to try to put words in
his mouth either --
THE WITNESS: Right.
MR. MCCLURE: -- but that Pride's wells as opposed would not produce from the Bone Spring. Is that to your understanding still what Pride's position is?

THE WITNESS: I would suggest, you
know, when we get to that point, that the completion engineer be consulted, and a frack be designed that would not penetrate that and not try to get into the -- to the lower part of the Bone Spring.

And then you would -- you would -that's where you would maybe make your decision about moving your landing zone down some if -- if, you know, if the completion engineer agreed that -- that they could do that.

So I'm saying it's certainly possible. But, you know, how much, to what degree, I think it's very difficult to -- to know that; right?

MR. MCCLURE: Yeah. I guess as a follow up to that, $I$ guess are you saying it would be Pride's intent to ensure or as much as is possible to ensure I guess, that the fractures would not propagate into the bone spring?

THE WITNESS: Well, my recommendation
to Pride would be to -- to get a completion engineer and give them the parameters of what we're trying to drain and design a frack job around that. That -that would be my recommendation.

But of course, you know, I don't work for Pride full-time. I'm a consultant. But that would be my recommendation is to try to restrict the height growth as best you can.

Now, you know, that may not be 100 percent doable. So -- but, you know, by the same token, if you're drilling third Bone Spring wells, you've got the same problem, so.

MR. MCCLURE: And I guess to your understanding and kind of what's maybe what was testified to today is Pride's intent to produce from the upper Wolfcamp and not produce from the Bone Spring; correct?

THE WITNESS: That -- I mean, my understanding from talking to Mr. Pride, that is exactly correct. There is no intent of trying to drill third Bone Spring wells that just happen to land in the Wolfcamp.

MR. MCCLURE: Okay. Thank you. Now earlier I had asked Mr. Pride and then withdrew that question to save it for yourself, that question being
does Pride believe that Cimarex's wells, as proposed, will drain from the upper Wolfcamp?

THE WITNESS: Well, the -- the readings that I've done from Cimarex's documentation here suggest that they believe it, so I guess I would not disagree with them there.

MR. MCCLURE: I believe that's all the questions I have for you, Mr. Boughton. Thank you.

Thank you, Mr. Bruce.
And thank you, Mr. Harwood. I think you're muted, Mr. Harwood.

THE HEARING EXAMINER: Thank you. Sorry.

Mr. Broughton, just a few follow up questions from my perspective of complete geologic ignorance. I've never met a geologist I could understand, but that's just because you talk a different language from regular people.

But my understanding from your testimony is that it's more than likely that there is interaction between the Bone Spring and Wolfcamp formations; did I hear that correctly?

THE WITNESS: Yeah. What I want to specify is that, you know, I the natural state, they may be separate reservoirs. But certainly once you
start fracking, there's probably going to be some interrelations, some crosstalk -- you'll hear that term, cross talk -- between the two. It's certainly possible just because of the proximity.

THE HEARING EXAMINER: And that's
because fracking creates vertical as well as horizontal cracks?

THE WITNESS: That is correct, yes. It goes up and down and -- and sideways to a degree.

THE HEARING EXAMINER: So the other point $I$ took from your testimony, and of course there were many. I don't mean to downplay any others. But I believe you confirmed an answer to an earlier question, which is the term "formation" is not always synonymous with "reservoir"?

THE WITNESS: I don't think it has to be.

THE HEARING EXAMINER: In other words, I think your point was it's not always synonymous with "reservoir" because reservoirs may cross formations? THE WITNESS: That -- that can happen, yes.

THE HEARING EXAMINER: All right.
Okay. Any further questions from Mr. Bruce for Mr. Broughton based on the questions I asked or the
questions that Mr. McClure or Ms. Thompson asked? MR. BRUCE: No, sir.

THE HEARING EXAMINER: Mr. Savage, any last questions for Mr. Broughton?

MR. SAVAGE: If you're giving me an opportunity to ask additional question; correct? Let me look at my notes here and see if -- yeah. I do have an additional question.

RECROSS EXAMINATION BY MR. SAVAGE:

Q Mr. Broughton?
A Yes.
Q So when you're preparing for this, when Pride Energy contracted with you and you're in discussion with how you would proceed, did you in any way recommend to them that they would need a frack engineer to accomplish what they are wanting to accomplish, and that it does not encroach upon the third Bone Spring?

A I -- I never had any discussions with Mr. Bruce or Mr. Pride about completion engineers or any of that. I simply focused on the geologic background that they wanted me to develop for -- for this particular area.

Q Okay. And then when we talked about one of
the things that the completion engineer would recommend and what you said. You said you would recommend that they get a completion engineer.

And one of the things that you said, the completion engineer would likely recommend, if I'm correct, is to move the wellbore down -- move the landing zone down so that the fracks don't reach into the --

A That's not exactly what $I$ said. I said that completion engineer -- you know, the most important component in my opinion is to make sure your frack accesses the upper Wolfcamp sands.

So if -- if it's possible to move that wellbore down, the frack engineer -- and still access those, then $I$ think, you know, the frack engineer would make that decision of whether you should or could, and then by how much.

Q Okay. And so Pride Energy and the frack engineer could make that decision prior to drilling?

A Correct -- correct.
Q And if they did that in coordination with Cimarex, it sounds to me, based on what I'm looking at in Cimarex's testimony, is that both development plans could go forward without waste and drilling unnecessary wells, et cetera; correct?

A Yeah. I mean, if -- if Pride were to be able to move their -- their well boar down and Cimarex were able to move theirs up, that would be better for everybody for sure.

MR. SAVAGE: All right. Thank you,
Mr. Broughton. I appreciate it.
THE WITNESS: You're welcome.
MR. SAVAGE: Thank you, Mr. Harwood, for allowing me to address those follow up questions.

THE HEARING EXAMINER: You're welcome,
Mr. Savage.
So Mr. Bruce, do you rest your case number 22853 at this point?

MR. BRUCE: Yes, sir.
THE HEARING EXAMINER: All right.
Great. Let's see. It's about 15 minutes after the hour. How about we break for lunch.

And Mr. Savage, you take your case at -- how about we take an hour for lunch; does that work for folks?

MR. BRUCE: Yes.
MR. SAVAGE: Yes. Thank you.
THE HEARING EXAMINER: Mr. McClure, would you rather take less time than that? I mean, it's later for me than it is for your guys, so you
guys call the shots. I'm a captive audience.
MR. MCCLURE: To be honest, it doesn't matter to me what you want to do, Mr. Harwood. I was just shrugging because $I$ don't have a preference. However you want to handle it.

THE HEARING EXAMINER: All right.
Well, let's break for an hour and come back at 15 after the next hour, whatever that is where you guys are; okay? So we'll be back at 1:15 New Mexico Time if my arithmetic is correct. Thank you all.
(Off the record.)
THE REPORTER: We are now back on the record.

THE HEARING EXAMINER: Thank you.
Mr. Savage, are you ready to proceed with your case?

MR. SAVAGE: I am, Mr. Harwood. And I would like to begin by getting the noticed exhibits out of the way so we can focus on the substance.

THE HEARING EXAMINER: However you wish to proceed.

MR. SAVAGE: Okay.
THE HEARING EXAMINER: Do we have
Mr. Bruce on the line as well?
MR. BRUCE: Yes, sir.

THE HEARING EXAMINER: Okay. All right.

Go ahead, Mr. Savage.
MR. SAVAGE: Thank you. My name is
Darrin Savage, representative and attorney for Cimarex Energy Company. I testify today based on the noticed Exhibit D and our hearing packet and Sub-Exhibits D1 through D3 that all uncommitted working interest owners, overriding royalty interest owners and regular title owners were sent notice in a timely manner, and publication notice was timely published in the Hobbs News-Sun, a newspaper of general circulation in Lea County, New Mexico, as shown in the Exhibit D3.
(Case 23295 Exhibit D through Exhibit D-3 were marked for identification.) There were no unlocatable parties working interest owners or otherwise. The four lenders to overriding royalty interest owners are listed as in transit. The mailing report and reports of receipts return are provided in Exhibit D2, and a sample notice letter is provided in Exhibit D1. I ask that the Exhibits D and all Sub-Exhibits, D1 through D3 be admitted into the record, and I'm available for any questions.

THE HEARING EXAMINER: Mr. Bruce, any
objection to those exhibits?
MR. BRUCE: No, Mr. Examiner.
THE HEARING EXAMINER: All right. They
will be admitted, Mr. Rankin [sic].
(Case 23295 Exhibit D through Exhibit
D-3 were received into evidence.)
MR. SAVAGE: Thank you.
THE HEARING EXAMINER: Do you have questions I suppose, Mr. Bruce, for Mr. Savage on those exhibits, or do you want reserve those for his witnesses? You don't get to ask twice.

MR. BRUCE: I'll just do some follow up after Mr. Savage questions his witness.

THE HEARING EXAMINER: Perfect. Okay. Mr. Savage, back to you.

MR. SAVAGE: Thank you.
I'd like to call our landman witness, expert witness John Coffman. As you know, he's been sworn in, and he has testified before the Division. JOHN COFFMAN, called as a witness and having been first duly sworn to tell the truth, the whole truth, and nothing but the truth, was examined and testified as follows:


Energy.
You had received notice that Pride Energy had proposed a well in case 22853 for compulsory pooling of uncommitted mineral interest owners in the Wolfcamp formation underlying the subject lands; is that correct?

A Correct.
Q And this was for the Go State well, number 401H; correct?

A Correct.
Q And when you received this, did you have any concerns about Pride's 401H well?

A Yeah. I was concerned about how close their landing zone was to the third Bone Spring where we own a higher interest.

Q Okay. And you talked to your team about this, Cimarex team?

A Correct. They shared the same hesitations and concerns.

Q Did you and your team reach out to Pride to try to engage in any kind of negotiations to resolve this matter?

A Yeah. We had a few different negotiations. One was to lower the landing zone. Another was to try and blend the interest across the third Bone Spring
and the Wolfcamp.
And then we vetted a few offers. I think Matt made an offer of $\$ 1,000$ an acre, which is drastically different than the value that we put on the acreage. And then $I$ think he also offered a carry deal that was also not within market.

Q So it sounds like for these -- substance of offers and back and forth?

A Yes.
Q And in the end, you were not able to reach an agreement or resolution; correct?

A That's correct.
Q And thus, here we are today.
Going over your exhibits, Exhibit 1, these are the $C-102 s$ for the wells you proposed; correct? (Case 23295 Exhibit $A-1$ was marked for identification.)

A Correct.
Q And you note on them the formation -- the Exhibit A-2 is your ownership report; correct? (Case 23295 Exhibit $A-2$ was marked for identification.)

A Correct.
Q You heard the discussion in the previous testimony with Pride Energy landman. Can you confirm
that all the owners in the upper Wolfcamp own the same amounts and percentages in the third Bone Spring except Pride and, of course, Cimarex?

A Yes. That's correct.
Q Okay. So really, Pride is the only party who would be excluded, and everybody else's correlative rights would be protected and perhaps even enhanced; correct?

A Correct.
Q Okay. Exhibit $A-3$ is your well proposal; is that correct?
(Case 23295 Exhibit $A-3$ was marked for identification.)

A Correct.
Q And do you believe that the costs are fair and reasonable for this area and these lands?

A Yes, I do.
Q Okay. And your Exhibit A-4 is your chronology of contacts with the owners; correct? (Case 23295 Exhibit A-4 was marked for identification.)

A That's correct.
Q Okay. And not only are the negotiations that you had with Pride Energy reflected in this exhibit, but also what the contacts and negotiations
that you had with the other working interest owners as well; correct?

A Correct.
Q And this is over the course of quite a while, up to seven months?

A Yeah. I'd say a year or some, yes.
Q Okay. And from your perspective as the landman with your experience in this area, which formations see more activities in place in general?

A Predominantly Bone Spring.
Q Can you just give the Division an idea of what kind of activities?

A I'd say the majority of third Bone Spring in this area.

Q Okay. And in your estimation, as a result, Bone Spring interest would be considered a lot more valuable than the Wolfcamp interest on the market?

A Correct -- yes.
Q And yet, you still tried to work with Pride Energy, offering to blend contractual interest across some of the -- as I understand it, and you may correct me, but blending contractual interest, that means Pride Energy would get some interest in the third Bone Spring?

A Correct.

| 1 | Q And that was against your own economic |
| :---: | :---: |
| 2 | interest; is that correct? |
| 3 | A That's correct. |
| 4 | Q And yet, you still offered to try to reach a |
| 5 | good faith compromise? |
| 6 | A Yes, that's correct. |
| 7 | Q And in your statement, you point out that |
| 8 | Pride Energy has drilled wells in or near the subject |
| 9 | lands, and I know you heard the discussion of those |
| 10 | wells in the previous testimony? |
| 11 | A That's correct. |
| 12 | Q And those are all Bone Spring wells? |
| 13 | A From my knowledge, yes. Correct. |
| 14 | Q And none in the Wolfcamp? |
| 15 | A Correct. |
| 16 | Q And now we have this one, the 401 H in the |
| 17 | Wolfcamp? |
| 18 | A That's correct. |
| 19 | Q And those other wells, Pride Energy owned in |
| 20 | the Bone Spring? |
| 21 | A To my knowledge, yes. |
| 22 | Q Okay. And this one, Pride Energy |
| 23 | acknowledges that they do not own in the Bone Spring; |
| 24 | correct? |
| 25 | A That's correct. |
|  | Page 175 |

Q In your view of your long-term negotiations with Pride Energy, is it your view that this is really what's driving Pride Energy's push to develop the Wolfcamp at all costs over the Bone Spring?

A Could you repeat that?
Q Do you see this as a major factor in Pride Energy's push to develop the Wolfcamp at all costs over the Bone Spring?

A I think ownership is the primary factor, yes.

Q Okay. Mr. Coffman, based on what you have heard earlier today, is there anything else you would like to add or clarify for the Division?

A I'd say we have multiple committed owners in this west half west half proration unit, including Hanley and Laha [ph]. And we have Concho, COG under an operating agreement right now. And we have the support of Chevron for our development in the Bone Spring even though they own in the Wolfcamp as well.

Q Based on your description of the value of the Bone Spring, it would be a highly sought after project?

A That's correct.
Q And then the commitments reflect that in your opinion?

A Correct.
Q Let's talk a little bit about the option that you offered to lower the landing zones. That is one of the options that you did offer; correct?

A Yeah. We requested Pride to lower the landing zone; that's correct.

Q And is that still on the table?
A Yes.
Q Okay. And I know you're not a geologist or an engineer. But as a discussion within the team, if Pride Energy lowered that landing zone to the specification that your team has asked for, and that's described as your alternative landing zone, Cimarex would agree to that. And both Cimarex could go forward with the third Bone Spring, and Pride energy could go forward with the Wolfcamp; is that correct?

A That's correct, yes, sir.
Q Okay. So that sounds to me like we're looking at a very viable solution based on what the Pride Energy's geologist has testified to; correct?

A I agree.
MR. SAVAGE: Okay. Mr. Coffman, I don't have any further questions.

I would like to submit the land exhibits at this time. I would like to submit Landman

Exhibit A, and also Sub-Exhibits A1 through A4 into the record. And I have Mr. Coffman available for any questions from the Division.

THE HEARING EXAMINER: Thank you,
Mr. Savage.
Mr. Bruce, objections to Cimarex's
Exhibit A, including subparts?
MR. BRUCE: No.
THE HEARING EXAMINER: All right.
They'll be admitted into the record, and you may cross examine Mr. Coffman.
(Case 23295 Exhibit A through Exhibit A-4 was received into evidence.) CROSS-EXAMINATION

BY MR. BRUCE:
Q Mr. Coffman, the questions right at the end, you said you -- and whenever I say it, I mean you, Cimarex, requested Pride to lower the landing zone another -- I don't know the exact depth -- another couple hundred feet into the Wolfcamp; is that correct?

A That's correct.
Q Did you ever offer to change Cimarex's landing zone? In other words, move it upwards into the third Bone Spring reservoir?

A No, we did not.
Q And then you mention another option was blending interest. On what basis, what percentages?

A It would be based on our working interest percentage and the discrepancy between Pride's working interest discrepancy and the Wolfcamp.

So we did not reach -- or, I guess, broach that subject on what the actual percentages would be, but it was -- that negotiation, or, I guess, path of negotiation was denied prior to discussing any contractual blending.

Q Okay. But I'm guessing that it wouldn't be a straight acreage basis; the geologist/engineers -- basically allocation of three quarters to third Bone Spring and one quarter to the Wolfcamp; would that play into the blending of interests?

A If you're asking if it would be net for net on value, no, it would not.

MR. SAVAGE: And Mr. Harwood, I'm going to object to that question. That is information taken from other lands distant and another case, a pooling case, that has a number of factors that do not pertain to this case. And there has been no assessment either by Pride Energy and the geologist or that they've
provided any sustenance of the percentages involved.
THE HEARING EXAMINER: Okay. Well you can cross-examine the witness on that. It goes to the weight, not the admissibility.

Go ahead, Mr. Bruce.
MR. BRUCE: Okay.
BY MR. BRUCE:
Q Mr. Coffman, forget this case. Let's just take your first pooling in the same acreage second Bone Spring well. What is the allocation of production based upon under the pooling statute?

A I'm just a landman. I don't know about how the first -- or I guess, the second and third Bone Spring would be allocated.

Q No, no. I'm not talking about the third -don't even worry about these lands. You're drilling a Bone Spring well. Forget any sites between Wolfcamp and Bone Spring.

You've got a bunch of interest owners, like you do in this case. Take any Bone Spring owner, first pooling the Bone Spring generally, the entire Bone Spring formation, and you've got 20 different interest owners, which is pretty similar to this case.

How is allocation made among those interest owners in the various fracks?

MR. SAVAGE: I'm going to object to that question. The ownership is uniform. I don't see the relevance of that question.

MR. BRUCE: Well, wait a minute. No. BY MR. BRUCE:

Q Under the pooling statute, Mr. Coffman, isn't production allocated solely on an acreage basis?

A Yes.
Q So you take your Tract 1, there's whatever, 20 parties -- I forget the number. Regardless of what happens, that tract will be allocated one quarter of the production --

A I agree with that.
Q Excuse me?
A I agree with --
THE HEARING EXAMINER: Hold on. We're having interference from a Jason and a call-in user number 2. Will you guys please put yourself on mute? BY MR. BRUCE:

Q Okay. And again, I'll just ask you, under the pooling statute, allocation on just a regular, uncontested, pooling case is allocated between the various tracts solely on an acreage basis; isn't that correct?

A Yes, that is correct.

Q It doesn't matter how good one tract may compare, say the north half, northwest quarter of 12 as compared to the west half's southwest quarter of Section 13. There may be different geology during that two miles. That doesn't come into account. It is solely acreage; is it not?

A Correct.
Q But what you're telling me, you're talking about blending interest but using Cimarex's position that 25 percent of production will come from the Wolfcamp and 75 percent roughly, I forget --

MR. SAVAGE: I'm going to object to that, Mr. Harwood. We've already established that those ratios do not apply to this case. He's already answered the question. Mr. Coffman's already answered the question.

MR. BRUCE: What he's testified about
is what --
THE HEARING EXAMINER: Now, hold on. Let's not step all over each other. Remember, we have a court reporter who's trying to take all this down. MR. BRUCE: Yes, sir.

THE HEARING EXAMINER: So Mr. Savage, you know the end of Mr. Bruce's question, but let him finish it and then object.

And you know, we don't have to say over like a radio transmission, but that's pretty much what it is.

MR. BRUCE: All I'm saying is I'm simply using their testimony saying that 76 percent of the production comes from the third Bone Spring, and 24 percent comes from the upper Wolfcamp. That's in their testimony. BY MR. BRUCE:

Q Now, when you say you're making a blending of interest, you're not using solely acreage, you're using those percentage interests; aren't you?

MR. SAVAGE: May I object at this point and provide an explanation to my objection?

THE HEARING EXAMINER: Sure. Make a record, Mr. Savage.

MR. SAVAGE: Thank you.
So Mr. Coffman's already answered this. There is no issue of blending. Blending was initiated as a discussion. Pride Energy refused to do the blending to explore the blending, and therefore, this is a moot point. There is no issue here to address. THE HEARING EXAMINER: Hold on, Mr. Bruce.
You know, this issue of settlement
discussions and negotiations was raised on direct examination. So I think you've opened the door to this, Mr. Savage, and you can address it on redirect with your witness.

MR. SAVAGE: Okay. Thank you. Yes. BY MR. BRUCE:

Q And I'm not asking what the final negotiation points were, but I'm asking you were not using only acreage, you were using those percentage interest in making your offer blending the interest; is that correct?

A The blending would be on depths, on a depth basis, not a surface acre basis.

Q Explain?
A So we would be blending between the third Bone Spring and the upper Wolfcamp on those ownership percentages. I do agree on a surface acre basis, the third bone spring and the Wolfcamp, upper Wolfcamp, would be separate ownership.

Q Okay. But you're talking depth. So obviously, there's a difference between the depth of the third Bone Spring that you're asking to include as to the depths of the Wolfcamp being included?

A I would agree that the third Bone Spring and the upper Wolfcamp are in different depths.

Q Okay. And do you have any OCD order or authority to do this other than it must be voluntary?

A $\quad$ No.
Q You also said that the correlative rights of the interest owners in the Bone Spring would be enhanced by doing what you want to do; please explain.

A Well, I think that would lend itself to the geology of the rock, and $I$ think Staci will be getting into that later on.

Q But doesn't that mean you'd be getting some of Pride's reserves?

A No.
Q Well then, how are their third Bone Spring rights enhanced by denying Pride the right to drill?

A I think Staci's going to go over how the third Bone Spring is better rock.

Q Okay. And I don't mind if you defer to another witness. Anytime you want to do that, go ahead.

Now, this isn't one of your exhibits, but you glanced upon it. You talked about there was third Bone Spring activity versus Wolfcamp authority in this area. And $I$ think it's the engineer who had a chart showing all the third Bone Spring versus Wolfcamp wells.

But I noticed one thing is there was no completion date for any of these wells. What is the timeframe you're looking at? When was the third Bone Spring activity springing up so to speak versus Wolfcamp activity?

A If this is in Mark's testimony, then I would have to defer that question to him.

Q Okay. That's fine, Mr. Coffman. Okay. A few other questions.

Now, there are two pools out here. So I just want to verify that Pride owns from the top of the Wolfcamp formation to the base of the Wolfcamp formation; correct?

A Correct.
Q It does not own from the base of the Wolfcamp X-Y to the base of the Wolfcamp; is that a fair statement?

A Yes.
Q Let me go through my notes to make sure I am not missing anything.

And you can defer on this one too, but I'll probably ask all the witnesses this. How far above the top of the Wolfcamp will the lower third Bone Spring landing be, approximately? I'm not asking --

A Oh, I'd have to defer to Staci or Mark on
that.
Q Okay. That's fine. And you know, I brought up that June 15 th letter to your interest letters saying that if Cimarex has its way, its well will produce the primary concentrations of hydrocarbons in the Wolfcamp, which are in the upper Wolfcamp; you do not disagree with that statement?

A Could you repeat the question?
THE HEARING EXAMINER: Yeah. Please rephrase that. "Do you not disagree," I don't even understand that.

Q Do you agree that your letter says that your third Bone Spring well will produce the primary concentration of hydrocarbons in the Wolfcamp, and those primary concentrations are in the upper Wolfcamp; is that correct?

A No. I disagree. I don't think I sent that letter out to any owners in this particular proration unit.

Q No. That's not the point. You sent it over in the other myriad of cases that were at the status conference; did you not?

MR. SAVAGE: Mr. Harwood, I'm going to object to this. I don't see the relevance in another case miles away pertains to the exhibits that have
been introduced -- did we introduce the letter? Did Mr. Bruce -- letter?

MR. BRUCE: No. I only got it early this morning, and therefore, I -- present --

THE HEARING EXAMINER: I mean, I don't
know how far away it is. I'll leave it to the technical examiners whether distance makes it irrelevant.
I'll allow the question.

BY MR. BRUCE:
Q Okay, Mr. Coffman. The wells you wrote that about -- and $I$ forget the well names -- over in 20 South 34 East; correct?

A Correct.
Q And these wells that we're here for today are in 19 South 34 East. I mean, I'm pretty good at calculating distances. I have two engineering degrees. But these groups of wells are about 6 miles apart; would that be a fair statement?

A I'd have to rely on your two engineering degrees.

Q That's probably a danger, but what the heck. But would you expect there to be any different results from wells 5 or 6 miles away?

A Oh, I couldn't say. I'm just a landman.

Q But you're taking the same position in those Cimarex/Read and Stevens cases that you're taking today?

A We did not provide the same letter for this case that we did for those cases.

Q I'm not saying you provided -- is Cimarex taking the same position in the Read and Stevens and Cimarex cases in a few weeks as it is today in the Pride/Cimarex cases?

A And what would that position be?
Q That the upper Wolfcamp should not be completed; it should be produced from the third Bone Spring.

A I'd say there's similar cases. I don't think they're exactly the same.

Q Well, nothing's ever exactly the same. But they are similar?

A I would agree they're similar.
MR. BRUCE: Let me just check a couple things, and then I'll let you go. Thank you, Mr. Coffman. I won't brother you anymore.

THE WITNESS: Thank you, Mr. Bruce.
THE HEARING EXAMINER: Mr. Savage, I suspect you might have some redirect?

MR. SAVAGE: Thank you, Mr. Harwood.

BY MR. SAVAGE:
Q Mr. Coffman, the Mighty Pheasant/Loosey Goosey lands, Mr. Bruce calculated those as being about 6 miles away. Geology changes quite a bit over 1 mile or 2 miles. 6 miles, it could possibly change quite a bit as well, is that correct?

A It could, yes.
Q And Mr. Bruce is bringing up this well proposal letter. And that well proposal letter that discussed the production of the upper Wolfcamp, that was sent out in relation to a proposed pooling application for the upper Wolfcamp; correct?

A Correct.
Q And in those cases with the Mighty Pheasant and Loosey Goosey, Cimarex is really grappling with some novel and issue of first impression about how to handle this to protect the working interest owners from massive amounts of costs and expenditure; is that correct?

A That's correct.
Q And in those letters, because they're related to the pooling applications for the upper Wolfcamp, you have to look at those specifically for pooling just the Wolfcamp. Pooling would be
specifically of the Wolfcamp, and the production therefore would be part of that pool unit of the Wolfcamp; correct?

A Correct.
Q Do you think that Mr. Bruce is kind of taking advantage of the confusion around some of these issues between those cases and using it to his advantage on this case?

A Yes. I think he's taking a part of a very complicated case and applying it to this case.

Q And somebody would not be able to do that if those issues of first impression and those novel issues were addressed by the Division so there could be some clarification?

A Correct.
Q And you believe that that clarification is needed --

A Yes.
Q -- not only for this case, to understand this case, but to understand any case involving those other wells?

A I agree.
Q Okay. Mr. Bruce asked about the enhanced correlative rights, you pointed out that all the owners in the Wolfcamp are the same owners in the Bone

Spring except for Pride; correct?
A Correct.
Q And when you said enhanced correlative rights, you were talking about just all the owners, those 19 owners, except for Pride; correct?

A Correct,
Q So if the Bone Spring produces prolifically, those 19 owners would be the ones whose correlative rights would be enhanced; correct?

A Correct.
Q Not Pride. We all agree that Pride would be excluded from the Bone Spring?

A That's correct,
Q Okay. And because you knew that they'd be excluded, you were sympathetic to the position of Pride; correct?

A That's correct.
Q And that's why you offered the option to possibly explore blending these interests?

A that's correct.
Q And the blending of the interest, the surface acres do not apply to that. This is an offer of a contractual agreement, voluntary, outside the scope of the jurisdiction of the Division; correct?

A That's correct.

Q And if it were agreed upon, it would be a private agreement; correct?

A Yes. That's correct.
Q And so it has no relevance to this particular case?

A Correct.
Q Let me look at my notes as well.
The percentage that they keep bringing up, the 25 percent and the 75 percent, that also pertains to the other case as well; correct?

A That's correct.
Q And that was part of Cimarex's efforts to wrestle with this question of how do you correspond and reconcile the regulations and the statutes with the actual product that's being produced; correct?

A Correct.
Q And that's a very complicated thing. I mean, we do the best we can, the legislature on the regulatory side and the agencies. And I don't see how they do it often, but they do wrestle with this to accurately protect correlative rights in terms of what the actual real-world production based on the geological sciences; correct?

A Correct.
Q And Cimarex, in good faith, really has
attempted to grapple with this and other parties appear to be taking advantage of Cimarex's effort and belittling it and trivializing it; do you agree with that?

A I agree.
MR. SAVAGE: Okay. Thank you,
Mr. Coffman. I don't have any further questions.
THE WITNESS: Thank you.
THE HEARING EXAMINER: All right,
Mr. Savage. Thanks.
Mr. McClure, why don't you lead off?
MR. MCCLURE: Thank you, Mr. Harwood.
Mr. Coffman, or maybe this is a question for Mr. Savage. Right at the very start, you mentioned a typo that was in regard to the rates; correct?

THE WITNESS: Yes, that's correct.
MR. MCCLURE: So it should not be 7,700, it should be what did you say?

THE WITNESS: I think it was shown at 8,800 , and it should be 7,700 .

MR. MCCLURE: Okay. Yeah, I was going to say on the application checklist, it looks like it is 7,700. So that's why I might be a little confused, maybe later on in the testimony maybe it has it
mislabeled then. But I guess to confirm though, the 7,700 is correct?

THE WITNESS: Yes, correct.
MR. MCCLURE: Okay. Thank you. Just to confirm, Cimarex does have interest in the Wolfcamp in this tract; correct?

THE WITNESS: Yes, that's correct.
MR. MCCLURE: Now, as to this particular application for compulsory pooling though, you're only requesting to pool interest in the Bone Spring; correct?

THE WITNESS: That's correct.
MR. MCCLURE: And I guess, probably later witnesses will be able to provide me a better answer. But just as a basic to your understanding, Cimarex believes that these wells, as proposed, will produce from the Wolfcamp; correct?

THE WITNESS: Our wells, the Showbiz wells?

MR. MCCLURE: Well, the ones proposed in here, $I$ don't remember the name of them wouldn't scrolling down. Showbiz, that's correct. Yes. I'm sorry.

Do you want me to re-ask the question?
THE WITNESS: Yeah, that'd be great.

MR. MCCLURE: Okay. Is it your
understanding that as proposed, the Showbiz wells -and when I say as proposed, I mean their current depths $I$ guess and target formation -- is it your understanding that they will produce from the Wolfcamp?

THE WITNESS: I would say the third Bone Spring one would be the one that's, I guess, would fall into that bucket. But I would have to defer to Jenny [sic] or Mark on that fact.

MR. MCCLURE: Well, I guess, is it your understand that -- I mean, the Bone Spring three is obviously the one right above the Wolfcamp. But I guess, would it be your understanding that at least one of the wells is being opposed by Cimarex is also going to produce from the upper Wolfcamp?

THE WITNESS: I'd defer to Staci, the geologist on that.

MR. MCCLURE: Okay.
THE WITNESS: She'll give you a better answer than $I$ will.

MR. MCCLURE: Oh, yeah. I mean, the only reason $I$ was even following on it is it kind of leads up to my next question, which I think is more likely in your realm. I guess if we suppose -- and
let's leave it blank whether Cimarex is proposing that they are going to drain the upper Wolfcamp, but that kind of seemed like that was the basis on what this case is built upon. If we suppose that that is the case, is Cimarex of the position that they have the right to produce that formation without it being pulled?

THE WITNESS: No. I think we would argue that the upper Wolfcamp has a chance at producing more of the third Bone Spring than the third Bone Spring has of producing the upper Wolfcamp.

And I would -- not to ramble, but I would say that if you have the same ownership that backs the third sand development instead of a Wolfcamp development, drilling the third Bone Spring would protect their correlative rights as well.

MR. MCCLURE: Yeah. And as if you were to let me shoe hole that in, I guess, for my next question. When we were talking about allocating the right thought process when you were referring to blending interest, your intent was to make interest identical between the Wolfcamp and Bone Spring; is that correct?

THE WITNESS: I don't know about identical. I think the values are different between
the third Bone Spring and the upper Wolfcamp based on my understanding, which is elementary for -- from a reservoir and geological standpoint. But at some ratio in which Pride would own in the Bone Spring and we would own additional in the Wolfcamp at whatever ratio that would be for contractual interest across the formations.

MR. MCCLURE: Oh, yeah. Well, I mean, I'm just trying to think of how to phrase this, I guess. Understanding that the ratio of transfer interest would be dependent upon value whatever, that's something for the private entities to discuss, do you think that the final intent of this would be to make whatever share it is that it ends up being, that it would be identical between the two?

THE WITNESS: On a value basis, yes.
That would be the intent.
MR. MCCLURE: Okay. As far as the persons being pooled here, being compulsory pooled -- I'm trying to see what the indication is to make sure as what all parties are being pooled.

I think on page -- you may not have it in front of you, but maybe Mr. Savage can assist, page 35 of 120, there's a list, it's titled Complete List of Parties, Persons to be Pooled. Is it pretty much
every single person in this particular list are the ones requested to be pooled?

THE WITNESS: Actually, Chevron, Poncho, Hanley, Laha [ph], and COG Operating are committed to us. And I do not -- I mean, we're open to having everybody sign an OA.

But currently, for the entirety of the west half west half of 12 and 13, we have 89 percent of the working interest supporting our development.

MR. SAVAGE: MR. McClure, if I could add to that. That completed list was intended to be a completed list of uncommitted interest owners, but apparently some of the committed interest parties got in there inadvertently. And if we're allowed to provide to a revised list of that completed list. But the intention was to list all the uncommitted parties as a recapitulation for the convenience of the Division.

MR. MCCLURE: Okay. Yeah. And depending on how this goes, we would want something like that submitted.

MR. SAVAGE: We will make a note of that. And I apologize for that. No good deed goes unpunished; right?

MR. MCCLURE: But $I$ guess following
into my next question, it has referenced here record title owners. And on that, it has Pride listed out as a record title owner. Was it the intent to pool Pride into the Bone Spring stuff here if they own dual percent interest, or is this solely on record title ownership and none of their working interest, which they have in the Wolfcamp?

THE WITNESS: This is solely for record
title for the Bone Spring.
MR. MCCLURE: Okay. I think that may be all my questions for Mr. Coffman.

Thank you, Mr. Coffman.
Thank you, Mr. Savage.
And thank you, Mr. Harwood.
THE WITNESS: Thank you.
THE HEARING EXAMINER: All right.
Ms. Thompson, questions for Mr. Coffman?
MS. THOMPSON: Yes. I'll follow up on Mr. McClure's.

Mr. Coffman, when it comes to the working interest owners, I see that Coterra Energy has working interest in the Wolfcamp formation; is that correct?

THE WITNESS: That's correct.
MS. THOMPSON: And so Pride Energy
being able to grow the Wolfcamp formation, Coterra would still be getting some royalties off of that; correct?

THE WITNESS: That's correct.
MS. THOMPSON: And you said you did try to reach an agreement through various means such as having them either move their -- zone or also by pooling the overall interests; right?

THE WITNESS: Yeah. Blending, yes.
MS. THOMPSON: Blending. Did you ever propose a movement of your well that's in the third Bone Spring up a little bit to them?

THE WITNESS: No we didn't because we still think that their landing zone would be producing from the Bone Spring.

MS. THOMPSON: And you briefly touched that you think that their well has a higher chance of producing from the Bone Spring than yours from the Wolfcamp; correct?

THE WITNESS: correct.
MS. THOMPSON: Why is that?
THE WITNESS: Well, this is based on my, also, elementary knowledge of completions, but I believe, in my opinion, fracks tend to grow upward rather than downward.

MS. THOMPSON: I think I'm going to reserve the rest of my questions for our next witness. So I have no further questions at the moment.

THE HEARING EXAMINER: Okay.
Mr. Savage, any additional questions for your witness based on questions from Mr. McClure and Ms. Thompson?

MR. SAVAGE: I think I'm going to reserve my questions. I do have related questions, but I think they're best addressed and answered with Ms. Mueller and Mr. McCoy.

THE HEARING EXAMINER: Okay. How about you, Mr. Bruce? Any additional questions based on questions from the technical examiners?

MR. BRUCE: No, sir.
THE HEARING EXAMINER: All right. May this witness be excused then, Mr. Savage?

MR. SAVAGE: Yes, Mr. Coffman can be excused. Thank you.

THE HEARING EXAMINER: You may call your next witness.

MR. COFFMAN: Thank you.
MR. SAVAGE: Okay. I would like to call the geologist of Cimarex, Staci Mueller.

```
                STACI MUELLER,
    called as a witness and having been first duly sworn
    to tell the truth, the whole truth, and nothing but
    the truth, was examined and testified as follows:
                        THE WITNESS: Can you hear me?
                MR. SAVAGE: Yes.
                    DIRECT EXAMINATION
BY MR. SAVAGE:
Q Ms. Mueller, you've been accepted as an expert witness, and you have testified before the Division previously. Can you just give a real quick description of your educational background?
A Yeah. I have my bachelors in geophysical engineering and my masters in geophysics from Colorado School of Minds.
Q And you have worked how long for Cimarex?
A I've worked at Cimarex for six and a half years, and I've worked this specific asset in Lea County since July 2018.
Q And your written testimony, it's represented by Exhibit B; is that correct?
A Correct.
Q And you acknowledge your statement as being accurate and truthful to the nest for your knowledge?
A Yes, I do.
```

Q Okay. Ms. Mueller, I would like to go back to some of the issues that we've discussed in Mr. Coffin's testimony. And it seems like there's a serious confusion of terms, and terms being tossed around regarding production, producing, communication; and I would like to get your perspective on this.

So as I understand because there is no baffle or natural barriers between these two formations, third Bone Spring and upper Wolfcamp, there is going to be and there is substantial communication between the formations; is that correct?

A Correct.
Q And that is basically flow of product?
A Of Hydrocarbons and water, yes.
Q Okay. So when you go out to this area, the subject lands. And let's say you pool an uncontested situation, you drill and pool the third Bone Spring in a similar unit, and you start producing the third Bone Spring. Under the regulations, under the specific technical terms of the regulations, you are pooling the third Bone Spring and you are producing the third Bone Spring; right?

A Right.
Q And the owners in that third Bone Spring, they're going to be deemed to receive their portion of
the 100 percent of production; correct?
A Correct.
Q But in reality, what's going on in this area 10,000 feet under the ground is that that wellbore is producing some large percentage of the third Bone Spring; correct?

A Right.
Q And it's also pulling hydrocarbons from the upper Wolfcamp; correct?

A Some, yes.
Q Some. And so there are owners in that upper Wolfcamp that are being deprived. Basically, that hydrocarbons are being taken from them. They actually have of record ownership of those hydrocarbons; correct?

A Correct.
Q But the regulations are not nuanced and specific enough to account for their loss; correct?

A Correct.
Q And so that's just kind of, like, collateral loss, collateral damage, which the Division accepts; correct?

A Yes.
Q Okay. So you wouldn't really call those upper Wolfcamp under the regulations produced; right?

It's incidental?
A Yeah.
Q Okay. So in those other cases with the Mighty Pheasant and the Loosey Goosey, Cimarex really worked hard to make a good faith effort to try to figure out how to account for those owner's interests after Permian Resources pooled the Wolfcamp. Cimarex, who did an application for the Bone Spring, then really made a good faith effort to try to account for those owners that would otherwise be lost; is that correct?

A That's correct.
Q And doing that, they filed an application for the Wolfcamp; correct?

A Correct.
Q And within the confines, the specific context, regulatory context of that pooling application for the Wolfcamp, we were allowed to use the term "produced" because under that context, that becomes the fine -- the wellbore is in the lower third Bone Spring is going to drain that. We -- a framework to protect those correlative rights; correct?

A Correct.
Q And that is when it becomes produced?
A Right.

Q And this is complicated; would you agree?
A Yes.
Q And we really need the Division's input for these kinds of cases, for this case, definitely for the Mighty Pheasant case; do you agree with that?

A I agree.
Q Okay. So that said, let's go back to your exhibits. You mention in your testimony that Cimarex has had some geological successes in this area. Can you give the Division a description of those?

A Yeah. So Cimarex has been an established operator offset the subject lands with about 35 horizontal wells drilled within the basal third sand, same landing zone that we're proposing here, starting in 2010 through last year.

So we've taken advantage of triple combo logs on deep -- wells and have run our own logs on most third sand developments in the area to better characterize the Bone Spring and Wolfcamp formations.

And so from those mapping efforts along with offset production analyses, we've concluded that the third sand is the most economic target instead of the upper Wolfcamp.

Q Okay. And did you mention how many total wells you have produced or drilled in this area
successfully?
A Within the third Bone Spring sand alone, 35.
Q Okay. Your exhibits here, and I'm going to pull them up again.

Okay. So you have 8 geology exhibits, B-1 through B-8. Can we go through each one and describe its relevance to this case and to Cimarex's position in these cases?
(Case 22853 Exhibit B-1 through Exhibit B-8 were marked for identification.)

A Sure.
Q And if applicable, can we show how the exhibits relate to the need to drill and develop third Bone Spring instead of the upper Wolfcamp?

A Okay. So Exhibit $B-1$ is just a summary of the maximum horizontal stress direction throughout the Permian Basin. At showbiz, the max horizontal stress is about North 70 degrees East, indicating that the well should be drilled in the north/south direction instead of east/west. So Pride's doing the exact same thing.

Q Exactly. Exhibit B-2?
A Exhibit B-2 is a structure map representative of our third sand target, which shows about 200 feet of structural relief from heel to toe.

And I also wanted to note we have
seismic -- $3-D$ seismic coverage over this whole area, which would also help with geosteering since we have quite a bit of structural relief over this well slot.

Q Okay. Exhibit B-3?
A B-3 is an isopach of the third sand. It shows consistent thickness of about 200 to 220 feet across the horizontal spacing unit.

Q And you heard the other geologist talk about thickness of the two formations in relation to the comparison of potential for production. Is this something that you could evaluate to determine potential production?

A Yes. That will be in a later exhibit. I try to quantify what the total reservoir is being represented as. So I'll show PH later.

Q That's good. All right. Exhibit B-4?
A B-4 is a little more complicated. So this is a structural cross section across about 5 miles. It shows gamma ray in the first tract, and then resistivity in the second tract highlighted solid red below 20 ohms, so I'm trying to highlight the main third Bone Spring sand reservoir.

And then $I$ have PE -- or the photoelectric displayed as well as neutron and density porosity.

And then I've displayed Cimarex's third sand target in the green line.

So in the middle log, I'm showing red arrows over the resistivity tract, and then yellow arrows over the neutron and density porosity tract. And that's to emphasize the different geomechanical units and show that the upper Wolfcamp sands have a very similar -or have very similar log properties as the third sand, indicating that they're most likely part of the same reservoir tank.

Q Okay. So let's add to that discussion that we've earlier. So formations are different from reservoir?

A Correct.
Q As $I$ understand this, we're looking at a single reservoir that crosses the two formations?

A Correct. Yes.
Q And the majority of the reservoir is located in the third Bone Spring?

A Correct.
Q Okay. Exhibit B-5?
A B-5. So an example of a map that we use to evaluate reservoir quality in both the Bone Spring and the Wolfcamp is phi-h, which is just porosity times height. And so here I'm comparing the phi-h between
the third sand and the upper Wolfcamp sands, which is Pride's target.

And I've calculated the average phi-h within the third sand at Showbiz to be 18.3 porosity feet. And then the average phi-h within the Wolfcamp sands is about 9.3 porosity feet.

So it's showing that the third sand is at least 66 percent of the total reservoir, while the Wolfcamp sands might contribute up to 33 percent.

Q Okay. And that describes the communication and the potential extraction. But in terms of producing, it does not address what the conventions of the regulation need to be for the actual regulatory framework or production; correct?

A Right. My point here is that the third sand is the established target throughout the area. That's what everybody's been targeting around here up until very recently. And yeah.

Q Right. So we're not saying that that smaller percentage in the Wolfcamp, that we're intending to produce it from a regulatory standpoint; right?

A No.
Q That's what parties keep accusing us of. We're trying to be accurate in the assessment in the
actual geology, and then make the different effort of applying it to the regulatory framework; do you agree?

A I agree.
Q Okay. Exhibit B-6?
A So this is a Wolfcamp structure map, showing all of the third sand and Wolfcamp sand producers that we have data for. And I've called out the location of the proposed Go State Wolfcamp well, which is surrounded by third sand production in the blue diamonds. And then Wolfcamp sand production begins much further south.

Q So it looks from here, clearly, that the Go State 401 H well is clearly an anomaly; would you agree with that?

A Yes.
Q Okay. And are there any Wolfcamp wells in this surrounding area?

A There might be a couple. Due to limited well control moving to the east, it's very difficult to pick out whether a well is within the third sand or the very, very upper part of the Wolfcamp. But I've done my best to classify wells within the third sand versus the scattering of a couple Wolfcamp sand wells.

Q Okay. Those couple of Wolfcamp wells, do you happen to know what their production might be?

I'm just curious.
A I do not.
Q All right. Thank you. Exhibit B-7, can you explain that?

A Yeah. So that's a gun barrel view of the Showbiz section. It shows Cimarex's Showbiz 301H. That's a proposed target in line with offset producers. And then Pride's Go State proposed target is kind of an anomaly for the area and located only 100 feet below our third sand well.

So we actually propose that Pride moves their target down another 200 feet for adequate separation from the third sand reservoir. And then that would allow us both to develop the Wolfcamp and the third sand separately.

Q Okay. So you said that 100 foot is an anomaly; typically, it would be lower. Is that what you're saying?

A I'm saying the Wolfcamp sands target is an anomaly.

Q Okay. And then as you point out, you propose this alternate landing zone. And that is still on the table; correct, as an option?

A Correct.
Q And that would allow both parties to proceed
with the development, and you would get the full development of the Bone Spring and the full development of the Wolfcamp; correct? The Wolfcamp -upper Wolfcamp shale, not the entire Wolfcamp.

Q Okay. And if I understand this, Pride Energy's geologist seemed to describe an approach that Pride Energy could take working with an engineer. If I understand this, they could look at this alternate landing zone, and they could design a frack pattern that would extend up and would actually cover the full upper Wolfcamp and produce the full upper Wolfcamp; is that correct?

A Yeah. That's what he proposed.
Q That's what he proposed. And do you agree that that is a clear possibility?

A I don't. I'm not a completions engineer. But from a geologic perspective, I don't see really any indication of frack baffles between their landing and our landing that would prevent fractures from growing up into the third sand.

Q Okay. Mr. McCoy should address this.
A Sure.
Q Okay. Exhibit B-8?
A B-8. So that speaks kind of to the lack of clarity that we've gotten on the proposed target

T-B-D. The left most wells located at the structural equivalent at the first take point while the right most well is at the structural equivalent at the last take point.

Because there's so much structural relief from heel to toe, the reference $T$-B-D for the Go State could have either been at 100 feet from the third sand, which we don't agree with; or 235 feet from the third sand, which would have been a little better.

And we had reached out to Pride for clarification, and we're told that the target is just the upper Wolfcamp. So I didn't really understand what they were really targeting up until I saw their exhibits a couple days ago.

But I think now we have much better clarification, and it is up within the 100 feet from the third sand.

Q So that I understand this right, you believe that they're intentionally targeting the third Bone Spring sand by the landing zone?

A I don't know about their intentions, but they are encroaching upon the third sand, definitely.

Q Okay. And so that's the full set of geology exhibits; correct?

A Correct.

what would happen if just the upper Wolfcamp were drilled and developed?

A The Wolfcamp well would probably drain a significant amount of reserves in the third sand and likely only less than a third within the upper Wolfcamp based on the phi-h map, which is my best attempt at quantifying the reserves. But yeah. So that's based on my Exhibit B-5, the phi-h maps.

Q And from a geological point of view, would drilling the upper Wolfcamp possibly ruin or permanently damage the full potential of the reservoir? It sounds like, based on what you described, it possibly might.

A Yeah. By targeting just the upper Wolfcamp sands, I would say the total upper Wolfcamp shale and sands reservoir wouldn't be fully drained. The reservoir tank would instead shift up into the third sand.

Q Ms. Mueller, is there anything else you would like to highlight or emphasize for the examiners?

A No. That's it.
MR. SAVAGE: All right. Well, thank you for a thorough testimony.

Mr. Examiner, I would like to submit

Page 217
geology Exhibit B, and also Exhibits B-1 through B-8 into the record.

THE HEARING EXAMINER: Any objection, Mr. Bruce?

MR. BRUCE: No, sir.
THE HEARING EXAMINER: They'll be admitted, Mr. Savage.
(Case 22853 Exhibit B-1 through Exhibit B-8 were received into evidence.)

MR. SAVAGE: Thank you. And Ms.
Mueller is available for cross examination.
THE HEARING EXAMINER: All right.
Mr. Bruce?
MR. BRUCE: Sure. I've got a few questions if $I$ can get organized here a little bit. CROSS-EXAMINATION

BY MR. BRUCE:
Q Ms. Mueller, is there any question in your mind that a lower third Bone Spring completion will produce from the upper Wolfcamp?

A I think because there's a lack of frack baffles, and $I$ have testified that $I$ believe it's one continuous reservoir interval from the upper Wolfcamp through the third sands that there should be some minor contribution from the Wolfcamp; but the majority
of production will be from the third Bone Spring sand.
Q Let me ask you this. Where is the third Bone Spring landing point for Cimarex's proposed well? How far above the top of the Wolfcamp?

A So our planned landing I believe is about 50 feet above the top of the Wolfcamp, which is the standard landing across the area. Just because that is the most poorest, basal clean sand lobe that everybody targets; however, we do our due diligence when actually drilling the well, we don't aim for the center of that -- what we call the C lobe, we actually aim for more closer to the top, where there's a shale string just so that we know exactly where we are in zone.

So it would be probably around 75 feet from the top of the Wolfcamp.

Q Okay. So based on the testimony today, your completion will be a lot closer to the Wolfcamp than Pride's completion will be to the Bone Spring?

A I would say they're about equal.
Q Would you agree that in this area, the upper Wolfcamp is generally the best Wolfcamp zone to produce?

A Yes.
Q And I think I might have phrased this case
to Mr. Coffman, but if you believe there will be communication between the lower third Bone Spring and the upper Wolfcamp, why hasn't Cimarex start to form a Wolf/Bone pool?

A I think that question is slightly outside of my expertise.

Q Okay. But why hasn't Cimarex sought to force pool the upper Wolfcamp zone? It owns an interest in that zone and has a legal right to do so. Why isn't it seeking to force pool that zone?

A Because we plan to drill within just the third Bone Spring.

Q And produce from the upper Wolfcamp?
A That's not the intention of Cimarex. We intend to produce from the third Bone sand.

Q Well, isn't that kind of contradictory to what the testimony is? You're saying the Bone Spring is the best zone to produce, and it will produce the vast majority of hydrocarbons from the upper Wolfcamp?

A No. I think I said it will produce the vast majority of hydrocarbons from the third Bone Spring sand, which is the primary reservoir based on my phi-h maps.

Q But you will produce from the Wolfcamp also. That's what all your -- says.

MR. SAVAGE: Mr. Harwood, I'm going to object to this. And I'm going to do an objection for clarification.

We do not believe that the term
"produce" is proper to describe the drainage from the upper Wolfcamp. We believe that under the regulatory frame, production is from the pooled formation, and that becomes the finest production. And then the drainage is incidental, and it is not production.

MR. BRUCE: Well, I'm not quite sure what Mr. Savage is saying. BY MR. BRUCE:

Q But their whole case is based on the fact that the third Bone Spring will produce the upper Wolfcamp; isn't that correct, Ms. Mueller?

A No. I would say our case is based on the fact that the upper Wolfcamp well will mostly drain from the third sand.

Q Okay. I'll let that go for a while. So in other words, what you're saying is that the upper Wolfcamp will produce from the lower third Bone Spring, but the lower third Bone Spring will not produce anything from the upper Wolfcamp?

A I didn't say not anything. But I think I need to clarify that hydraulic
fractures primarily grow upward. And I've observed from studies such as HFTS2, that Mark's going to touch on later, as well as time lapsed geochemistry and fiber data that hydraulic fractures and drainage tends to have an extreme upward bias. So I would be more worried about the upper Wolfcamp draining from an overlying formation.

Q Well, you said it's the same -- I forget the language you used, I'll try to look it up. Basically, you said upper Wolfcamp will -Bone Spring basically the same geological -- and really, don't scratch all of the path of least resistance; they can go up and down as Mr. Broughton said, they can go sideways. They follow the path of least resistance; don't they?

A Again, from the data I've seen, they tend to follow a more upward direction than down.

Q But in your affidavit, paragraph 14 "Cimarex has proposed the superior development plan, which captures most hydrocarbons within the combined third sand and upper Wolfcamp reservoir." You keep on saying you don't intend to produce the upper Wolfcamp. I mean, it's in your testimony that you are going to produce the upper Wolfcamp.

MR. SAVAGE: Objection. Can you point
out where it is in the testimony?
MR. BRUCE: Paragraph 14, her
affidavit.
THE HEARING EXAMINER: She's entitled to see what you're referring to, Mr. Bruce, in all fairness.

MR. BRUCE: I understand. And you
know, Mr. Harwood, I only operate by phone. But it's paragraph 14.

MR. SAVAGE: Paragraph --
THE HEARING EXAMINER: I believe he's referring to page 62 of 120 if that helps you, Mr. Savage.

MR. SAVAGE: Paragraph 14. I don't see the word "produced" in here, Mr. Bruce.

MR. BRUCE: Okay. Procure. How about "captures"?

MR. SAVAGE: Okay. That's good. Let's define our terms. Mr. Bruce, we talked about this, and "production" as we're defining it comes from an establish pooled unit. Everything else refers -distinguishable. "Capture," "incidental drainage." We really need to get the terms straight because there are plenty of operators out there draining and capturing hydrocarbons from the
upper Wolfcamp where they have pooled the third Bone Spring. And the Division has defined the production of that third Bone Spring as producing. And yet, they're allowed, and they're sanctioned, and they're approved to capture because it's incidental. You can't do anything about it. It's incidental to the process.

MR. BRUCE: I'm not saying anything about incidental. What's the difference between Cimarex capturing reserves from the upper Wolfcamp or producing reserves from the upper Wolfcamp. Tell me the technical or common sense difference.

MR. SAVAGE: Okay. I will tell you that. And this is something, really, that we're asking the Division to opine on and make declarations on because this is so important. It's so important. It's very important for the Mighty Pheasant and Loosey Goosey cases. So I appreciate the question.

So within the regulatory framework, once you pool the third Bone Spring and you produce from that pooled unit, that is producing. That is a very specific term under the regulatory framework, and capturing is not.

Capturing is a term of art within the industry. You know, it coincides with drainage,
capturing, incidental drainage. But when you're looking within the regulatory framework -- and that's why we really need some direction from the Division to be able to go through what's going to be a mega set of cases. And that's why this case is very important, and I'm glad you're asking these questions.

MR. BRUCE: So on the other hand, it's okay if Pride's upper Wolfcamp well captures hydrocarbons within the combined third Bone Spring and Wolfcamp --

MR. SAVAGE: You know, it's not an unqualified okay, but it's certainly a possibility that the Division has to decide, and it's based on what is the best development plan to select from the set of factors that the Division is going to consider. THE HEARING EXAMINER: Let me interrupt here, just --

MR. BRUCE: I'm done.,
THE HEARING EXAMINER: Hold on,
Mr. Bruce.
You know, $I$ think the technical
examiners understand this. I'm almost certain they do because even $I$ am beginning to get it.

It seems to be, this is probably more appropriate for your guys' closing argument rather
than -- I mean, let's keep it orderly.
Mr. Bruce, if you have further
questions for Ms. Mueller, ask them.
You know, if you guys want to argue these points in closing, that's fine. But I think probably OCD understands, you know, the point that you're both trying to get across.

Let's keep it orderly.
If you'll just continue with your questions of Ms. Mueller, and let's get on through Mr. Savage's witnesses.

MR. BRUCE: Yes. And I just have a few left.

BY MR. BRUCE:
Q And this pertains to, Ms. Mueller, the attachments to your affidavit. And I'll tell you what I'm getting to fairly quickly.

But if you look at your Exhibit B-1, Ms. Mueller, you're showing the same approximate stress direction for both the wells involved in these two cases as well as the area within five, six, eight miles; is that a fair statement?

A Yes.
Q And then your Exhibit B-2, the structure. You really highlighted these things really well, and I
appreciate it. Showing the well unit for the two subject wells. The structure is fairly similar, whether you're looking at these two cases or whether you're looking at, say, the Mighty Pheasant well. The structure is fairly gentle; is it not?

A There's actually twice as much structural relief in this case than at the Mighty Pheasant.

Q Okay. That's fair. Well, I won't ask you a question other than say $B-4$ is the one where $I$ said the third Bone Spring and the Wolfcamp $X-Y$ behave as one geomechanical reservoir. That's your main exhibit on that; is it not?

A Correct.
Q And then I'm going to the next one, B-5. It looks like the phi-h for the third Bone Spring sand is similar for these two wells as it is 6 miles to the southwest where the Mighty Pheasant wells are, relatively?

A The Mighty Pheasant has, approximately, over 70 percent of total reservoir within the third sand.

Q Okay.
A It's significantly higher down there.
Q But I mean there's not that much difference between the two areas?

A I would say it's two thirds versus three
quarters.
Q And then the same thing, the phi-h for the Wolfcamp, once again, a township away. The numbers look pretty similar; do they not?

A Correct.
Q And the reason I'm asking you this is that I asked Mr. Coffman about similarity -- and of course, he's not a geologist. He gave the correct answer, "You'll have to ask somebody else."

But the geology between these two cases and the massive fight you guys are going to indulge in in a few weeks, it looks like you're looking at the same piece of geology to my layman's eyes in the two separate groups of cases; is that correct?

A Besides the difference in structural relief and higher phi-h in the third sand, that's pretty much correct.

MR. BRUCE: Okay. Thank you very much, Ms. Mueller.

I have no further questions,
Mr. Harwood,
THE HEARING EXAMINER: Mr. Savage,
redirect?
MR. SAVAGE: I would like to address the questions to just clarify that.

BY MR. SAVAGE:
Q Ms. Mueller, you do agree and understand as Cimarex grapples with these issues and the Division is facing what we consider issues of first impression, that these terms need to be well defined, "capture," "drainage," "production"; correct?

A Correct.
Q And if they're not well defined as you have seen in how they're being utilized and basically weaponized to undermine Cimarex -- do you agree they're being used to weaponize Cimarex's good faith efforts to reach a proper development plan?

MR. BRUCE: I object to the characterization of "weaponization." Each party is protecting their own interest.

MR. SAVAGE: Fair enough, Mr. Bruce.
THE HEARING EXAMINER: Well,
Mr. Savage, I'm going to sustain that objection. I mean, this is a geologist. I mean, you need to call a weapons specialist for a question like that.

MR. SAVAGE: I need to call a linguist for the diagnosis of the metaphor.

THE HEARING EXAMINER: I mean, you can
argue that. I think we get the point. But the
geologist can't testify -- I agree with Mr. Bruce. So let's more on. BY MR. SAVAGE:

Q Ms. Mueller, do you agree that this really requires some serious review analysis and investigation, both these cases?

A Yes.
MR. SAVAGE: Okay. And you gave a very good overview, and your exhibits are good. And I'm going to leave at that. I appreciate your time.

THE HEARING EXAMINER: All right. Ms. Thompson, let's go to you first for questions for Ms. Mueller.

MS. THOMPSON: Hi, yes. I have a handful of questions. Let's see. It's just going to be a little bit of reiterating to make sure I understand everything.

So you said that according to your phi chart that you say it's one reservoir that spans between both Bone Spring and Wolfcamp formations; correct?

THE WITNESS: Yes. I see similar geomechanical properties, and that tells me it's probably one reservoir.

MS. THOMPSON: Okay. And then
according to that chart as well, you said that majority of it, or 66 percent of it, lays within the Bone Spring formation?

THE WITNESS: Yes. 66 percent of the phi-h lies within the third sand.

MS. THOMPSON: And then you also talked about priorities when it came to the two different formations and how they're very similar, and that's why there would be an interaction if there was a well placed in the Wolfcamp formation; correct?

THE WITNESS: Correct. I see similarities between the third sand and then the upper Wolfcamp sands. But $I$ would classify the Wolfcamp a shale differently.

MS. THOMPSON: Different. Okay. And so I guess when a well is placed within these different formations, they would act very similar according to, I guess, fracking properties or --

THE WITNESS: I'm sorry. What was the question?

THE HEARING EXAMINER: I think you're freezing, Ms. Thompson, if you can hear us?

MS. THOMPSON: Yes, I can hear you. Can you hear me?

THE HEARING EXAMINER: Yeah. We can
hear you now. I think you froze for the last 30 seconds. You may need to repeat.

MS. THOMPSON: Okay. I was saying that because of their similarities, that the -- actually, I'm going to go ahead and actually just drop that question altogether.

In your statement, I believe it was paragraph 12 if I'm correct, you said that there was a vertical distance of 100 feet; that's correct?

THE WITNESS: Sorry. Trying to find it.

There's 100-foot separation between Pride's landing and Cimarex's landing.

MS. THOMPSON: Okay. I think I might have seen it in a different section of your statement then.

What would you say would be, like, a reasonable, I guess, distance for there not to be communications between the wells or drainage out of the Bone Spring formation?

THE WITNESS: That's a really tough question because there hasn't been a whole lot of Wolfcamp and third sands co-development up here. I would say down in southern Lea County, we have 300-foot separation in many cases. So that's why we
were kind of leaning on our expertise down in south Lea to come up with the barrier up here.

MS. THOMPSON: Is that why the proposed new location is another 200 feet below where the Go State Com was proposed as I see on your Exhibit B-7?

THE WITNESS: Yes. That's correct.
MS. THOMPSON: You talked a little bit about frack baffles. I also see the new proposed location is near a lower frack baffle. You don't think that this new proposed location would cause an issue for Pride energy?

THE WITNESS: I don't think so because, again, from the data I've seen, hydraulic fractures and drainage tend to be biased upward. And we also see in the case of our lower second Bone Spring sand and Avalon landings, there are many other instances in the Bone Spring where we do land right on top of a frack barrier, and we don't see it hurting us at all.

MS. THOMPSON: Let's see. I'm sorry. I'm trying to find one other question that $I$ thought I had.

You answered all my questions. Thank you very much.

THE HEARING EXAMINER: Ms. Thompson, if you come up with another one while we turn it over to

Mr. McClure, feel free to jump back in. Mr. McClure?
MR. MCCLURE: Thank you, Mr. Harwood. Mr. Savage, just to confirm, your next witness will discuss the nature of the proposed fracturing; correct?

MR. SAVAGE: I believe that he will. Thank you.

MR. MCCLURE: Okay. Yep. And then just additional clarification, in any potential closing arguments, it would be your intention to go into greater detail regarding definition of production, citation of the stuff from the OCD statute, whatnot; correct?

MR. SAVAGE: I would like in the closing to point out the importance of that. I will leave out weaponization; I think that was a little bit over the top. But you know, when emotions begin to run a little bit, things come out like that; right?

MR. MCCLURE: I was just confirming because $I$ know in Ms. Mueller's original testimony, there might have been some mention to that. But I don't know if she's the appropriate witness for me to ask about that. So I'm just confirming. Go ahead.

MR. SAVAGE: I believe Ms. Mueller
could -- she has been involved in discussions, and I
believe those terms address probably closely more than anything else having to reconcile the geological sciences with the regulatory scheme. I think she could speak to how those terms are used in geology and how they have to be translated into a regulatory scheme. I think that's really important and needs to be precisely defined.

You know, when you talk about preventing waste, what actually does that mean in what's going on under the ground. You know, when you talk about correlative rights -- there's dynamics going on under the ground that have terminology, and we really need to understand what that
means -- virtual connectivity interruption -- discuss that. I think she'd be open for questions. MR. MCCLURE: Okay. Thank you, Mr. Savage.

Ms. Mueller, I guess on that topic, are you aware of precedent set by the OCC as to the definition of production, and what is expected I guess as far as in situations like this?

THE WITNESS: No, I am not.
MR. MCCLURE: Okay. Thank you. We'll
probably leave that to you, Mr. Savage.
MR. SAVAGE: All right. That's fair
enough. Thank you.
MR. MCCLURE: Okay. Quick questions for you, Ms. Mueller. To your understanding, is there any disagreement between Cimarex and Pride in regards to where the top of the Wolfcamp is actually occurring in this area?

THE WITNESS: No. I think we agree.
MR. MCCLURE: Okay. Earlier, Pride had testified that they believe ethe permeability in the upper sands at the top of the Wolfcamp was likely just a -- of magnitude around about in the millidarcy range; would you agree with that assessment?

THE WITNESS: Yes, I would. Up here in the more proximal part of the basin, that's correct.

MR. MCCLURE: Okay. Thank you. It was part of your testimony that if Pride were to drill their wells, it would hurt the ultimate recovery from let's just say the combined reservoir, including both formations. Was that assessment based upon Cimarex not drilling their wells and only being produced by Pride's wells?

Do you want me to ask again, or?
THE WITNESS: Yeah.
MR. MCCLURE: Okay. Just to lay out the speculation. Okay.

If Pride were to drill their wells, would Cimarex also drill their wells if both operators were given the authority to do so?

THE WITNESS: No, we would not.
MR. MCCLURE: Okay. And is that the basis for your earlier testimony that Pride drilling their wells would lead to a loss or less recovery from the reservoir?

THE WITNESS: Yes. That's correct.
MR. MCCLURE: Okay. Thank you. I was speculating that's kind of where we were going. And it might have been in your written testimony, but I just wanted to confirm.

Actually, $I$ think that might be all the questions $I$ have for you, Ms. Mueller. Thank you, Ms. Mueller.

Thank you, Mr. Savage.
And thank you, Mr. Harwood.
THE HEARING EXAMINER: Thank you, Mr. McClure.

I have a couple of questions for Ms. Mueller, if I may.

Ms. Mueller, the term drainage has been used by various folks during your examination and cross-examination. As a layperson, when $I$ hear the
word "drainage," I think of gravity as playing a role in that process. Does gravity play a role in the process when it comes to oil and gas extraction?

THE WITNESS: I would say reservoir pressure plays more of a role than just gravity.

THE HEARING EXAMINER: Okay.
Hypothetically, if someone drills down into the upper part of this Wolfcamp formation, and then, you know, exposes fractures in that area, does gravity play a role in the concept of drainage under those circumstances?

In other words, does gravity play a role in which way a reservoir will flow?

THE WITNESS: It's probably more of a question for Mark.

But I can say that as you get deeper and deeper, the pressure gets higher and higher. And so fractures will tend towards lower pressure in formations above you.

THE HEARING EXAMINER: Okay. All
right. So pressure plays a much greater role at those depths than mere gravity?

THE WITNESS: Correct.
THE HEARING EXAMINER: I'm not asking you for a regulatory definition in my last question, I
promise.
From a geologist perspective, can you explain to us your understanding of the difference between "producing" and "incidental capture" or "drainage"?

THE WITNESS: I'm not sure what the current definition of "producing" is to the OCC; however, it sounds like it's more of -- it's about the intention. "Producing," to me, sounds like you're intentionally targeting a certain reservoir, whereas "incidentally capturing" means that you don't have a frack baffle between where you were landing a well versus the offset formation that probably has hydrocarbon in it.

THE HEARING EXAMINER: Okay. And that's exactly where we are in this case; is it not?

THE WITNESS: Correct.
THE HEARING EXAMINER: All right. Anything further from you, Mr. Savage, with respect to questions I asked or those Mr. McClure or Ms. Thompson asked?

MR. SAVAGE: No, Mr. Harwood. I think that these are very important topics and terms to discuss. And I appreciate the discussion.

THE HEARING EXAMINER: Thank you.

Mr. Bruce, anything further from you?
MR. BRUCE: No. As I suggested before,
I may bring back Mr. Broughton for two or three minutes of testimony regarding geological statements, but I have nothing further of Ms. Mueller. And we'll let her go free.

MR. SAVAGE: And Mr. Harwood, I too would like to reserve the right for rebuttal witnesses from my witnesses if that would be okay.

THE HEARING EXAMINER: Okay, then.
Ms. Mueller, you stand by if you would for the remainder of this.

And Mr. Savage -- well, let's see. It's three o'clock. Why don't we take a ten-minute break, and then we'll continue with your last witness; okay?

MR. SAVAGE: Sounds good. Thank you.
THE HEARING EXAMINER: All right.
Let's come back at ten after three.
(Off the record.)
THE REPORTER: We are now back on the record.

THE HEARING EXAMINER: Thank you.
Mr. Savage, take it away. Bring on
your next witness.


THE HEARING EXAMINER: Any objection,

Mr. Bruce?
MR. BRUCE: Absolutely not.
THE HEARING EXAMINER: All right. It will be so recognized.

MR. SAVAGE: Thank you.
BY MR. SAVAGE:
Q Mr. McCoy, do you acknowledge your written statement as here in Exhibit $C$, is that correct?
(Case 22853 Exhibit $C$ was marked for identification.)

A Yes.
Q And you acknowledge your statement as being accurate and truthful to the best of your knowledge?

A Yes.
Q In your testimony, you talked in your statement about third Bone Spring sand or third Bone Spring being the primary target in the substantial area, I believe, surrounding the subject lands; is that correct?

A Yes.
Q Can you explain to the Division about the significance of the third Bone Spring in this area?

A Sure. In the area near the subject lands, I would describe the third Bone Spring as the most productive and most consistent formation. Because of
this, it's been drilled the highest number of times because it has the best economics. And I think both our company and Pride Energy have recognized the potential of this formation by drilling wells in this formation.

Q Thank you. And I would like to bring up the possible distinction. You remember that the expert witness for geology for Pride energy said that previously this used to be all the third Bone Spring, but now the Wolfcamp is starting to show up as a potential unit; do you remember that?

A Yes, I do.
Q Can you describe or speak to what contribution and maybe what potential future contribution, if any, that the Wolfcamp really has a chance of making it in this area?

A I think it has a very limited potential in this area. Especially in areas that the third Bone Spring has already been drilled.

Q And the subject plans is one of those areas with the third Bone Spring, it's already been drilled; correct?

A Correct.
Q Okay. And you have six exhibits, C-1 through C-6. I'd like you to go through each one and
explain it's relevance to these cases. Mr. Bruce happened to reference $I$ believe your first exhibit, C-1. It looks like it's very telling. Could you describe what the significance is?
(Case 22853 Exhibit C-1 through Exhibit C-6 were marked for identification.)

A Sure. So Exhibit C-1 is just a visual demonstration showing that the third Bone Spring has been drilled many times. In contrast, the Wolfcamp has been tested, in fact, by our own company. But it's not very successful. And therefore, the drilling of this formation has not been repeated to nearly the same extent that the third Bone Spring has.

Q And can you describe the -- between the subject land and what, to me, looks like the only viable Wolfcamp test or producing units; is that correct?

A Yes. The nearest Wolfcamp well to the subject lands is about 2 or 3 miles away.

Q Okay. Exhibit $C-2$, you have a graph. Can you describe it's significance?

A Yes. The purpose of this slide is -- this exhibit is just to highlight that we've tested the third Bone Spring and the Wolfcamp in the same section.

And, in fact, we pumped a much more comprehensive modern frack on the Wolfcamp well five times larger than that than we executed on the third Bone Spring, and we still achieved worse results in the Wolfcamp.

> So this just proves that Bone Spring production outpaces the productivity of the Wolfcamp by a vast amount, proving that the majority of their reserves lie in the third sand, and also the best flow properties are in the third sand.

Q And that's clearly illustrated by the nature of that graph; correct?

A Correct.
Q Okay. Exhibit C-3, it provides the even more complicated-looking spaghetti-type graph; can you describe it's meaning?

A Sure. So Exhibit C-3 is supposed to drive home the same point that Exhibit $C-2$ pointed out; however, the difference is that in Exhibit C-2, that was just a test that our own company performed. In Exhibit C-3, it shows what other operators have been doing, and it proves that it's the same conclusion that we came to after our test.

So all of the blue lines show Bone Spring -third Bone Spring production, whereas the orange/brown
lines show Wolfcamp production. So near the subject lands, in general, the third Bone Spring is anywhere from two times to five times more productive than the Wolfcamp. In fact, some of these third Bone Spring wells are some of the very best wells on a cumulative oil per foot basis in the entire county.

Q That orange line at the very bottom, that's described as Airstrip, Mr. Bruce mentioned -- I think I'm getting the term confused, but that was Airport. This is Airstrip. That does not coincide --

A I don't believe that there are any wells named the Airport in this area.

Q Okay. Just wanted to make sure. Exhibit $C-4$, can you explain that?

A So I've already established with Exhibit C-2 and C-3 that the third Bone Spring is the better target; however, Exhibit $C-4$ shows why this is an issue to Cimarex.

So it's not just you can drill the Wolfcamp and get a poorer well result and then drill the third Bone Spring and get a strong well result. If you drill both of these wells at the same time in the same section, they're going to be competing for the third Bone Spring reserves.

> And this Exhibit C-4 references a public
study called Hydraulic Fracturing Test Site 2, which we called HFTS2 for short. This is in northern Loving County in the Delaware basin. And the findings of this study show that hydraulic fractures from the Wolfcamp grow primarily up.

And it also shows that pressure gauges in the third Bone Spring sand observed a drawdown of 4,000 PSI after one year from the Wolfcamp wells below. So there were no wells in the third Bone Spring, only in thew Wolfcamp. And there was a significant drawdown observed in the third Bone Spring.

And so this is really concerning for us because the Wolfcamp $Y$ sand target at HFTS2 is actually further away from the third Bone Spring than Pride's proposed landing. So we're expecting to see a similar to greater relative of depletion in the third Bone Spring as was observed in this HFTS2 study.

Q Okay. So if I understand this, so Mr. Bruce pointed out, well, you know, isn't Cimarex's third Bone Spring wellbore about the same distance or closer -- I think Ms. Mueller said the same distance -- than the Pride energy's Go State wellbore.

But you're pointing out that because of the nature of the reservoir and developing it at the same
time, that even though it may be similar, they have serious consequences or different consequences; is that correct or did I misunderstand that?

A No. That's correct.
Q Okay. Let's see here. Let's go into Exhibit C-5.

A So Exhibit C-5 is our proposed plan to protect correlative rights. We understand that Wolfcamp owners have a right to develop their minerals. And it's not fair for us to just tell Pride, "No, you can't drill your Wolfcamp well because we think a large amount of production comes from the third Bone Spring," because there is still production in oil contained within the Wolfcamp.

And so our compromise would be for Pride to lower their landing zone in order to decrease the magnitude of drainage from the Wolfcamp to the third Bone Spring.

Q And if $I$ understand this right, with a completion engineer, they could design the fracks to Pride Energy and the working interest owners and the Wolfcamp would receive the benefit of the formation?

A It's -- yes. I believe that you could land the Wolfcamp well lower where Cimarex is proposing Pride land their well and frack the well such that you
will fracture into the Wolfcamp sands.
Q Okay. And you see this as a viable solution to this particular contested cases?

A Yes. I think this is a viable solution. I am still hesitant to drill a Wolfcamp test well. I'm uncertain of what the results will be. And I'm still uncertain what the impact will be on the third Bone Spring.

That is why we've also proposed that Pride should test the Wolfcamp below their existing third Bone Spring wells. That way, they are proving that they think that these are really two separate reservoirs that they'll say we'll drill under our well because we believe that it's not going to have an impact or it will have a very small impact. And then go test it where they don't own the Bone Spring second.

Q Okay. And they can do this in the subject lands right now with the wells that they have and still not negatively impact the proposed unit?

A That's correct.
Q Okay. The last exhibit, Exhibit C-6, you have a long list of wells. Looks like most of them are third Bone Spring; is that correct?

A Correct. And that list of wells is just
listing out all the wells that I've referenced in Exhibits $\mathrm{C}-1, \mathrm{C}-2$, and $\mathrm{C}-3$.

Q And am I correct, all your calculations are based on data from this set of wells?

A Correct. And I will mention the two wells that are not mentioned in that list in Exhibit $C-6$ are Pride's own third Bone Spring wells. We believe those have been producing since October of 2021; however, there hasn't been any $C-115$ production reported to the OCD, so we haven't been able to analyze the results of those wells.

Q Okay. And as I remember, Pride Energy also has an issue with not having production data available; is that correct?

A Yes. That was Pride who $I$ was referring to.
Q Oh. That's what you were referring to. Okay.

A Correct.
Q All right. Let's see here. If the Wolfcamp is drilled from an engineering perspective, the upper Wolfcamp, could that potentially permanently damage the reservoir?

A Yes, and I believe that permeant damaging would be decreasing the amount of reserves that could be recovered from the third Bone Spring.

Q And you agree with Ms. Mueller that Cimarex would not -- Bone Spring if somebody drills in -correct?

A Correct. And the reason for that would be economic viability. It's difficult to make money if there's someone else who is draining your reserves.

Q And it would be your opinion that no prudent operator would drill the third Bone Spring also?

A Correct.
Q And therefore, that is where you get into the issue of waste and the violation of correlative rights; correct?

A That's correct because we are not confident that a well landed in the top of the Wolfcamp can efficiently drain all of the reserves that a well landed in the third Bone Spring could drain.

Q Okay. Can you speak to Mr. Harwood's question about gravity and pressure and how those come into play as a product is developed or produced?

A Sure. I think the Hydraulic Fracture Test Site 2 study that I referenced; it proves what we can intuitively think about how fractures will propagate.

So as you go deeper into the ground, your pressure will increase. So if you were fracturing the formation, fractures are going to grow towards the
lowest pressure area, and the lowest pressure area tends to be above your wellbore rather than below, which is why it's easier to have efficient drainage from landing low in a reservoir rather than landing at the top of a reservoir.

Q And that's why Pride Energy's location is the serious threat over to the reservoir over your planning --

A That's correct.
Q Mr. McCoy, is there anything else you would like to highlight or emphasize to help the examiners understand the nature of this case?

A I don't think so.
MR. SAVAGE: Mr. Examiner, I would like to admit for the record Engineering Exhibit $C$, and also Exhibit C1 through C6.

THE HEARING EXAMINER: Any objection,
Mr. Bruce?
MR. BRUCE: No, sir.
THE HEARING EXAMINER: All right.
Those six exhibits are admitted.
Mr. Bruce, cross examination for
Mr. McCoy?
(Case 22853 Exhibit $C$ through Exhibit C-6 were received into evidence.)

MR. BRUCE: Yeah. A few questions. CROSS-EXAMINATION

BY MR. BRUCE:
Q Mr. McCoy, when we talk about fractures, regardless of the zone, you're basically saying fractures primarily grow up; do they not?

A Correct.
Q Can they also grow down?
A I think that that is possible, yes.
Q Looking at your Exhibit $C-4$, it appears that the Wolfcamp depth severance, which you outline in red, Cimarex target is within 50 feet of that line and the Pride completion is within 100 feet of that. So they're further away from the Wolfcamp depth severance than Cimarex; is that correct according to your exhibits?

A Yes. That's correct.
Q And you know, you're asking Pride to move its starting zone about a couple hundred feet, I forget what the exact is, but that's roughly what it is. Why can't you move the third Bone Spring up a couple hundred feet?

A I think that's a good question. We could raise our landing zone; however, that is not our preferred landing.

The reason would be there are over 200 wells in the nearby area in the third Bone Spring that are landed very similarly to our proposed target. Some of the very best wells in the county are landed similarly to how we are proposing to land our well.

So we think that it is at an unnecessary risk to change something that is working very well.

Q Well, and I understand completely what you're saying. But doesn't Pride also have the authority to determine what is best for producing its reservoir, where it's going to land the zone?

A I'm sorry. Could you repeat the question?
Q You say yes, you could complete your third Bone Spring sand upwards, but in Cimarex's judgement, it's best to complete it lower in your preferred zone. Well, doesn't Pride have the same right to complete its well in its preferred zone?

A Because of the demonstrated tendency of hydraulic fractures to grow upwards in addition to the large amount of prudent reserves and strong flow properties in the third Bone Spring, I believe that Pride's proposed target is infringing upon Cimarex's correlative rights to develop in the third Bone Spring.

Q Well, that seems to be a -- Cimarex's
testimony.
Going to your Exhibit C-6, as I commented before, what period of time were all of these third Bone Spring sand wells completed?

A In this area, third Bone Spring wells have been drilled for over the past ten years, or maybe a little bit beyond that.

Q Okay. What about the Wolfcamp wells?
A The earliest record that $I$ have a Wolfcamp well being drilled in this area is around 2013. So it's a similar time frame.

Q Have Wolfcamp wells become more common, say, in the last few years?

A More common than?
Q Well, I mean, could you redo this exhibit to show the completion dates of each of these wells?

A Sure. I could do that.
Q See, to get an idea, you know, you say the same time frame, but based on my geologist's testimony, there are a number of recently completed Wolfcamp wells. And so it appears that more recently, the Wolfcamp is becoming a bigger quality target. And that's why I would like to see when these wells were completed. Just year. I don't need month, day, year. But it would be nice to see. And if you don't want to
do it, I'd have to ask the hearing examiner, I don't know if I'm so inclined. And he may not want to do it anyway. But it would be nice to see the progress of third Bone Spring completion versus Wolfcamp; don't you think?

A I reviewed that data. It's all publicly available.

Q Well, it's not in the record here. It'd be awfully nice to see that data and compare it. But when $I$ have clients do this, $I$ generally have them put -- so the differences, et cetera.

THE HEARING EXAMINER: We're getting little far off field here. Let's try and keep it to the questions. All right.

MR. BRUCE: I was just going to close that.

THE HEARING EXAMINER: Okay.
BY MR. BRUCE:
Q And whatever the types of wells here, they're all horizontal wells; isn't true, Mr. McCoy?

A All the wells included and listed; is that what you're asking?

Q Yeah.
A That's correct.
MR. BRUCE: Okay. Mr. Examiner, I
think that's all $I$ have for this witness.
THE HEARING EXAMINER: Thank you,
Mr. Bruce. Thank you.
MR. Savage, redirect?
MR. SAVAGE: Mr. Harwood, I think that
Mr. McCoy has thoroughly explained our engineering data and exhibits. And so I don't have any further questions for him.

THE HEARING EXAMINER: Thank you,
Mr. Savage.
So Mr. McClure, you lead off this time,
if you will.
MR. MCCLURE: Thank you, Mr. Harwood. Mr. McCoy, in regard to making a determination of the extent of the fractures, based upon your earlier testimony, your determinations were essentially based upon the referenced study that you cited earlier; correct?

THE WITNESS: Yes. I think that reference study is a really good quantitative assessment of what we already intuitively believe about the direction of the growth of hydraulic fractures.

MR. MCCLURE: And I guess how similar is the reservoir at the location where this study was

difficult to achieve something like that. It's not something that I've seen done, and it's difficult to measure the success of something like that.

MR. MCCLURE: When it comes to
fractures, yeah. I mean, it's all simulations and you actually go in and conduct micro seismic results.

In the study that you referenced, is
that what they did was conduct microseismical results in order to determine the extent of the fractures, or is it just production history?

THE WITNESS: The draw down observed by the pressure gauge in the third Bone Spring was the primary way that we determined that fractures had grown up and then led to subsequent drainage of the third Bone Spring.

MR. MCCLURE: So then the vertical extent of the fractures were not determined; it was simply a demonstration that the third Bone Spring was being drained?

THE WITNESS: I'm not aware if they did or did not measure the vertical extent of the fractures.

MR. MCCLURE: I guess your conclusion that you testified to though, is that based then upon the drop in pressure in the third Bone Spring?

THE WITNESS: Yes, it is.
MR. MCCLURE: But you don't know what the extent of the hydraulic fracture was?

THE WITNESS: I do not know the exact extent, no.

MR. MCCLURE: Would it be safe then to say that we don't know how much of that was -- not to get too much into the phrases, but incidental drainage versus direct drainage $I$ guess from the hydraulic fracture?

THE WITNESS: I believe the gauge was actually recording while the hydraulic fracturing was taking place. And if my memory is correct, the gauge saw large spikes in pressures, which would be indicative of hydraulic fractures in that zone.

MR. MCCLURE: Okay. So it wasn't a draw down in pressure; it was based upon while the fracture was occurring, they determined there was a frack hit how wherever this pressure gauge was?

THE WITNESS: Yes. That would be an initial determination of maybe a fracture growing into the zone. But that wouldn't determine whether that facture contributed to the flow of the wellbore or not. But what is indicative of oil flowing from the third Bone Spring to the Wolfcamp is the large
drawdown in pressure. For reference, 4,000 PSI after one year is nearly half of the reservoir pressure.

MR. MCCLURE: Okay. Let me confirm, I guess. Your conclusion is perhaps primarily based upon the drawdown. But you believe that the fracture may have got into the Bone Spring three because of the pressure spike during fracture operations; is that correct?

THE WITNESS: That's correct.
MR. MCCLURE: And further, you're testifying that pride's proposed completion is very similar to the ones conducted in that study?

THE WITNESS: Yes.
MR. MCCLURE: In regard to the propagation of a fracture, do you agree that the rock properties also play a significant role in how that fracture is going to propagate?

THE WITNESS: Certainly.
MR. MCCLURE: Okay. The poor pressure only being a part of the story; correct?

THE WITNESS: Correct.
MR. MCCLURE: So would it be accurate then to state that perhaps the conclusion that the fracture mostly travels upwards is based upon the study that you're referencing rather than merely a
general consensus that a fracture will tend to go more upward than downward; is that correct?

THE WITNESS: I'm sorry. Could you please repeat the question?

MR. MCCLURE: Okay. Your conclusion that the fracture is going to propagate upwards more than it does downwards, is that based upon the results from that study, or is that taken from the general generality that a fracture may propagate upward more generally than downward?

THE WITNESS: I would say that that's based on the study. We don't have a study that shows the opposite. But we do have a study that shows fracks grow primarily upwards.

MR. MCCLURE: Well to that certain greater degree depending on the rock properties, I would I agree, I guess, with your assessment.

I guess with the conception [sic] that Pride intends for their fracture to not extend into the Bone Spring three, would that make a difference on Cimarex's intention to drill the wells in the Bone Spring?

THE WITNESS: You're saying if Pride intends not to fracture the third Bone Spring, does that impact whether or not we would like to drill our
third Bone Spring well?
MR. MCCLURE: Yes. That's absolutely correct. That is what I'm asking.

THE WITNESS: I have low confidence in the ability of any operator to have a very controlled hydraulic fracture network. So my answer would be we would drill the well if we believe that it's going to be a strong economic result.

MR. MCCLURE: I guess just to ask another question in relation to your last response, I guess is it accurate to say that perhaps where your concern is, is that you don't believe that Pride will be able to limit their fracture to only the upper Wolfcamp?

THE WITNESS: If they land where they're currently proposing to land, I believe that they will have no ability to control whether or not the fracture goes into the third Bone Spring.

MR. MCCLURE: And I don't want to put words in their mouth, but based upon Pride's earlier testimony, it had sounded like they had intended to consider lowering their target in order to not fracture into the Bone Spring. If that is correct with that consideration, do you still believe that they would be incapable of not fracturing into the

Bone Spring?
THE WITNESS: If they decrease the depth of their well as we're proposing, I think the increased buffer will decrease the likelihood of they -- their wellbore draining reserves from the third Bone Spring.

MR. MCCLURE: Thank you, Mr. McCoy. I have no other questions.

Thank you, Mr. Savage.
Thank you, Mr. Harwood.
THE HEARING EXAMINER: Thank you,
Mr. McClure. Before $I$ turn it over to you,
Ms. Thompson, let me ask a couple follow up questions so I don't forget them.

Mr. McCoy, my understanding from your testimony is that fractures tend to propagate from high to low repressure?

THE WITNESS: That's correct.
THE HEARING EXAMINER: In this case, the high pressure is underneath the Bone Spring formation, and the lower pressure is in the Bone Spring formation?

THE WITNESS: As you decrease in depth, your pressure increases.

THE HEARING EXAMINER: Okay. All
right. So that's the basis then for your belief that the fractures below the Bone Spring formation would propagate upwards?

THE WITNESS: That is correct. That in addition the HFTS2 study.

THE HEARING EXAMINER: And that study, has that been made available to OCD for review?

THE WITNESS: We can certainly provide that to you.

THE HEARING EXAMINER: Mr. Savage, can you provide that study?

MR. SAVAGE: I will. I'll get a copy of that -- or did you want me to email it to you?

THE HEARING EXAMINER: No. Make it available to Mr. McClure and Ms. Thompson.

MR. SAVAGE: Okay. I will do that.
THE HEARING EXAMINER: And of course, Mr. Bruce.

MR. SAVAGE: Yes.
THE HEARING EXAMINER: Mr. McCoy, my last question. The study that you referenced, there's been testimony that there is no geologic barrier between Wolfcamp and the Bone Spring lower formation. Was the study conducted in a similar geologic formation where there's no barrier between the two
formations?
THE WITNESS: To the best of my
knowledge, it was.
THE HEARING EXAMINER: Okay. All
right. Ms. Thompson?
MS. THOMPSON: Hi. Yeah.
Hello, Mr. McCoy. I'm kicking back off of Mr. McClure and Mr. Harwood.

By having Pride move their zone down 200 feet as you suggested, would that put them outside of the reservoir?

THE WITNESS: Outside of the Wolfcamp reservoir?

MS. THOMPSON: The suggested reservoir that is shared between both the Wolfcamp and the Bone Spring formations?

THE WITNESS: It would decrease the overlap I think a significant amount.

MS. THOMPSON: But the study showing that in general, I guess, hydraulic fractures propagate upwards by them also lowering their pay zone, would they not be able to utilize the full extent of their hydraulic fracture to, I guess, produce from that 33 percent of the Wolfcamp?

THE WITNESS: I do not believe that
lowering the landing zone will impair Pride's ability to drain their Wolfcamp minerals.

MS. THOMPSON: Now -- the study --
found that because it propagates upwards based off of pressure, what's the extent with the -- pressure for Cimarex to be pooling form Wolfcamp formation with its proximity to the top of the Wolfcamp?

THE WITNESS: Are you asking how -- to what degree will the Bone Spring well deplete the pressure of the Wolfcamp?

MS. THOMPSON: Yeah.
THE WITNESS: I don't have any data on that, and so I'm not able to speak to that.

MS. THOMPSON: During that study that you were talking about, the HFTS2, was the well already in place in the Bone Spring formation before they had drilled the Wolfcamp well and that's when they noticed that the pressure dropped?

THE WITNESS: The -- there is no horizontal well that is producing reserves from the third Bone Spring in that study. That is simply a test where they place a gauge to simply observe the third Bone Spring. So yeah. All the wells were in the Wolfcamp for that study.

MS. THOMPSON: Wolfcamp. Okay. so
they haven't done a similar test or gauges in the Wolfcamp and checked against the Bone Spring formation; right?

THE WITNESS: Not that I'm aware of, no.

MS. THOMPSON: I think that is all my questions for the moment, so.

THE HEARING EXAMINER: Mr. Savage, questions based on questions from Mr. McClure, myself, and Ms. Thompson??

MR. SAVAGE: I don't believe so. I would like to reserve Mr. McCoy as a rebuttal witness if needed.

THE HEARING EXAMINER: Okay. All
right. How about you, Mr. Bruce? Any further questions based on the questions from myself, Mr. McClure, or Ms. Thompson?

MR. BRUCE: Yeah. Just very briefly.
RECROSS EXAMINATION
BY MR. BRUCE:
Q Mr. McCoy, you said and excuse me if I'm paraphrasing you, but you have no confidence in any operator to have a controlled fracture; is that a fair statement?

A I was referring to controlling the upward
high growth of hydraulic fractures. So in reference to the upward high growth of hydraulic fractures, that statement holds true.

Q But it doesn't apply to downward fractures?
A Correct. That is not what I was referencing.

Q But you're not denying that that may occur?
A I believe that hydraulic fractures tend to grow upwards.

Q Tend to?
A They can grow in any direction.
MR. BRUCE: They can grow in any
direction. Okay. Thank you, Mr. McCoy.
THE HEARING EXAMINER: Okay. Thank you, Mr. Bruce.

Mr. Savage, is that the end of your presentation?

MR. SAVAGE: I believe so, Mr. Harwood.
THE HEARING EXAMINER: At least for now. I understand you reserve the right for rebuttal. So we'll have to see if Mr. Bruce plans to recall his geologist.

Mr. Bruce, did you want to recall
Mr. Broughton?

> MR. BRUCE: Sorry. I was on mute.

Yes, sir. I do for just a few questions.
THE HEARING EXAMINER: Okay. You open him up to cross examination by everybody. You all both understand rebuttal witnesses, you know, have to run the gauntlet again. So let's keep it brief if we could.

MR. SAVAGE: Perfect.
MR. BRUCE: I understand.
REDIRECT EXAMINATION
BY MR. BRUCE:
Q Mr. Broughton, are you there please?
A I am. Yes, sir.
Q Okay. First question, you seen the geologist's testimony and their slide -- exhibit slide on phi-h. Is the phi-h the only factor in the producibility of the formation?

A Phi-h is a really good kind of a high-level overview of the geology in the area. And it's really reflecting kind of the storativity or what's available -- what the poor space allows for -- for fluids to exist and the $S-O$ part of it refers to, you know, quantifies the oil part.

But typically, in the producing side of it, you know, that's all about what's in play. So that's kind of a static measurement of what's in place. But,
you know, there's other factors that -- that contribute towards what actually comes out of -- out of the rock. You know, reservoir pressure, permeability are kind of two primary ones. Presence or lack of any natural fracturing that may exist.

And then offset production, the parent-child relationship is kind of what I'm talking about there where, you know, the ability to properly stimulate the formation based on the fact that the pressure might be reduced due to depletion over an interval.

So, you know, S-O phi-h and I -- I saw the slide, I agree with it. It does show that there's -there's considerably more $S-O$ phi-h in the third Bone Spring than in the Wolfcamp, but I'm not certain that I would agree that that's the main driving factor.

And I'll reference the Mewbourne wells that I've pointed to down in Section 19 -- I mean, I'm sorry 20 and 29 of 1935 that have really, really high production rates. And they're landed basically in the same spot as the -- as the proposed Pride well. So roughly 100 -- kind of at the base of that upper Wolfcamp sand package.

And those are pretty -- pretty stellar wells. I don't know where they rate in New Mexico as far as production rates, but they look pretty good to
me. So you know, just two miles to the east of our subject lands.

Q Okay. And how many upper Wolfcamp wells are there in this area around the Mewbourne wells?

A Well, of two-mile wells that are kind of similar to what Pride is proposing, there's 11 of them there. And there's a drill by Mewbourne and a company called Katana.

Q On some of them, is there much production data yet?

A Some of them are very new. Some of those Katana wells are just, you know, a few months into production. So those are extremely new, so I didn't -- I picked a couple of good Mewbourne wells really to demonstrate the potential. So I picked the, you know, probably the best two, I guess.

Q And then $I$ think before you said there could be communication between the zones, but you know, that depends on a number of factors; doesn't it? Completions, the fracking. And at this point, Wolfcamp development is new and you're 2 miles underground, there's some uncertainty, is there?

A Well, yeah. There's uncertainty with everything. Yeah. I mean, the Bone Spring has been extensively developed across this entire area, but
that doesn't mean that the Wolfcamp won't be at some point also.

So I -- I just think time will tell. You know, there's 12 -- or 11 wells right here. Maybe that moves to the east, maybe it moves to the west or north and south. I mean, we don't -- we don't know yet.

But you know, the log data that we have in that area, which at those depths is -- is somewhat sparse, suggests that, you know, the upper Wolfcamp is certainly a potential producer. So you know, I mean, somebody needs to get in there and test it, and they will, so.

Q Okay. One other question. If the parties agree that -- I would guess they're generally in agreement the fracks tend to grow up more than down. Wouldn't it be more efficient to drill the deeper landing zone and take advantage of the upward growth rather than relying on the downward growth from the third Bone Spring well?

A Well, yeah. I mean, except for the ownership and depth severance issue. I mean, if all you were considering was -- was just geology and reservoir, it might be -- you know, since -- since we all believe, and I think that's kind of the industry
convention that all over things being equal, fracks will tend to grow more up than down.

It might be more efficient to drill the deeper well and let it naturally follow its path upward rather than drilling a -- an upper well in the hopes that it might grow down enough to -- to successfully drain the Wolfcamp.

So but -- but that doesn't take int consideration depth severances ownership differences, and all that, so.

Q Okay. And then two final questions.
If the lower Wolfcamp, which Cimarex wants Pride to land it's well in has lower quality, could that impair a proper frack of Pride's well?

A Well, it could. And that's -- that's why my suggestion earlier was that we would need to get a completion engineer involved in that. You know, I couldn't say how far down below the current proposed landing depth would be safe to drill and exploit the well without being detrimental to it. So that, you know, I hate to be evasive on that, but it -- it would be difficult for me to say that.

Q Okay. And then finally, you sat through this, and you heard Mr. Savage's and my argument about capture of reserves. And I don't want to get into
that argument again, but if one well incidentally captures reserves from another well, that's not a capture and release program; is it? I mean, they all go to that well that captured it; correct?

A Yeah. From a regulatory standpoint, I would say yes -- yes, I -- I guess. I mean, whatever comes out of what wellbore is going to get assigned to the, you know, the production.

Q Yeah. One particular wellbore, not both of them.

A Right. Well, unless there was some other agreement in place. I -- I don't ...

MR. BRUCE: Correct. Okay. Well, thank you very much.

That's all the questions I have, Mr. Examiner.

THE WITNESS: Okay.
THE HEARING EXAMINER: Thank you,
Mr. Bruce. Mr. Savage?
MR. SAVAGE: Yes. Thank you.
Just a couple of questions here.
RECROSS-EXAMINATION
BY MR. SAVAGE:
Q You keep referencing the need to test the Wolfcamp. I think we're kind of covered this.

A All right.
Q Mr. McCoy said in his testimony, and I think he backs it up by data in the exhibits. There's a risk to test -- if you drill in this undeveloped unit, and you test the Wolfcamp, there could be very negative consequences that would result of that test; is that possible?

A Well, negative results for who? I mean, they may be positive results for -- for Pride.

Q Negative results to the reservoir, to the possible damage undermining the reservoir.

A I -- I don't see that. I mean, I don't -- I don't know how you're defining damage, but $I$-- I assume you mean penetration of the frack into the lower wolf -- lower part of the third Bone Spring sand and -- and doing some depletion there. I mean, I don't know if I'd call that -- virtual connectivity interruption -- for Cimarex it would be a negative consequence, for Pride and those -- and the Wolfcamp owners, it might be a positive circumstance.

Q To avoid any possible negative consequence that --

A Well, then you don't drill any well.
Q Well, as you pointed out previously, you said that it's possible to test an existing Bone

Spring well that Pride has. You can test the Wolfcamp without that concern; is that correct?

A Well, I mean, from a geology standpoint, that may be true. That might bring up other implications that I'm not aware of. So I can't just answer yes to that.

Q -- other implications that we could rely on not to answer a question; is that correct?

A Say that again please, sir?
Q Do you always think of other implications to not answer a question; is that correct?

A Well, the other implications I'm talking about is other ownership and the other lands that I'm not familiar with. And there may be other issues that that brings up that $I$ just can't anticipate. Is it possible from a geologist standpoint, it probably is, yes.

Q You say you agree with Ms. Mueller's graphs and analysis --

A Yes.
Q You said the -- factors that could affect the interpretation. What are the other factors you are talking about?

A I'm talking -- you mean -- you mean in addition the $\mathrm{S}-\mathrm{O}$ phi-h?

Q That's correct. A condition that you might have to consider.

A Right. Well, reservoir pressure. I'm talking about natural reservoir pressure.

Permeability of the rocks, any natural fracturing that may or may not exist and how it relates from one formation to the other, if it relates.

And then any offset production, in other words, the parent-child issue. Is there any depleted interval around it where you would possibly inhibit your ability to get the -- the design frack job implemented. And there's probably more. Those are just ones that came to mind.

Q Yes. Thank you. I appreciate that. Did you look at any of those factors when you analyzed subject lands that are under consideration?

A No, I did not. Other than the fact that I -- I was extending on from the high production rates on the Mewbourne wells that there had to be good reservoir pressure and good permeability and --

Q Right. In other words --
A Another point there is that you could make the claim that those wells just fracked into the third Bone Spring. But the third Bone Spring there is half the thickness that it is up in the subject lands.

So I mean, I don't think you'd get the type of results you'd get on those -- those Mewbourne upper Wolfcamp wells if all you were producing was the -was the third Bone Spring -- or predominantly producing was the third Bone Spring. It's just that thick there.

Q You're over 2 miles away looking at the Mewbourne wells, but you weren't looking at these factors as it pertained to the subject lands under examination; correct?

A Well, I had no way to look at that in the -you know, there aren't any Wolfcamp wells there yet, so I didn't have any production data to rely on.

Q Could you have looked at the Pride energy's Bone Spring production and somehow projected what some of those factors might have been?

A Well, not from production you couldn't -you couldn't -- you could say it's good or it's not good, and if $I$ look at the production on -- on just the two, Cimarex third Bone Spring wells there, I mean, those are pretty good wells. So I would say that there's pretty good permeability and pretty good pressure in that area. But, you know, what does "pretty good" mean, so.

MR. SAVAGE: Okay. Thank you for your
time. I appreciate it.
MR. BROUGHTON: All right.
THE HEARING EXAMINER: Okay, folks. The hour is getting late, even in your neck of the woods.

So recognizing that, are there additional questions from you, Ms. Thompson, or from you, Mr. McClure, for Mr. Boughton?

MS. THOMPSON: I have no questions at this time.

MR. MCCLURE: No questions here, Mr. Harwood.

THE HEARING EXAMINER: Okay. May this witness be excused, Mr. Bruce?

MR. BRUCE: Yes, sir.
THE HEARING EXAMINER: Mr. Savage?
MR. SAVAGE: I would like to bring back Ms. Mueller just very quickly.

THE HEARING EXAMINER: Bring back who?
MR. SAVAGE: Ms. Mueller, she's the geologist witness.

THE HEARING EXAMINER: Okay. But not Mr. McCoy?

MR. SAVAGE: Well, can they do it simultaneously? They seem to complement one another.

THE HEARING EXAMINER: You know, I want to limit it to rebuttal testimony to what Mr. Broughton just said. True rebuttal testimony. We're not going to rehash anything that either one of them said before; okay?

MR. SAVAGE: Correct. Yes. You know, I could let Ms. Mueller and Mr. McCoy decide who would best respond to that. Would that be a proper request?

THE HEARING EXAMINER: Absolutely. I mean, whatever enhances the Division's understanding of the relative positions is good to go.

MR. SAVAGE: Okay. Ms. Mueller,
Mr. McCoy, you heard the geologist witness rebuttal discussing the phi-h testing of the Wolfcamp, the additional factors that need to be considered, and those Mewbourne wells. Which one of you would like to address those comments that he made?

MR. MCCOY: I can speak to production results of the Mewbourne wells, and that's all.

MR. SAVAGE: Okay. Ms. Mueller, would you like to add anything to the phi-h in regarding to the other factors?

MS. MUELLER: No. I agree that phi-h is not the only factor in regards to production. It's just one of the methods that $I$ use to quantify the
amount coming from the third Bone Spring sand versus the upper Wolfcamp.

MR. SAVAGE: Did you look at any of the
factors that he listed?
MS. MUELLER: I did look at oil
saturation. Difficult to tell about hydraulic fractures. I think pressure is obvious based on offset production. But phi-h seem to be a good driving factor.

MR. SAVAGE: Okay. Thank you.
Mr. McCoy, please give your review of the Mewbourne wells and their relevance to this case. MR. MCCOY: Yes. My -- my opinion of the Mewbourne Hartford [ph] well, if you reference my exhibit $C-3$, the place that that would fall on that plot is actually below the Vernaray [ph] Wolfcamp well after 1,000 days. And so while it may be considered a successful well result, $I$ just want to clarify that the production is not in the same scale as third Bone Spring wells in the subject lands.

MR. SAVAGE: Thank you, Mr. McCoy. that seems to put it in perspective, do you agree?

MR. MCCOY: Yes.
MR. SAVAGE: Thank you.
Mr. Harwood, we're finished with that.

THE HEARING EXAMINER: Thank you, Mr. Savage.

Mr. Bruce, any questions of these two witnesses based on their rebuttal testimony?

MR. BRUCE: No, sir.
THE HEARING EXAMINER: Okay. Mr.
McClure, Ms. Thompson, questions of these two witnesses based on their rebuttal testimony?

MR. MCCLURE: No question here, Mr. Harwood.

MS. THOMPSON: No questions here, Mr. Harwood.

THE HEARING EXAMINER: All right. So Mr. Savage, does that conclude your case?

MR. SAVAGE: It does. Thank you.
THE HEARING EXAMINER: Here's what I'm going to propose given the lateness of the hour, and I'd like you all to let me know your thoughts.

This has been a very interesting, and for me, an educational presentation from both sides. It highlights some interesting and difficult issues. And I'm thinking that rather than asking you both to provide oral closing arguments, which would be off the cuff and limited in time -- I would limit you both to no more than ten minutes -- I'm proposing that you
both submit written closing arguments summarizing your respective positions, and the issues as you see them within, say, the next ten days and maybe limited to ten pages each.

How does that sound to you, Mr. Savage?
MR. SAVAGE: That sounds like a very good suggestion. Thank you.

THE HEARING EXAMINER: It'll give you both a chance to compose your thoughts, if you need to get a transcript of the hearing record, and you know, present your arguments in a more organized fashion. Mr. Bruce, your thoughts?

MR. BRUCE: I completely agree with you and Mr. Savage.

I suppose the only thing I know I can put together a closing argument within ten days. If we don't have the transcript by then, we might want to -- Mr. Savage, you step in -- might be good to ask a few more days just so we can review the transcript.

THE HEARING EXAMINER: Well, what I'm proposing is you get it in within ten days. And if you need to make arrangements with the court reporter for an expedited transcript, that will be up to you and at your expense.

But I think time is of the essence,
especially since these cases impact other Cimarex cases. It seems to me that time is of the essence.

MR. BRUCE: That is fine with me, examiner Harwood.

And Marlene, you can probably get this to me, the email address for the court reporter so I can take care of that that way.

THE HEARING EXAMINER: I'm sure Ms. Fulton can provide that to us today.

MR. BRUCE: Thank you.
MR. SAVAGE: Mr. Harwood, if I could ask. Since the evidence was referenced from the other cases and was used in this case and they're obviously closely related, it would be appropriate for me to address the issue in the other case as well, and the closing brief as they apply to this case.

I don't want to do anything that looks like I'm, you know, moving between cases. But it would be nice to be able to have that latitude to fully develop the understanding of the issues.

THE HEARING EXAMINER: And I think you should both feel free to do that. I mean, the goal here is to enhance the Division's overall understanding of these issues.

In the other Cimarex case, your
opponent, Mr. Savage, says that there aren't any issues of first impression. So you know, we're left in a bit of a conundrum, and $I$ think it would be to the Division's best interest to understand the big picture as much as possible from both side's perspectives in this case, and then we'll hear an entirely new perspective in the other Cimarex case.

MR. SAVAGE: I agree. I would say that today's hearing rules out that you can discount that there's any -- first impression. But $I$ would -- glad to explain.

MR. BRUCE: And Mr. Harwood, I mean, you know, the exhibits in the other myriad of cases have been filed, and they are available to us. So if Mr. Savage wants to use some of those, we may some of those too.

THE HEARING EXAMINER: Okay. All right. So if you'll both file your -- I don't know what day it is, but if you can both file your respective closing arguments within ten days of today, that would be great. And Ms. Fulton, can you give everybody your email address before I forget it?

THE REPORTER: Yes. I will type it in the chat. THE HEARING EXAMINER: Oh, that's a
good idea. Okay.
MS. BENNETT: Mr. Hearing Examiner?
THE HEARING EXAMINER: Yes?
MS. BENNETT: This is Deana Bennett.
And while we're wrapping up some of the procedural issues here, I did just want to reiterate what was alluded to before, which is that Chevron has submitted a letter. We submitted a prehearing statement on Thursday, and we submitted a letter in support of Cimarex's development plan. So that's in the record as well as we submitted it on Thursday. And I just wanted to make that clear for the record as it was alluded to earlier today.

THE HEARING EXAMINER: I suspect that Mr. Savage will draw support from that, Ms. Bennett.

MS. BENNETT: Thank you.
MR. BRUCE: And I just want to confirm
the date. You said ten days?
THE HEARING EXAMINER: And I haven't looked at the calendar, but what does that make -MR. BRUCE: Yeah. That falls on a weekend.

THE HEARING EXAMINER: Of course. MR. BRUCE: I just want a specific date. I don't work well with nonspecific dates.

THE HEARING EXAMINER: Why don't we say the 31st? That's a generous 12 days.

MR. BRUCE: Thank you.
THE HEARING EXAMINER: Okay. All
right. Well, I'm sure everybody hates it when we reach the point where I say I believe that concludes today's hearings, but unless there's anything further from anyone on these last few consolidated cases, I believe it's fair to say that we are in adjournment.

MR. MCCLURE: MR. Harwood, I think maybe the only other thing $I$ might have missed it if you mentioned it again is the submittal of the checklist from Pride, and the submittal of that study and the new copy -- or the amended list of pooled persons.

THE HEARING EXAMINER: Thanks for the reminder, Mr. McClure. I had indeed overlooked it. All right. Well, thank you all for a very interesting presentations and an interesting case.

MR. SAVAGE: It was a pleasure to meet you all.

THE HEARING EXAMINER: Yeah. We'll see you don't the road.

MR. SAVAGE: Thank you.
MR. BRUCE: For better or worse.


I, DANA FULTON, the officer before whom the foregoing proceedings were taken, do hereby certify that any witness(es) in the foregoing proceedings, prior to testifying, were duly sworn; that the proceedings were recorded by me and thereafter reduced to typewriting by a qualified transcriptionist; that said digital audio recording of said proceedings are a true and accurate record to the best of my knowledge, skills, and ability; that $I$ am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.


DANA FULTON
Notary Public in and for the State of New Mexico

I, ELIZABETH FERGUSON, do hereby certify that this transcript was prepared from the digital audio recording of the foregoing proceeding, that said transcript is a true and accurate record of the proceedings to the best of my knowledge, skills, and ability; that $I$ am neither counsel for, related to, nor employed by any of the parties to the action in which this was taken; and, further, that $I$ am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.
[\&-18]

| \& | 153:11 155:7 | 111h 24:16 | 13th 72:9 74:12 |
| :---: | :---: | :---: | :---: |
| \& 3:19 5:20 | 155:17 161:9 | 112h $25: 3$ | 76:14,17 77:3 |
| 7:10,14,20,22 | 205:1 213:10 | 113h 24:22 | 77:22 78:6 |
| 8:4 | 213:16 215:7 | 114h 25:9 | 14 23:1,8,15 |
| 0 | 215:16 232:9 | 115 250:9 | 24:2 29:3 |
|  | 232:12 253:13 | 11:15 123:2 | 30:22 222:18 |
| 8 6:11 7:5 | 271:21 | 12 28:18 96:9 | 223:2,9,14 |
| 092900 46:20 | 101/101 11:13 | 103:12 129:7 | 14-23 1:10 |
| 1 | 11:25 12:4,5,6 | 129:25 130:1 | 14th 72:9 74:12 |
| 1 3:14 4:12 | 101h 111:8 | 133:24 148:24 | 76:14,17 77:3 |
| 7:17 10:14 | 102 9:8 10:20 | 150:19 182:2 | 77:22 78:6 |
| 11:12 12:12,19 | 12:12 35:18 | 199:8 232:8 | 15 30:25 31:11 |
| 13:9,19 15:8 | 103:6 111:8 | 273:4 288:2 | 58:11 60:3 |
| 36:8 39:14,16 | 102s 26:7 35:15 | 120 198:24 | 81:8 107:14 |
| 39:22,23 40:3 | 37:24 65:3 | 223:12 | 123:1,4 127:20 |
| 40:5,7 100:20 | 172:15 | 121h 24:16 | 140:18 166:16 |
| 101:1,6,18 | 103/109 11:15 | 1220 3:7 | 167:7 |
| 105:4 130:2 | 104/109 11:17 | 122h 25:3 | 150 155:6,7 |
| 133:23 172:14 | 1048 4:5 6:18 | 123 4:20 5:5 | 15th 187:3 |
| 172:16 181:9 | 1056 5:13 6:5 | 123h 24:22 | 16 22:4 36:23 |
| 190:6 208:5,9 | 108/109 11:19 | 124 9:11 | 164 9:12 |
| 208:15 218:1,8 | 11:21 | 124/134 11:23 | 1675 3:20 |
| 226:18 243:24 | 109 9:9 | 124h 25:9 | 16th 20:19,21 |
| 244:3,5,7 | 10th 72:7,23 | 13 29:3 62:16 | 170 9:16 |
| 250:2 | 73:177:8,11 | 96:9 103:12 | 170/178 12:11 |
| 1,000 28:7 | 78:4 79:4 80:4 | 111:5,6 112:10 | 172/178 12:13 |
| 172:3 282:17 | 83:5,18 85:16 | 148:12,14,24 | 12:15 |
| 10 24:7,15,21 | 11 65:22 129:6 | 152:5 155:1,2 | 173/178 12:17 |
| 25:1,8,12,20,25 | 129:24 145:18 | 182:4 199:8 | 12:18 |
| 10,000 28:7 | 150:19 272:6 | 131h 24:16 | 178 9:15 |
| 130:23 205:4 | 273:4 | 132h 25:3 | 1780 7:23 |
| 10,900 154:20 | 11,092 155:5 | 133h 24:22 | 17th 127:6 |
| 100 81:11 | 110 3:14 4:12 | 134h 25:9 | 18 30:25 31:11 |
| 139:11,13 | 7:17 | 135 9:12 | 33:9,20,23,24 |
| 143:7,8,16,18 |  |  | 33:25 34:18,22 |

Page 1

| 34:23,24 35:8 | 279:7 | 20897 32:25 | 170:9 171:3 |
| :---: | :---: | :---: | :---: |
| 35:11,13 36:1 | $20 \quad 2: 214: 3$ | 44:10 | 208:9 218:8 |
| 36:4 45:23 | 24:7 81:8 | 20899 32:25 | 242:9 244:5 |
| 46:10 58:11 | 110:11 111:25 | 44:10 | 252:24 |
| 60:3 64:6,12 | 112:5 128:22 | 20th 18:9 38:18 | 229 9:19 |
| 64:20 | 129:1 147:12 | 21 64:6,12,20 | 22947 1:9 15:9 |
| 18.3 211:4 | 150:18 180:22 | 21204 44:13 | 17:17 |
| 182 43:6,10 | 181:10 188:12 | 21206 44:14 | 23 33:9 62:23 |
| 19 60:5,9,19 | 209:22 271:18 | 214 5:21 | 63:15 66:19 |
| 62:6 96:9 | 200 106:8 | 21683 1:12 | 67:2 |
| 103:12 115:5 | 118:21 125:18 | 21685 1:12 | $232951: 14$ |
| 188:16 192:5,8 | 153:21 154:17 | 218 9:18 | 12:9 13:3 |
| 271:17,18 | 154:23 208:25 | 21967 1:14 | 90:16 91:24 |
| 190 9:16 | 209:7 213:12 | 18:24 19:9 | 168:14 169:5 |
| 1:15 122:25 | 233:4 254:1 | 21969 1:15 | 172:16,21 |
| 167:9 | 266:10 | 21971 1:15 | 173:12,20 |
| 1h 129:22 | 201 4:20 5:5 | 21972 1:15 | 178:12 |
| 1st 50:24 | 2010 207:15 | 21973 1:15 | 23448 1:16 |
| 2 | 2013 255:10 | 21981 1:16 | 70:10 |
| 2 10:15 11:14 | 2018 203:19 | 21:22 | 23449 1:16 |
| $11: 16,18,20$ | 201h 25:21 | 21st 16:15 | 23450 1:16 |
| $12: 14,21 \quad 13: 11$ | 2020 32:22 | 22 60:5,9,19 | 23451 1:17 |
| 13:16,20 15:8 | 2021 250:8 | 62:7 | 23452 1:17 |
| 36:9 101:8 | 2023 2:2 14:3 | $220 \quad 209: 7$ | $234531: 17$ |
| 103:6,8 104:2 | 22:4 65:22 | $221031: 13$ | 23454 1:17 |
| 108:5,9,9,25 | 127:6,20 | 22104 1:13 | $234551: 18$ |
| 109:7,8 127:7 | 202h 25:21 | 22845 1:9 15:9 | 70:10 |
| 172:20,21 | 203 9:19 111:8 | 17:17 | 23494 1:18 |
| 181:18 190:6 | 203-5730 7:25 | $228531: 14$ | 235 215:8 |
| 208:22,23 | 203h 26:1 | 11:11 12:3 | 23508 1:20 |
| 226:24 244:19 | $204111: 8$ | 91:7,12,24 | 23509 1:20 |
| 244:20 245:18 | 204h 26:1 | 101:1,18 103:8 | 23510 1:20 |
| 245:19 246:15 | 208/218 12:20 | 104:2 108:9 | 23511 1:21 |
| 247:1 250:2 | 12:21,22,23,24 | 109:7 124:23 | 23512 1:21 |
| 251:21 272:21 | 12:25 13:5,6 | 134:19 166:13 |  |

Page 2

| 23513 1:21 | 23590 1:12 | 241 9:22 | 296,000 129:9 |
| :---: | :---: | :---: | :---: |
| 23514 1:21 | 31:25 33:13 | 242/252 13:8 | 2b 103:23 |
| 23515 1:22 | 35:22 | 244/252 13:10 | 2h 129:25 |
| 23516 1:22 | 23594 70:10 | 13:12,14,16,18 | 133:24 |
| 70:11 | 23595 1:18 | 13:20 | 2nd 88:9,16 |
| 23517 1:22 | 23596 1:18 | 24th 72:8 78:5 | 3 |
| 23518 1:22 | 23597 1:19 | 25 67:4,12 97:3 | 3 10:16 11:22 |
| 23519 1:23 | 70:10 | 104:4,16,19 | 12:16,22 |
| 23520 1:23 | 23598 1:19 | 127:17 136:17 | 13:20 17:20 |
| 23521 1:23 | 23599 1:19 | 139:3 147:18 | 18:8 19:7 21:7 |
| 23522 1:23 | 23600 1:19 | 182:10 193:9 | 21:11 22:3 |
| 23523 1:24 | 23601 1:20 | 250 155:22 | 36:10,13 37:5 |
| 70:11 | 23633 1:14 | 250,000 129:9 | 37:9 40:7 |
| 23574 1:12 | 67:4 68:22 | 253 9:21 | 101:9 103:25 |
| 23585 1:13 | 23640 1:9 23:3 | 26 33:10 69:1 | 104:5 124:21 |
| 11:3 62:24 | 24:11 | 82:3,22 86:9 | 124:23,25 |
| 64:3,8,24 65:7 | 23640-23645 | 90:13 127:11 | 125:1 134:13 |
| 65:13,23 66:2 | 10:3 26:11,19 | 138:6 142:4 | 134:17,19 |
| 66:21 | 27:2 30:16 | 26/30 10:5,7,9 | 168:15 169:6 |
| 23586 1:13 | 23641 1:10 | 26522 290:19 | 173:10,12 |
| 11:3 64:3,16 | 24:17 | 268 9:21 | 209:2,5,6 |
| 64:24 65:7,13 | 23642 1:10 | 270 9:11 | 244:19 245:14 |
| 65:23 66:2,21 | 24:23 | 275 9:13 | 245:17,21 |
| 23587 1:11 | 23643 1:10 | 27th 72:10 | 246:16 250:2 |
| 33:10,16 | 25:4 | 78:15,24 | 282:15 |
| 23587-23590 | $236441: 10$ | 28 24:7 64:6,12 | $30 \quad 62: 13$ 232:1 |
| 10:12 36:12 | 25:13,17 | 64:20 | 300 153:21 |
| 37:12,22 38:4 | $236451: 11$ | 28/21 64:14,22 | 232:25 |
| 38:20 | 25:14,22 | 281 7:25 | 301h 13:5 |
| 23588 1:11 | 23rd 72:8 78:5 | 28th 72:10 | 213:6 |
| 31:25 33:13 | 24 62:23 63:15 | 78:15,25 | 303 3:23 |
| 34:10 35:4 | 66:20 67:2 | 29 128:22 | 30502 291:17 |
| 23589 1:11 | 183:7 | 150:18,18 | 31st 288:2 |
| 33:10 34:12 | 240 151:14 | 271:18 | $\begin{gathered} 320 \quad 24: 13,19,24 \\ 25: 664: 18 \end{gathered}$ |

Page 3

| 325 7:11 | 175:16 212:13 | 6 | 7,000 170:15 |
| :---: | :---: | :---: | :---: |
| 328 64:10 | 407-4499 $3: 23$ | 6 10:20 12:5,25 | 7,700 194:19,21 |
| 33 129:4 211:9 | 42 70:18 | 6 13:19 21:7 | 194:24 195:2 |
| 266:24 | 430,000 129:4 | 37:25 38:4 | 70 208:18 |
| 34 96:9 103:12 | 44 36:10 | 39:16,22 79:11 | 227:20 |
| 188:13,16 | 457,000 128:25 | 100:23 101:6 | 70-2-17 73:24 |
| 35 64:6,13,21 | 480 36:3 | 188:18,24 | 700 170:15 |
| 198:24 207:12 | 48035 28:22,23 | 190:5,6 212:4 | 74 127:9 138:6 |
| 208:2 271:18 | 5 | 227:16 243:25 | 142:3 |
| $\begin{aligned} & 3610: 13,14,15 \\ & 10: 16 \end{aligned}$ | 5 10:19 12:4,24 | 244:6 249:22 | $\begin{array}{ll} \mathbf{7 4 / 2 6} & 140: 13 \\ \mathbf{7 5} & 136: 17 \end{array}$ |
| 37 10:18,19 | $13: 1721: 7$ $37: 20,2239 \cdot 9$ | 250:6 252:25 255:2 | 139:2,10 |
| 38 10:20,21,22 | 40:3 70:9 97:2 | $600 \quad 3: 2033: 22$ | 182:11 193:9 |
| 10:23 | 100:22 101:6 | $\text { 601h } 34: 3$ | 219:15 |
| 3rd 58:2,6 82:5 | 188:24 209:19 | 603h 35:16,17 | 75/25 140:13 |
| 82:24 83:17 | 210:21,22 | 35:21 | 750 7:23 |
| 4 | 217:8 227:14 | $610 \quad 8: 5$ | 76 183:5 |
| 4 10:17 11:24 | 248:6,7 | 62 223:12 | 77380 7:24 |
| 12:18,23 13:15 | 50 97:1 104:14 | 640 25:18,24 | 8 |
| 21:7 37:9,12 | 104:15,18 | 33:18 34:17 | ( 10:22 13:6 |
| 40:6 58:15 | 150:8 219:5 | 35:6,25 | 17:20 18:8 |
| 100:21 101:6 | 253:12 | 65/66 11:5,7,8 | 19:7 21:11 |
| 173:18,20 | 501h 64:15 | 66 211:8 231:2 | 22:3 38:5 70:9 |
| 178:13 209:17 | 505 8:7 | 231:4 | 208:5,6,10 |
| 209:18 216:18 | 520 35:9 | 6th 27:1 | 214:23,24 |
| 227:9 246:14 | 523h 64:22 | 7 | 218:1,9 |
| 246:17,25 | 5528927 2:8 | 7 10:21 12:6 | 8,000 27:25 |
| 253:10 | 57 69:170:18 | 13:4 21:7 33:9 | 170:13 |
| 4,000 247:8 | 86:9 90:13 | 33:20 34:2,18 | 8,800 194:21 |
| 261:1 | 58 90:16 91:4 | $34: 2135: 8,11$ | 800 27:25 |
| 40 8:5 62:15 | 586 62:24 | $34.21,438: 8,5$ | 170:13 |
| 102:19 110:5 | 588-4135 8:7 | 39:9,14,23 | 80202 3:21 |
| 400 153:21 | 59 15:6 | 45:23 100:24 | 86 43:6,9,10 |
| 401h 128:4 | 5:19 289:3 | 101:1,6,18 | 87102 8:6 |
| 146:8 171:9,12 |  | 213:3 233:5 |  |


| 87501 2:6 3:15 | a4 37:11 178:1 | acceptable | achieved 245:4 |
| :---: | :---: | :---: | :---: |
| 4:6,13,21 5:6 | a6 35:15 | 57:22 82:6 | acknowledge |
| 5:22 6:19 7:12 | a7 38:1 | accepted 203:9 | 170:21 203:23 |
| 7:18 | a8 38:2 | accepts 205:21 | 242:7,12 |
| 87504 5:14 6:6 | abadie 5:20 | access 75:25 | acknowledges |
| 6:12 7:6 | 18:3 60:23 | 126:3,5,12 | 175:23 |
| 87505 3:8 | 69:11,13 90:22 | 153:24 154:2 | acquiring 20:7 |
| 89 199:8 | abadieschill.c.. | 165:14 | acre 24:13,19 |
| 9 | 5:23 | accesses 165:12 | 24:24 25:6,18 |
| 9 23:1,8,14 | ability 75:24 | accidentally | 25:24 33:18,22 |
| 24:1,7,14,15,21 | 263:5,17 267:1 | 59:19 | 34:17 35:6,10 |
| 24:22 25:1,2,8 | 271:8 278:11 | accommodate | 35:25 36:3 |
| 25:9,12,20,21 | 290:10 291:7 | 83:2 | 64:10,18 172:3 |
| 25:25 26:1 | able 41:11 | accommodated | 184:13,17 |
| 28:18 30:22 | 72:17 76:24 | 80:15,25 | acreage 20:8 |
| 86:14,25 | 86:13 87:21 | accomplish | 34:20 39:10,11 |
| 9.3 211:6 | 93:4 159:16 | 164:17,18 | 45:25 47:15,20 |
| 9/21 17:1,10 | 166:2,3 172:10 | accordance | 47:24 48:4,5 |
| 92847 120:12 | 191:11 195:14 | 146:16 | 48:24 49:1,20 |
| 95 43:6,9,10 | 201:1 225:4 | account 182:5 | 172:5 179:13 |
| 969.3 | 250:10 263:13 | 205:18 206:6,9 | 180:9 181:7,23 |
| 98 9:4 | 266:22 267:13 | accounted 94:1 | 182:6 183:11 |
| 98247 120:12 | 285:19 | accounting | 184:9 258:1 |
| 9:15 2:3 | aboard 63:8 | 139:10 | acres 192:22 |
| 9th 72:7,23 | above 131:19 | accurate 159:9 | act 99:13 |
| $73: 177: 8,11$ | 141:22 155:17 | 170:21 203:24 | 231:17 |
| 78:4 79:4 80:4 | 186:22 196:13 | 211:25 242:13 | action 290:12 |
| 82:2,11,14 | 219:4,6 238:19 | 261:22 263:11 | 290:16 291:8 |
| 83:5,17 84:21 | 252:2 | 290:9 291:5 | 291:12 |
| 84:24 85:1,16 | absolutely | accurately | activities 174:9 |
| a | 130:6 137.1 |  |  |
| a.m. 2:3 | 142:14 242:2 | 211:24 | 132:10 185:22 |
| a1 178:1 | 263:2 281:9 | $\begin{gathered} \text { achieve } 98: 25 \\ 259: 1 \end{gathered}$ | 186:4,5 |

[actual - agree]

| actual 28:20 | 80:18 81:11,15 | administrativ... | 30:2,12 54:14 |
| :---: | :---: | :---: | :---: |
| 179:8 193:15 | 86:18 88:2,5 | 34:8 | 55:22 56:22 |
| 193:22 211:13 | 88:16,19 | admissibility | 57:11,19 66:3 |
| 212:1 258:17 | 111:21 164:6,8 | 180:4 | 66:20 68:4,18 |
| actually $28: 6$ | 198:5 202:5,12 | admission | afe 105:21,22 |
| 41:18,20 44:15 | 234:9 280:7 | 134:12 | afes 26:9 65:5 |
| 57:4 87:5 | 281:15 | admit 57:19 | 81:7,7 105:11 |
| 126:5 132:4,22 | address 43:16 | 252:15 | affect 113:22 |
| 138:2 149:21 | 58:25 109:24 | admitted 27:5 | 114:3 277:21 |
| 151:23 199:3 | 132:5 135:14 | 30:11 66:1,19 | affected 114:14 |
| 205:13 213:11 | 166:9 183:22 | 101:6,17 | affidavit 11:24 |
| 214:10 219:10 | 184:3 211:12 | 134:18 168:23 | 12:5 23:21 |
| 219:11 227:6 | 214:21 228:24 | 169:4 178:10 | 63:22 65:20 |
| 232:4,5 235:9 | 235:1 281:17 | 218:7 252:21 | 67:16 100:22 |
| 236:5 237:14 | 285:6,15 | ado 15:7 | 100:24 103:7 |
| 247:15 259:6 | 286:22 | adopt 124:21 | 105:25 222:18 |
| 260:12 271:2 | addressed | 125:3 | 223:3 226:16 |
| 282:16 | 125:8 191:13 | adopted 258:7 | affidavits |
| adam 7:15 67:7 | 202:9 | adopting | 101:11 |
| 69:20 | addresses 43:4 | 113:21 | affirmation |
| add 16:19 21:1 | 43:6 | adoption 89:20 | 10:13,23 34:4 |
| 59:4 71:7 | addressing | advance 48:8 | 36:7 38:7,15 |
| 74:14,25 75:3 | 84:1 | 88:7 | 41:13 55:7 |
| 80:7 86:4 87:1 | adequate | advantage | affirmed 10:8 |
| 176:13 199:11 | 213:12 | 191:6,8 194:2 | 26:21 |
| 210:11 281:21 | adjacent | 207:16 273:18 | agencies 22:21 |
| added 59:17 | 148:16 | adverse 108:2 | 193:19 |
| addition | adjournment | adversely | ago 44:18 |
| 254:19 265:5 | 288:9 | 113:22 114:2 | 132:22 147:13 |
| 277:25 | adjustments | 114:14 | 147:15,18 |
| additional | 87:13 | advice 42:7 | 215:14 |
| 28:17 44:25 | admin 29:3 | advise 146:6 | agree 58:23 |
| 49:14 55:19 | 59:17 | advised 51:19 | 75:10,15 83:15 |
| 57:21 68:8,14 | administrative | advisement | 112:16,19 |
| 74:15 77:17 | 35:1 100:19 | 27:7 29:19 | 136:25 137:20 |

Page 6
[agree - answer]

| $139: 14,25$ | $275: 12$ |  | allow $20: 20$ |
| :--- | :---: | :---: | :---: |
| $141: 24142: 11$ | ahead $15: 21,22$ | $118: 14188: 9$ | amount $71: 9$ |
| $144: 16,20$ | $17: 721: 21$ | $213: 14,25$ | $81: 14116: 2$ |
| $146: 14,18$ | $28: 1132: 10$ | allowed $57: 6,7$ | $217: 4245: 8$ |
| $149: 10151: 7$ | $43: 1248: 4,12$ | $137: 18199: 14$ | $248: 12250: 24$ |
| $177: 14,21$ | $50: 2280: 8$ | $206: 18224: 4$ | $254: 20266: 18$ |
| $181: 13,15$ | $85: 15100: 17$ | allowing $166: 9$ | $282: 1$ |
| $184: 17,24$ | $121: 8156: 16$ | allows $270: 20$ | amounts $173: 2$ |
| $187: 12189: 18$ | $168: 3180: 5$ | alluded $287: 7$ | $190: 19$ |
| $191: 22192: 11$ | $185: 19232: 5$ | $287: 13$ | analyses |
| $194: 3,5207: 1$ | $234: 23$ | alternate $85: 6$ | $207: 21$ |
| $207: 5,6212: 2$ | aim $219: 10,12$ | $85: 8213: 22$ | analysis $150: 10$ |
| $212: 3,13$ | air $27: 14$ | $214: 8$ | $230: 5277: 19$ |
| $214: 14215: 8$ | airport $156: 8$ | alternative | analyze $136: 23$ |
| $219: 21229: 3$ | $156: 12246: 9$ | $32: 6,1233: 2,6$ | $141: 13144: 11$ |
| $229: 11230: 1,4$ | $246: 12$ | $33: 2134: 19$ | $250: 10$ |
| $236: 7,12251: 1$ | airstrip $246: 8$ | $35: 2,936: 2$ | analyzed |
| $261: 15262: 17$ | $246: 10$ | $39: 13,2244: 11$ | $278: 15$ |
| $271: 12,15$ | al $60: 25$ | $44: 12,1647: 19$ | andrews $7: 10$ |
| $273: 15277: 18$ | albuquerque | $48: 1049: 18,19$ | anecdotally |
| $281: 23282: 22$ | $8: 663: 17$ | $51: 959: 18$ | $158: 2$ |
| $284: 13286: 8$ | alignment | $86: 19139: 9$ | announcements |
| agreeable $17: 5$ | $45: 16$ | $177: 13$ | $14: 20$ |
| agreed $79: 12$ | allocate $106: 16$ | alternatives | announcing |
| $95: 10160: 15$ | allocated $97: 8$ | $55: 1056: 13,16$ | $18: 22$ |
| $193: 1$ | $180: 14181: 7$ | altogether | anomaly |
| agreement | $181: 11,22$ | $232: 6$ | $212: 13213: 9$ |
| $36: 21,2237: 4$ | allocating | amenable | $213: 17,20$ |
| $41: 947: 25$ | $197: 19$ | $20: 1755: 9$ | answer $19: 18$ |
| $52: 1853: 3$ | allocation | amend $46: 15$ | $32: 1039: 19$ |
| $87: 22105: 7$ | $73: 2474: 14$ | $47: 887: 14$ | $40: 952: 13$ |
| $121: 1,10142: 1$ | $75: 18179: 14$ | amended $20: 15$ | $66: 3115: 10$ |
| $172: 11176: 17$ | $180: 10,24$ | $29: 2035: 15,20$ | $128: 1154: 8$ |
| $192: 23193: 2$ | $181: 21$ | $37: 2548: 13,16$ | $163: 13195: 15$ |
| $201: 6273: 16$ |  | $88: 589: 3$ | $196: 21228: 8$ |
|  |  |  |  |

[answer - approving]

| 263:6 277:6,8 | apparently | applicants 95:7 | 85:20 87:4 |
| :---: | :---: | :---: | :---: |
| 277:11 | 32:6 79:24 | application | 90:9 116:7 |
| answered | 199:13 | 11:12 25:5 | 118:9 119:16 |
| 182:15,15 | appear 44:25 | 26:6 34:6 42:8 | 166:6 224:18 |
| 183:18 202:9 | 45:5 73:25 | 45:4,12,16 | 227:1 230:10 |
| 233:22 | 194:2 | 48:13 53:23 | 239:24 278:14 |
| anticipate 88:1 | appearance | 56:8 59:13 | 280:1 |
| 277:15 | 16:7 17:22 | 65:2 95:21,23 | approach |
| anticipated | 18:7,14 19:3 | 97:12 100:21 | 46:14 74:1,6 |
| 58:17 | 19:11 21:6,23 | 108:13,17 | 80:20,22 83:10 |
| anticipating | 23:3,13,18 | 120:8,19 | 85:9,12 86:14 |
| 87:21 | 31:2,10,15,24 | 138:14,20 | 86:19 214:6 |
| anybody 16:22 | 60:11,18 61:10 | 140:1 190:13 | approaches |
| anymore | 62:25 63:14,19 | 194:23 195:9 | 73:25 86:21 |
| 189:21 | 67:5,11 68:14 | 206:8,13,18 | approaching |
| anything's | 69:5,17 70:2,4 | applications | 216:20 |
| 120:18 | 90:17 91:3,12 | 20:13,15,21 | appropriate |
| anytime 185:18 | 91:15,15 92:8 | 36:22 42:22 | 88:17,24 |
| anyway 61:17 | 92:10 | 48:16 56:1 | 225:25 234:22 |
| 71:22 96:1 | appearances | 62:3 80:13,16 | 285:14 |
| 120:16 256:3 | 15:11 19:20 | 80:19 81:1,7 | approval 34:5 |
| aol.com 5:15 | appearing 18:3 | 83:25 84:2,6 | 34:7,9 35:1 |
| 6:7 | 67:8 69:21 | 190:23 | 48:10 49:4,8 |
| apart 153:14 | 70:7,17 | applies 74:2,6 | 108:12 |
| 188:19 | appears 29:3,4 | 114:18,18,19 | approvals 33:6 |
| apd $47: 14,19$ | 120:5 127:9,11 | 133:9 | approve 17:12 |
| 47:21,23,25 | 253:10 255:21 | apply $133: 8$ | 48:19,25 56:13 |
| 49:1,2,5,21 | applicable | 139:20 182:14 | approved |
| apds 48:22 | 208:12 | 192:22 269:4 | 44:19 49:4,11 |
| 50:2 51:1 | applicant 15:12 | 285:16 | 56:16 97:12 |
| apologies 61:7 | 15:24 17:22 | applying | 224:5 |
| 152:23 154:13 | 31:1,2 34:10 | 191:10 212:2 | approves 47:14 |
| apologize 30:1 | 34:14 35:23 | appreciate 22:8 | approving |
| 42:6 199:23 | 60:11,14 62:25 | $43: 866: 24$ | 49:21 55:10 |
|  | 67:5,8 69:21 | 72:18 73:6 |  |

## [approximate - audio]

| approximate | $243: 16,18$ | $170: 12177: 12$ | assuming $29: 17$ |
| :--- | :---: | :---: | :---: |
| $226: 19$ | $246: 12252: 1,1$ | $191: 23228: 7$ | $39: 2440: 2$ |
| approximately | $254: 2255: 5,10$ | $239: 20,21$ | $49: 493: 25$ |
| $127: 9186: 24$ | $270: 18272: 4$ | asking $19: 10$ | $116: 17139: 4,5$ |
| $227: 19$ | $272: 25273: 9$ | $48: 957: 13,13$ | assumption |
| april $79: 11,11$ | $279: 23$ | $73: 181: 17$ | $115: 24116: 4$ |
| area 44:12,16 | areas $45: 11$ | $109: 19117: 22$ | $116: 10,15,16$ |
| $46: 479: 25$ | $149: 22150: 5$ | $179: 18184: 7,8$ | asterisked $41: 2$ |
| $80: 20106: 16$ | $227: 24243: 18$ | $184: 22186: 24$ | $41: 14$ |
| $106: 20107: 11$ | $243: 20$ | $224: 15225: 6$ | asterisks $37: 17$ |
| $107: 16110: 8,9$ | argue $57: 25$ | $228: 6238: 24$ | $40: 2058: 17$ |
| $110: 20,24,25$ | $197: 9226: 4$ | $253: 18256: 22$ | attach $57: 5$ |
| $111: 3112: 1,3$ | $229: 25$ | $263: 3267: 8$ | attached $36: 8$ |
| $112: 6,16,18,22$ | argument $59: 6$ | $283: 22$ | $37: 2053: 21$ |
| $112: 23,24$ | $74: 17131: 25$ | asks $42: 13$ | $103: 5$ |
| $113: 12124: 17$ | $225: 25274: 24$ | assessment | attachment |
| $124: 19125: 12$ | $275: 1284: 16$ | $179: 24211: 25$ | $154: 19$ |
| $130: 11131: 3$ | arguments | $236: 12,19$ | attachments |
| $131: 11,21$ | $234: 10283: 23$ | $257: 21262: 17$ | $103: 5108: 5$ |
| $133: 23134: 8$ | $284: 1,11$ | asset $203: 18$ | $109: 1124: 22$ |
| $145: 15,17$ | $286: 20$ | assets $37: 3$ | $226: 16$ |
| $147: 2,19,21$ | argus $26: 25$ | assigned $275: 7$ | attempt $217: 7$ |
| $148: 12149: 6$ | arithmetic | assist $198: 23$ | attempted |
| $150: 1,3,3$ | $167: 10$ | assistance | $194: 1$ |
| $156: 25164: 24$ | arithmetic's | $22: 22$ | attendance |
| $173: 16174: 8$ | $21: 14$ | associated | $39: 18$ |
| $174: 14185: 23$ | arrangements | $28: 22$ | attention $42: 18$ |
| $204: 15205: 3$ | $284: 22$ | association | attorney $5: 12$ |
| $207: 9,18,25$ | arrive $118: 10$ | $7: 20$ | $6: 410: 8$ |
| $209: 2211: 16$ | arrows $210: 3,4$ | assume $40: 13$ | $137: 16168: 5$ |
| $212: 17213: 9$ | art $224: 24$ | $56: 561: 24$ | $290: 14291: 10$ |
| $216: 4219: 7,21$ | aside $71: 23$ | $115: 19,22$ | audience $167: 1$ |
| $226: 21236: 6$ | asked $80: 14$ | $139: 2142: 9$ | audio $290: 8$ |
| $238: 9242: 18$ | $118: 12161: 24$ | $147: 21155: 18$ | $291: 4$ |
| $242: 22,23$ | $163: 25164: 1$ | $157: 18276: 14$ |  |
|  |  |  |  |

[august - based]

| august 58:2,6 | avoid 99:1 | 47:7 48:16 | barrels 129:1,4 |
| :---: | :---: | :---: | :---: |
| 72:7,8,24 73:1 | 276:21 | 51:19 56:6 | 134:5 |
| 77:8,16 78:4,5 | aware 79:16 | 62:15,18 64:1 | barrier 157:16 |
| 80:4 82:2,5,11 | 87:18 120:6 | 80:10 87:23 | 159:5 233:2,18 |
| 82:14,23 83:5 | 156:23 235:19 | 120:22 123:3,6 | 265:22,25 |
| 83:17 84:21 | 259:20 268:4 | 135:18 141:5 | barriers 141:10 |
| 86:14,25 88:9 | 277:5 | 167:7,9,12 | 141:14,19 |
| 88:16 | awfully 256:9 | 169:15 172:8 | 204:8 |
| authority 185:2 | b | 204:1 207:7 | basal 207:13 |
| 185:22 237:3 | b 10:1,6 11:1,6 | 234:1 240:3,19 | 219:8 |
| 254:10 | b 11:16 12:1,19 | 240:21 266:7 | base 22:19 |
| authorized | 12:21,22,23,24 | 280:17,19 | 51:20 143:6 |
| 46:21 53:22 | 12:25 13:1,4,6 | background | 156:24 157:11 |
| 54:18 | 26:13,19 30:17 | 145:13 164:23 | 186:12,15,16 |
| auto 43:24 | $65: 9,1366: 1$ | 203:12 | 271:21 |
| availability | 66:22 94:11,12 | backing 159:23 | based 49:2 |
| 75:178:5 | 104:2 130:23 | backs 197:14 | 54:12 68:9 |
| available 55:20 |  | 276:3 | 79:16 85:22 |
| 72:24 73:25 |  | baffle 142:17 | 99:11 112:5 |
| 76:17,19,22 |  | 157:16 204:8 | 130:3 144:2 |
| 77:4,11,15 | 209:17,18 | 216:17,17 | 153:20 163:25 |
| 78:18,19,24 | 210:21,22 | 233:9 239:12 | 165:22 168:6 |
| 79:1,3,6 80:2 | 212.4213 .3 | baffles 141:9 | 176:11,20 |
| 91:20 93:14 | 214:23,24 | 141:17,18 | 177:19 179:4 |
| 119:12 168:23 | 215:1,6 216:18 | 214:18 218:22 | 180:11 193:22 |
| 178:2 218:11 | $217: 8 \text { 218:1,1 }$ | 233:8 | 198:1 201:22 |
| 250:14 256:7 | 218:1,8,9 | baffling 141:14 | 202:6,12 217:6 |
| 265:7,15 | 226:18,24 | ban 131:9 | 217:8,12 |
| 270:20 286:14 | 227:9,14 233:5 | bane 70:18 | 219:17 220:22 |
| avalon 233:16 | bachelors | 137:6 | 221:13,16 |
| avant 5:2 23:18 | 203:13 | banning 131:9 | 225:13 236:19 |
| avant's 23:19 | back 16:11 | bar 96:15 | 250:4 255:19 |
| average 211:3 | 19:18,21,24 | barrel 13:4 | 257:15,17 |
| 211:5 | 32:15 35:3 | 26:18 38:10 | 258:19 259:24 |
|  | 44:20 46:15 | 213:5 | 260:17 261:4 |

Page 10
[based - biggest]

| 261:24 262:7 | 7:8,14,20 8:2 | 220:1 221:4,6 | 84:22 89:9 |
| :---: | :---: | :---: | :---: |
| 262:12 263:20 | 15:17,23 18:3 | 223:11 232:7 | 94:7 106:1,3 |
| 267:4 268:9,16 | 18:14 19:2 | 234:6,24 235:1 | 125:11,13,13 |
| 271:9 282:7 | 23:5 31:4,14 | 236:9 242:18 | 125:16 139:21 |
| 283:4,8 | 36:23 60:14,24 | 244:2 246:11 | 146:12 161:8 |
| basic 195:15 | 61:9 63:3,18 | 248:23 249:14 | 170:22 193:18 |
| basically 37:14 | 67:8 69:12,21 | 250:7,23 | 202:9 212:22 |
| 84:16 105:19 | 70:8,17 90:23 | 254:21 257:21 | 217:6 219:22 |
| 107:15 148:15 | 92:8,9,11 | 258:22 260:11 | 220:18 225:14 |
| 179:14 204:13 | behave 227:10 | 261:5 263:7,12 | 242:13 243:2 |
| 205:12 222:10 | belgian 64:14 | 263:16,24 | 245:9 246:5 |
| 222:11 229:10 | 64:22 | 266:25 268:11 | 254:4,10,15 |
| 253:5 271:19 | belief 159:24 | 269:8,18 | 266:2 272:16 |
| basin 38:10 | 265:1 | 273:25 288:6,9 | 281:8 286:4 |
| 145:21 208:17 | believe 15:8 | believed 128:11 | 290:9 291:6 |
| 236:14 247:3 | 16:15 17:4,19 | believes 116:25 | bets 54:17 |
| basis 33:5 | 21:23 22:25 | 117:17,20 | better 22:16 |
| 179:3,13 181:7 | 35:15 38:9,18 | 195:16 | 47:17 52:8 |
| 181:23 184:13 | 43:6,25 46:24 | belittling 194:3 | 54:16 126:12 |
| 184:13,17 | 47:1 55:17 | beneficial | 133:13 149:22 |
| 197:3 198:16 | 56:7 62:24 | 53:18 54:2 | 166:3 185:16 |
| 237:6 246:6 | 73:12,16 77:14 | benefit 216:25 | 195:14 196:20 |
| 265:1 | 77:16 83:10 | 248:22 | 207:18 215:9 |
| bear 98:4 107:4 | 87:10,12,15 | bennet 63:17 | 215:15 246:16 |
| beatty 3:19 | 93:15,16 94:4 | bennett 4:18 | 288:25 |
| 19:2 61:9 | 128:13 129:16 | 5:3 15:20,23 | beyond 29:8 |
| becoming | 131:19 136:19 | 15:23 16:3 | 45:1 80:2 |
| 149:23 255:22 | 141:16 145:23 | 23:16,17,23,24 | 255:7 |
| beginning | 148:13 153:11 | 27:10,11 63:16 | bias 222:5 |
| 40:20 127:4 | 157:21 159:11 | 63:24 66:7,8 | biased 233:14 |
| 225:23 | 162:1,5,7 | 92:6,7,14,16,22 | big 59:6 98:12 |
| begins 212:10 | 163:13 170:14 | 93:2,3 287:2,4 | 131:25 286:4 |
| behalf 3:2,11 | 173:15 191:16 | 287:4,15,16 | bigger 255:22 |
| 4:2,9,16 5:2,9 | 201:24 215:18 | best 54:18 81:5 | biggest 57:2 |
| 5:17 6:2,14 7:2 | 218:22 219:5 | 81:25 83:7 |  |

Page 11
[bill - bone]

| bill 22:17 69:13 | 48:1,23,24,25 | 117:16,19 | 177:15 178:25 |
| :---: | :---: | :---: | :---: |
| billion 81:12 | block 68:24,25 | 118:4 119:1 | 179:15 180:10 |
| bit 20:1 32:18 | 71:24 | 121:6,11,16 | 180:13,17,18 |
| 39:8 40:12 | blue 64:14,22 | 124:19 126:23 | 180:20,21,22 |
| 42:144:18 | 212:9 245:24 | 127:8,12,12,13 | 183:6 184:16 |
| 46:19 52:6,7 | boar 166:2 | 127:15 129:6 | 184:18,22,24 |
| 73:15 80:7 | bold 41:2 | 129:20 130:7 | 185:5,13,16,22 |
| 103:23 107:4 | bone 13:9,12 | 130:11,18 | 185:24 186:3 |
| 118:13 124:18 | 13:14 24:6,12 | 132:1,23,24 | 186:23 187:13 |
| 135:18,19 | 24:18,24 25:5 | 133:1,9 134:1 | 189:12 191:25 |
| 145:12,20 | 25:10,11 26:15 | 135:22 136:4,8 | 192:7,12 |
| 154:22 155:3 | 28:18,20,21 | 136:14,17 | 195:10 196:8 |
| 157:14 159:24 | 33:11,14,18 | 139:1,2,10 | 196:12 197:10 |
| 170:25 177:2 | 34:20 35:5 | 140:2,11,19 | 197:11,15,22 |
| 190:5,7 201:12 | 38:11,13 40:4 | 141:8,15 142:2 | 198:1,4 200:4 |
| 209:4 218:15 | 64:5,10,18 | 142:3,8,16,23 | 200:9 201:12 |
| 230:16 233:7 | 65:10 79:17 | 143:6,10 | 201:15,18 |
| 234:16,18 | 80:17 96:11,19 | 145:22 147:1,7 | 204:9,17,18,21 |
| 255:7 286:3 | 96:21,24 97:1 | 147:9,14,15,20 | 204:22,24 |
| blake 7:21 70:7 | 97:3,5,8 98:22 | 147:25 148:5 | 205:5 206:8,21 |
| blank 197:1 | 99:6,10 103:20 | 148:10 149:2,8 | 207:19 208:2 |
| blend 171:25 | 103:25 104:8 | 149:16,20 | 208:14 209:23 |
| 174:20 | 104:15,17,18 | 150:11,21,25 | 210:19,23 |
| blending | 106:15,18,19 | 151:14 152:4 | 214:2 215:19 |
| 174:22 179:3 | 106:23,24 | 153:2 155:13 | 216:2,8,12,24 |
| 179:11,16 | 107:15,24 | 156:24 157:11 | 218:19 219:1,3 |
| 182:9 183:10 | 111:2,4,8,15,17 | 159:9,12 160:4 | 219:19 220:2,4 |
| 183:19,19,21 | 111:20 112:8 | 160:11,24 | 220:12,15,17 |
| 183:21 184:10 | 112:12,25 | 161:11,16,21 | 220:21 221:14 |
| 184:12,15 | 113:6,20 114:6 | 162:21 164:19 | 221:22,22 |
| 192:19,21 | 114:8,8,10,16 | 171:14,25 | 222:11 224:1,3 |
| 197:21 201:9 | 114:22,23 | 173:2 174:10 | 224:20 225:9 |
| 201:10 | 115:2,4,7,11,17 | 174:13,16,23 | 227:10,15 |
| blm 20:5,6 | 115:24,25 | 175:12,20,23 | 230:20 231:3 |
| 39:10 47:14,20 | 116:3,12,20,24 | 176:4,8,18,21 | 232:20 233:15 |

Page 12
[bone - bruce]

| $233: 17242: 16$ |  |  |  |
| :--- | :--- | :--- | :--- |
| $242: 16,22,24$ | boulevard $7: 23$ | bring $19: 19$ | $18: 1791: 5,5,9$ |
| boundary | $29: 2141: 20$ | $91: 2193: 15,19$ |  |
| $243: 9,18,21$ | 143:21 | $43: 17240: 3,24$ | $94: 3,8,1395: 9$ |
| $244: 8,13,24$ | bounds $258: 24$ | $243: 6277: 4$ | $95: 11,16,18,24$ |
| $245: 4,6,24,25$ | box $5: 136: 5,11$ | $280: 17,19$ | $96: 2,3,797: 15$ |
| $246: 2,4,16,21$ | $7: 5$ | bringing $45: 10$ | $97: 2598: 1,7$ |
| $246: 24247: 7,9$ | brancard $22: 17$ | $190: 9193: 8$ | $99: 22100: 15$ |
| $247: 11,15,18$ | $30: 1$ | brings $68: 24$ | $100: 17,18$ |
| $247: 21248: 13$ | break 60:7 | $277: 15$ | $101: 10,20$ |
| $248: 18249: 7$ | $62: 14122: 16$ | broach $179: 7$ | $102: 6108: 24$ |
| $249: 11,16,24$ | $122: 21,25$ | broadway $3: 20$ | $109: 4117: 5$ |
| $250: 7,25251: 2$ | $166: 17167: 7$ | brother $189: 21$ | $118: 12119: 18$ |
| $251: 8,16$ | $240: 15$ | brought $41: 23$ | $119: 20,23$ |
| $253: 21254: 2$ | breakdown | $83: 1395: 21$ | $120: 3,4,9,13$ |
| $254: 14,21,23$ | $10: 1737: 10$ | $132: 9137: 2$ | $122: 1,10,18,20$ |
| $255: 4,5256: 4$ | $40: 13$ | $187: 2$ | $123: 9,10,14,16$ |
| $259: 12,15,18$ | brevity $66: 18$ | broughton | $123: 18124: 2$ |
| $259: 25260: 25$ | brief $59: 10$ | $11: 2394: 10,24$ | $131: 13,16$ |
| $261: 6262: 20$ | $74: 876: 282: 3$ | $106: 6123: 19$ | $134: 9,21137: 2$ |
| $262: 21,24$ | $82: 4,9,9,21,23$ | $123: 20124: 3,5$ | $150: 16152: 13$ |
| $263: 1,18,23$ | $83: 16,2084: 16$ | $124: 16132: 20$ | $152: 14156: 7,8$ |
| $264: 1,6,20,21$ | $86: 1988: 10,13$ | $134: 11135: 3$ | $162: 9163: 24$ |
| $265: 2,23$ | $96: 4,6,13$ | $135: 17152: 9$ | $164: 2,21$ |
| $266: 15267: 9$ | $119: 18270: 5$ | $152: 10,13,21$ | $166: 12,14,21$ |
| $267: 16,21,23$ | $285: 16$ | $162: 14163: 25$ | $167: 24,25$ |
| $268: 2271: 13$ | briefing $75: 11$ | $164: 4,11166: 6$ | $168: 25169: 2,9$ |
| $272: 24273: 20$ | $75: 1576: 8$ | $222: 13240: 3$ | $169: 12178: 6,8$ |
| $276: 15,25$ | $77: 1781: 24$ | $269: 24270: 11$ | $178: 15180: 5,6$ |
| $278: 24,24$ | $82: 883: 11,22$ | $280: 2281: 3$ | $180: 7181: 4,5$ |
| $279: 4,5,15,20$ | $84: 2285: 17$ | brown $245: 25$ | $181: 19182: 17$ |
| $282: 1,19$ | $87: 16$ | bruce $5: 11,12$ | $182: 22183: 4,9$ |
| bottom $246: 7$ | briefly $75: 9$ | $6: 3,49: 3,8,11$ | $183: 24184: 6$ |
| boughton $8: 14$ | $100: 9152: 16$ | $9: 15,18,21$ | $188: 2,3,10$ |
| $9: 10156: 21,23$ | $201: 16241: 11$ | $15: 2216: 6,6$ | $189: 19,22$ |
| $162: 8280: 8$ | $268: 18$ | $16: 1018: 13,13$ | $190: 4,9191: 5$ |
|  |  |  |  |

Page 13
[bruce - case]

| 191:23 202:12 | burden 76:10 | c1 252:16 | captive 167:1 |
| :---: | :---: | :---: | :---: |
| 202:14 218:4,5 | burdening 76:6 | c6 252:16 | capture 223:22 |
| 218:13,14,17 | business | calculate | 224:5 229:6 |
| 221:10,12 | 102:18,21 | 151:23 | 239:4 274:25 |
| 223:2,5,7,15,16 | 103:1 108:8 | calculated | 275:3 |
| 223:19 224:8 | bwenergylaw... | 190:4 211:3 | captured 275:4 |
| 225:7,18,20 | 3:22 | calculating | captures |
| 226:2,12,14 | c | 188:17 | 222:20 223:17 |
| 228:18 229:14 | c 3:14:1 5:1 6:1 | calculations | 225:8 275:2 |
| 229:17 230:1 | 7:1,21 8:1 | 250:3 | capturing |
| 240:1,2 242:1 | 10:20,23 | calendar | 223:25 224:10 |
| 242:2 244:1 | 11.1812 .12 | 287:20 | 224:23,24 |
| 246:8 247:19 | 13:7,9,11,13,15 | call 60:9 | 225:1 239:11 |
| 252:18,19,22 | 13:17,19,19,20 | 100:16 101:20 | carbonate |
| 253:1,3 256:15 | 13:20 14:1 | 122:16 123:14 | 216:21,23 |
| 256:18,25 | 26:6,21 27:2 | 123:18 143:22 | cards 26:24 |
| 257:3 265:18 | 30:17 35:15,18 | 143:23 145:11 | 65:20 |
| 268:15,18,20 | 37:24 38:15,20 | 156:2,3 157:15 | care 108:18 |
| 269:12,15,21 | 65:3,11,15,23 | 157:16 167:1 | 285:7 |
| 269:23,25 | 66:1,19,22 | 169:17 181:17 | careful 136:23 |
| 270:8,10 | 103:6 108:9 | 202:19,23 | carlsbad 26:25 |
| 275:13,19 | 172:15 219:11 | 205:24 219:11 | carry 90:7 |
| 280:14,15 | 242:8,9 243:24 | 229:20,22 | 172:5 |
| 283:3,5 284:12 | $243: 25 \text { 244:3,5 }$ | 241:2 276:17 | case 1:9 11:11 |
| 284:13 285:3 | 244:6,7,20 | called 1:6 19:7 | 12:3,9 13:3 |
| 285:10 286:12 | 245:14,17,18 | 45:4 50:18 | 15:9,25 16:5 |
| 287:17,21,24 | 245:19,21 | 102:2 123:21 | 16:14 19:4 |
| 288:3,25 | $246: 14,15,$ | 128:20 169:21 | 20:1,2 21:24 |
| bruce's 97:22 | $246: 17,25$ | 203:2 212:7 | 23:3 24:11,17 |
| 182:24 | 248:6,7 249:22 | 241:4 247:1,2 | 24:23 25:4,17 |
| bucket 196:9 | 250:2,2,2,6,9 | 272:8 | 25:22 30:24 |
| buffer 264:4 | 252:15,24,25 | calling 95:1 | 31:24 32:25 |
| built 197:4 | 253:10 255:2 | camp 107:25 | 33:10,13,16 |
| bunch 147:6,9 |  | canton 10:7 | 34:10 35:4,22 |
| 180:19 |  | 26:14 | 42:5 52:18 |

Page 14
[case - cetera]

| $54: 1455: 12$ | $193: 5,10197: 4$ | $44: 9,1045: 8,9$ | $228: 14230: 6$ |
| :--- | :--- | :--- | :--- |
| $56: 557: 17,18$ | $197: 5207: 4,5$ | $45: 19,2153: 12$ | $232: 25244: 1$ |
| $57: 2064: 3,8$ | $208: 7,9218: 8$ | $53: 1454: 4$ | $249: 3285: 1,2$ |
| $64: 16,2366: 1$ | $219: 25221: 13$ | $55: 1056: 9$ | $285: 13,18$ |
| 67:4,4,8,12,19 | $221: 16225: 5$ | $58: 6,10,11,19$ | $286: 13288: 8$ |
| $67: 21,2568: 3$ | $227: 7233: 15$ | $59: 3,1860: 3,5$ | caught $30: 15$ |
| $68: 13,18,22$ | $239: 16242: 9$ | $60: 9,10,11,19$ | cause $57: 9$ |
| 69:22 70:9 | $244: 5252: 12$ | $61: 15,2262: 6$ | $233: 10$ |
| $72: 1774: 16$ | $252: 24258: 2$ | $62: 2363: 1,15$ | cavin $8: 470: 16$ |
| $80: 483: 12$ | $264: 19282: 12$ | $63: 19,2164: 25$ | center $8: 5$ |
| $87: 890: 16$ | $283: 14285: 13$ | $65: 7,13,23$ | $219: 11$ |
| $91: 4,6,7,14$ | $285: 15,16,25$ | $66: 2,4,13,16,19$ | certain $50: 8$ |
| $96: 1297: 21$ | $286: 6,7288: 19$ | $66: 2167: 2$ | $74: 2132: 16$ |
| $101: 1,18103: 2$ | caselbone | $68: 2569: 1,2,3$ | $133: 21144: 3,3$ |
| $103: 8,10,19$ | $40: 21$ | $70: 4,5,9,18$ | $149: 11,22$ |
| $104: 2108: 9$ | cases $10: 3,12$ | $71: 7,9,11,17,23$ | $225: 22239: 10$ |
| $109: 7115: 15$ | $11: 315: 816: 1$ | $71: 2472: 19$ | $262: 15271: 14$ |
| $115: 20,21,23$ | $16: 817: 4,7,10$ | $73: 9,1174: 18$ | certainly $76: 3$ |
| $115: 23124: 23$ | $17: 16,19,20,21$ | $79: 981: 2,22$ | $131: 23132: 6$ |
| $125: 7132: 15$ | $17: 2318: 8$ | $86: 989: 8,12$ | $143: 2153: 5$ |
| $134: 19136: 2$ | $19: 7,9,11,13,15$ | $90: 1291: 24$ | $158: 8,16$ |
| $143: 16144: 21$ | $20: 1922: 3,13$ | $92: 8,10,15,18$ | $159: 17160: 17$ |
| $152: 15166: 12$ | $23: 1,8,14,18,21$ | $95: 796: 8,13$ | $162: 25163: 3$ |
| $166: 18167: 16$ | $24: 1,425: 10$ | $97: 2098: 19,19$ | $225: 12261: 18$ |
| $168: 14169: 5$ | $25: 13,1426: 3$ | $99: 3102: 24$ | $265: 8273: 11$ |
| $170: 9171: 3$ | $26: 11,1927: 2$ | $107: 5,7124: 13$ | certificate |
| $172: 16,21$ | $27: 6,23,24$ | $127: 3,3133: 11$ | $290: 1291: 1$ |
| $173: 12,20$ | $29: 2,1830: 12$ | $137: 5,9,22$ | certified $11: 24$ |
| $178: 12179: 22$ | $30: 16,22,24,25$ | $157: 13187: 21$ | $12: 426: 24$ |
| $179: 23,24$ | $31: 6,11,16,21$ | $189: 2,5,8,9,14$ | $65: 19100: 22$ |
| $180: 8,20,23$ | $31: 2432: 5,7$ | $190: 15191: 7$ | $100: 23101: 4$ |
| $181: 22182: 14$ | $32: 2436: 12$ | $206: 3207: 4$ | certify $290: 3$ |
| $187: 25189: 5$ | $37: 12,2238: 4$ | $208: 8224: 18$ | $291: 2$ |
| $191: 8,10,10,19$ | $38: 2041: 22,24$ | $225: 5226: 21$ | cetera $165: 25$ |
| $191: 20,20$ | $41: 2542: 19$ | $227: 3228: 10$ | $256: 11$ |
|  |  |  |  |

Page 15
[challenge - clarification]

| challenge 89:13 | cherry 40:22 | 115:24 116:1 | 104:7,13 |
| :---: | :---: | :---: | :---: |
| challenging | chevron 4:16 | 116:14 118:12 | 107:15 108:17 |
| 138:3 | 92:8 107:22 | 118:14,19 | 113:21 129:18 |
| chance 154:7 | 108:3 176:18 | 125:17 126:18 | 162:1,4 165:23 |
| 197:9 201:17 | 199:3 287:7 | 127:19,23 | 178:6,23 182:9 |
| 243:16 284:9 | chevron's | 129:7 130:7 | 193:12 194:2 |
| change 128:5 | 107:24 | 141:25 150:19 | 208:7 210:1 |
| 140:25 178:23 | chief $82: 10$ | 151:5 156:25 | 213:6 219:3 |
| 190:6 254:7 | child 133:5,7 | 165:22 166:2 | 229:12 232:13 |
| changes 87:13 | 271:6 278:9 | 168:5 171:17 | 247:20 254:14 |
| 190:5 | chime 54:22 | 173:3 177:13 | 254:22,25 |
| changing | 71:19 | 177:14 178:18 | 262:21 287:10 |
| 258:23 | choose 49:18 | 187:4 189:2,6 | circulation |
| characterizati... | chris 26:14 | 189:8,9 190:16 | 168:12 |
| 229:15 | christ 10:7 | 193:25 195:5 | circumstance |
| characterize | chronology | 195:16 196:15 | 276:20 |
| 207:19 | 10:19 12:18 | 197:1,5 202:23 | circumstances |
| chart 26:23 | 26:9 37:19 | 203:16,17 | 238:11 |
| 65:17 185:23 | 65:6 173:19 | 206:4,7 207:8 | cirmarex's |
| 230:19 231:1 | cimarex 5:18 | 207:11 220:3,7 | 121:1 |
| chat 286:24 | 8:17 60:24 | 220:14 222:18 | citation 59:8 |
| check 21:22 | 69:1,5,12 | 224:10 229:4 | 234:12 |
| 44:4 58:22 | 73:25 74:5 | 229:11 236:4 | citations 55:24 |
| 120:13 189:19 | 75:23 79:3,11 | 236:19 237:2 | 58:18 |
| checked 268:2 | 79:15,24 80:12 | 241:18 246:18 | cited 257:18 |
| checklist 12:6 | 80:24 83:13 | 248:24 251:1 | city 124:4 |
| 27:25 28:8 | 84:6 87:19,21 | 253:12,15 | claim 278:23 |
| 29:4,17,21 | 88:2 90:17,18 | 258:10 267:6 | claiming |
| 30:13 34:4 | 90:23 93:21 | 274:12 276:18 | 127:23 |
| 45:4,12,16 | 96:11,14,15,17 | 279:20 285:1 | clarification |
| 57:5 59:14,18 | 96:19,23 97:1 | 285:25 286:7 | 19:16 117:14 |
| 100:25 120:8 | 104:14,18 | cimarex's 77:7 | 118:11 191:14 |
| 120:19 194:23 | 106:5 107:10 | 77:10 81:13 | 191:16 215:11 |
| 288:13 | 107:23 108:2 | 94:16 97:5 | 215:16 221:3 |
|  | 114:9,18 115:8 | 99:9 103:19 | 234:9 |

Page 16
[clarifications - company]

| clarifications | 285:16 286:20 | collateral | coming 50:7 |
| :---: | :---: | :---: | :---: |
| 27:20 | cm 107:10 | 205:20,21 | 53:6 128:11 |
| clarify 114:12 | code 28:22 | colleague 69:23 | 138:1,2 140:11 |
| 116:19 135:21 | 103:16 120:7 | collectively | 142:16 282:1 |
| 176:13 221:25 | coffin's 204:3 | 25:11 | comment 118:9 |
| 228:25 282:18 | coffman 8:15 | colorado | commented |
| clarity 214:25 | 9:14 12:11,13 | 203:14 | 255:2 |
| classic 97:10 | 12:15,17 94:17 | coloring 80:7 | comments 87:2 |
| classification | 169:18,20 | com 24:16,22 | 93:6 138:12 |
| 117:23 | 170:3,5,24 | 25:2,9,21 26:1 | 281:17 |
| classify 212:22 | 176:11 177:22 | 34:3 47:25 | commitments |
| 216:18 231:13 | 178:2,11,16 | 64:14,22 | 176:24 |
| clean 219:8 | 180:8 181:6 | 129:25 133:24 | committed |
| clear 21:11 | 186:8 188:11 | 233:5 | 33:17 64:9 |
| 40:9 54:10 | 189:21 190:3 | combined 91:7 | 176:14 199:5 |
| 75:17 144:12 | 194:7,13 | 97:20 222:20 | 199:13 |
| 214:15 287:12 | 200:11,12,17 | 225:9 236:18 | common |
| clearly 99:7 | 200:20 202:17 | combo 207:16 | 224:12 255:12 |
| 127:8 140:10 | 202:21 220:1 | come 20:5 | 255:14 |
| 212:12,13 | 228:7 | 46:15 47:7,10 | communicated |
| 245:11 | coffman's | 48:16 53:3 | 118:20 |
| clerical 120:3 | 182:15 183:18 | 83:7 87:22,23 | communication |
| click 43:20 | $\boldsymbol{\operatorname { c o g }}$ 6:14 18:12 | 127:24 140:16 | 51:17 142:18 |
| clients 256:10 | 92:1,19 176:16 | 149:12 167:7 | 142:25 159:21 |
| close 110:5 | 199:4 | 182:5,10 233:2 | 204:5,11 |
| 133:13 143:6 | coin 95:15,19 | 233:25 234:18 | 211:10 220:2 |
| 171:13 256:15 | 96:1 | 240:19 251:18 | 272:18 |
| closely 235:1 | coincide 246:10 | comes 47:6 | communicati... |
| 285:14 | coincides | 48:11 152:15 | 153:3 232:19 |
| closer 219:12 | 224:25 | 153:1,9,10 | company $4: 9$ |
| 219:18 247:22 | colgate 7:2 23:2 | 183:6,7 200:20 | 5:9,10,17,18 |
| closing 225:25 | 23:3,5 24:5,8 | 223:20 238:3 | 6:2 8:12,15,17 |
| 226:5 234:10 | 24:11,17,23 | 248:12 259:4 | 16:7 17:21 |
| 234:15 283:23 | 25:17,22 | 271:2 275:6 | 18:4,15 31:15 |
| 284:1,16 |  |  | 60:10,15,24 |

Page 17
[company - conference]

| 63:4 69:2,5,12 | 199:12,15 | complicating | 263:12 277:2 |
| :---: | :---: | :---: | :---: |
| 90:17,23 91:6 | 255:4,20,24 | 139:19 | concerned |
| 102:15,16 | completely | complied 108:7 | 171:13 |
| 107:20 108:7 | 254:8 284:13 | comply 83:16 | concerning |
| 128:20 168:6 | completion | component | 247:13 |
| 243:3 244:10 | 96:20 132:16 | 165:11 | concerns 33:9 |
| 245:20 272:7 | 143:12,17 | compose 284:9 | 76:11 171:12 |
| company's | 144:5,14,19 | comprehensive | 171:19 |
| 79:19 | 149:12,13 | 245:2 | concho 6:14,17 |
| compare | 153:18,23 | comprised | 92:2,19 145:18 |
| 150:11,16,21 | 160:8,15 161:1 | 24:13,20,25 | 176:16 |
| 182:2 256:9 | 164:21 165:1,3 | 25:7,19,24 | concho.com 4:7 |
| compared | 165:5,10 186:2 | 33:19,22 34:17 | 6:20 |
| 147:1 182:3 | 218:19 219:18 | 35:8,10 36:1,3 | conclude |
| comparing | 219:19 248:20 | 64:11,19 | 283:14 |
| 13:11,13 | 253:13 255:16 | compromise | concluded |
| 210:25 | 256:4 261:11 | 83:7 118:14 | 207:21 289:2 |
| comparison | 274:17 | 175:5 248:15 | concludes |
| 147:6 150:12 | completions | compulsory | 288:6 |
| 209:11 | 125:23 201:23 | 171:3 195:9 | conclusion |
| compete 133:14 | 214:16 272:20 | 198:19 | 245:22 259:23 |
| competing | complex 41:24 | computing | 261:4,23 262:5 |
| 80:16 81:1,6 | 76:1 | 151:15 | condition 278:1 |
| 91:16 95:22 | complexity | concentration | conduct 259:6 |
| 98:18 246:23 | 75:22 | 187:14 | 259:8 |
| compiled 11:18 | complicated | concentrations | conducted |
| 11:20 | 74:19,20 | 107:17 187:5 | 258:1 261:12 |
| complement | 137:10,13,21 | 187:15 | 265:24 |
| 280:25 | 139:21,23 | concept 141:11 | conducting |
| complete 87:11 | 141:2 191:10 | 238:10 | 14:4 |
| 133:13 162:15 | 193:17 207:1 | conception | confer 56:10 |
| 198:24 254:13 | 209:18 245:15 | 262:18 | 90:6 |
| 254:15,16 | complicates | concern 33:11 | conference |
| completed | 130:17 | 33:13 47:13 | 16:15 74:9 |
| 189:12 199:11 |  | 56:3 76:6 | 77:18 107:6 |

Page 18
[conference - controlling]

| $187: 22$ | consequences | consultant | $58: 571: 6,10$ |
| :---: | :---: | :--- | :--- |
| conferences | $248: 2,2276: 6$ | $161: 6$ | $71: 17127: 5$ |
| $22: 25$ | conservation | consulted | $226: 9240: 15$ |
| confidence | $1: 33: 2,6$ | $160: 9$ | continued |
| $263: 4268: 22$ | $108: 14$ | consider $85: 9$ | $6: 17: 18: 1$ |
| confident | con:13 $89: 12$ | $11: 112: 1,3$ | $67: 19,24$ |
| $251: 13$ | $109: 23135: 13$ | $13: 1,3$ | $17: 1,955: 12$ |
| confines 206:16 | continuous |  |  |
| confirm 21:5 | $225: 15229: 5$ | contact $65: 6$ | $218: 23$ |
| $44: 2146: 7$ | $263: 22278: 2$ | $103: 16132: 18$ | contracted |
| $47: 1248: 21$ | considerably | $143: 15$ | $164: 14$ |
| $52: 1589: 20$ | $129: 5271: 13$ | contacts $10: 19$ | contractual |
| $121: 9172: 25$ | consideration | $12: 1826: 10$ | $174: 20,22$ |
| $195: 1,5234: 3$ | $74: 2181: 18$ | $37: 19173: 19$ | $179: 11192: 23$ |
| $237: 13261: 3$ | $109: 19135: 6$ | $173: 25$ | $198: 6$ |
| $287: 17$ | $258: 7263: 24$ | contain $64: 25$ | contradiction |
| confirmed | $274: 9278: 16$ | contained | $140: 6$ |
| $163: 13$ | considered | $248: 14$ | contradictory |
| confirming | $174: 16281: 15$ | contest $83: 12$ | $128: 1220: 16$ |
| $53: 7234: 19,23$ | $282: 17$ | contested $79: 9$ | contrast $244: 9$ |
| conform $139: 8$ | considering $1: 8$ | $79: 2287: 9$ | contribute $88: 3$ |
| confront $81: 2$ | $77: 17273: 23$ | $91: 13249: 3$ | $127: 9,11211: 9$ |
| confused $43: 20$ | consistent | context $97: 15$ | $271: 2$ |
| $126: 25128: 9$ | $209: 7242: 25$ | $140: 3,4,8,24$ | contributed |
| $194: 24246: 9$ | consolidate | $145: 13206: 17$ | $260: 23$ |
| confusion | $23: 10$ | $206: 17,19$ | contribution |
| $138: 4,19140: 9$ | consolidated | continuance | $218: 25243: 14$ |
| $191: 6204: 4$ | $15: 817: 21$ | $29: 2056: 22$ | $243: 15$ |
| connectivity | $19: 823: 1,8$ | $71: 1280: 15$ | control $212: 19$ |
| $235: 14276: 17$ | $31: 762: 24$ | $81: 484: 14$ | $263: 17$ |
| consensus | $63: 1195: 7$ | continuances | controlled |
| $61: 25262: 1$ | $288: 8$ | $17: 13$ | $263: 5268: 23$ |
| consequence | constraints | continue $16: 14$ | controlling |
| $276: 19,21$ | $71: 16$ | $16: 1617: 7$ | $268: 25$ |
|  |  | $54: 1557: 18,20$ |  |
|  |  |  |  |

Page 19
[controversy - correlative]

| controversy | $118: 15,16,24$ | $191: 15192: 1,2$ | $244: 17245: 12$ |
| :--- | :--- | :--- | :--- |
| $80: 20$ | $120: 16122: 19$ | $192: 5,6,9,10,13$ | $245: 13248: 3,4$ |
| conundrum | $122: 20123: 16$ | $192: 16,17,20$ | $249: 21,24,25$ |
| $286: 3$ | $124: 8,20133: 3$ | $192: 24,25$ | $250: 3,5,14,18$ |
| convenience | $133: 15135: 25$ | $193: 2,3,6,10,11$ | $251: 3,4,9,12,13$ |
| $199: 17$ | $136: 10,18$ | $193: 15,16,23$ | $252: 9253: 7,15$ |
| convention | $137: 7,8140: 23$ | $193: 24194: 16$ | $253: 17256: 24$ |
| $132: 13274: 1$ | $142: 8,25$ | $194: 17195: 2,3$ | $257: 18260: 13$ |
| conventions | $143: 10146: 1,5$ | $195: 6,7,11,12$ | $261: 8,9,20,21$ |
| $211: 12$ | $147: 16148: 12$ | $195: 17,22$ | $262: 2263: 3,23$ |
| conversation | $155: 23157: 6$ | $197: 23200: 23$ | $264: 18265: 4$ |
| $1: 6$ | $161: 17,20$ | $200: 24201: 3,4$ | $269: 5275: 4,13$ |
| coordination | $163: 8164: 6$ | $201: 19,20$ | $277: 2,8,11$ |
| $165: 21$ | $165: 6,20,20,25$ | $203: 21,22$ | $278: 1279: 10$ |
| copy $107: 9$ | $167: 10170: 14$ | $204: 11,12$ | $281: 6$ |
| $265: 12288: 14$ | $170: 15,17,18$ | $205: 1,2,6,9,15$ | corrected $28: 8$ |
| corkboard $44: 4$ | $171: 6,7,9,10,18$ | $205: 16,18,19$ | $29: 12116: 15$ |
| correct $17: 19$ | $172: 11,12,15$ | $205: 22206: 11$ | correction |
| $17: 2418: 25$ | $172: 18,20,23$ | $206: 12,14,15$ | $170: 20$ |
| $28: 7,2130: 14$ | $173: 4,8,9,11,14$ | $206: 22,23$ | corrections |
| $31: 6,843: 3,15$ | $173: 19,22$ | $210: 14,17,20$ | $28: 16,17$ |
| $43: 2546: 23$ | $174: 2,3,18,21$ | $211: 14213: 23$ | correctly $50: 6$ |
| $47: 15,1748: 3$ | $174: 25175: 2,3$ | $213: 24214: 3$ | $111: 7153: 8$ |
| $48: 651: 1,14$ | $175: 6,11,13,15$ | $214: 12215: 24$ | $162: 22$ |
| $52: 2154: 22$ | $175: 18,24,25$ | $215: 25216: 2$ | correlative |
| $63: 10,1271: 5$ | $176: 23177: 1,4$ | $221: 15227: 13$ | $13: 1874: 3$ |
| $76: 1888: 21$ | $177: 6,16,17,20$ | $228: 5,8,14,17$ | $75: 1697: 11$ |
| $98: 7102: 11$ | $178: 21,22$ | $229: 7,8230: 21$ | $98: 25113: 23$ |
| $103: 13,14$ | $181: 24,25$ | $231: 10,11$ | $114: 3,13116: 8$ |
| $105: 18106: 8$ | $182: 7184: 11$ | $232: 8,9233: 6$ | $116: 14173: 7$ |
| $106: 25110: 4$ | $186: 13,14$ | $234: 5,13$ | $185: 4191: 24$ |
| $111: 10112: 2,3$ | $187: 16188: 13$ | $236: 14237: 9$ | $192: 3,8193: 21$ |
| $112: 23113: 16$ | $188: 14190: 7$ | $238: 23239: 17$ | $197: 16206: 22$ |
| $113: 24115: 9$ | $190: 13,14,20$ | $242: 8,19$ | $235: 11248: 8$ |
| $116: 9,21$ | $190: 21191: 3,4$ | $243: 22,23$ | $251: 11254: 23$ |
|  |  |  |  |
|  |  |  |  |

Page 20
[correspond - dated]

| correspond | 264:13 272:14 | 178:10,14 | d2 168:20 |
| :---: | :---: | :---: | :---: |
| 193:13 | 275:21 | 180:3 209:19 | d3 168:8,13,23 |
| corresponden... | course 57:16 | 218:11,16 | damage 145:4 |
| 126:18 | 76:5 137:15 | 237:25 252:22 | 145:6,9,11 |
| cost 81:9,11 | 155:1 161:5 | 253:2 270:3 | 205:21 217:11 |
| costs 173:15 | 163:11 173:3 | crosses 136:10 | 250:21 276:11 |
| 176:4,7 190:19 | 174:4 228:7 | 210:16 | 276:13 |
| coterra 5:18 | 265:17 287:23 | crosstalk 163:2 | damaging |
| 8:15,19 60:24 | court 182:21 | cuff 283:24 | 250:23 |
| 170:6 200:21 | 284:22 285:6 | cumbersome | dana 2:7 7:3 |
| 201:1241:17 | cover 214:10 | 76:8 | 23:5 290:2,20 |
| counsel 42:18 | coverage 209:2 | cumulative | danger 188:22 |
| 53:2,3 290:10 | covered 275:25 | 246:5 | darin 5:19,23 |
| 290:13 291:7 | cracks 163:7 | curative 115:5 | 18:2 60:23 |
| 291:10 | creates 163:6 | curious 213:1 | 69:11 90:22 |
| county 24:8 | credential | current 26:25 | darrin 168:5 |
| 33:10 64:7 | 100:12 | 45:3 48:22 | data 107:24 |
| 105:22 110:9 | credentials | 97:7 170:4 | 124:18 144:12 |
| 110:10 112:14 | 100:9 | 196:3 239:7 | 151:21 212:7 |
| 112:15,17,19 | creek 7:8 8:10 | 274:18 | 222:4,16 |
| 112:22 125:9 | 31:1,4 32:7 | currently 46:21 | 233:13 250:4 |
| 125:10 145:15 | 33:16 35:4 | 49:7 149:7,17 | 250:13 256:6,9 |
| 168:13 203:19 | 36:18,25 37:1 | 199:7 263:16 | 257:7 267:12 |
| 232:24 241:20 | 37:2,18 49:1 | cut 18:22 76:16 | 272:10 273:8 |
| 246:6 247:3 | 58:4,11 | cx 9:6 | 276:3 279:13 |
| 254:4 | creek's 48:21 | d | date 2:2 21:3 |
| couple 27:19 | 54:17 | d 9:1 11:20 | 26:23 53:22 |
| 43:4 96:21 | cross 12:23 | $14: 121$ | 62:3 65:18,18 |
| 102:14 113:16 | 26:16,17,17 | 108:6,9 | 71:18,21 72:20 |
| 127:1 129:17 | 38:12,13 65:11 | 130.23168 .7 | 73:1 77:9 79:5 |
| 156:5 178:20 | 89:22 90:2 | 168:14,15,22 | 79:11,12 80:3 |
| 189:19 212:18 | 93:1,10 109:13 | 169:5,6 209:2 | 87:14 186:2 |
| 212:23,24 | 109:16 124:17 | $215: 1,6$ | 287:18,25 |
| 215:14 237:21 | 134:23 135:1 | d1 168:7,21,22 | dated 127:6,20 |
| 253:19,22 | 163:3,20 | d1 168.7,21,22 | 140:17 |

Page 21
[dates - depth]

| dates 71:19 | deana.bennett | 273:18 274:4 | demonstrate |
| :---: | :---: | :---: | :---: |
| 72:2,6 75:1,2,6 | 4:22 5:7 | default 81:3 | 272:15 |
| 76:19,21 77:4 | decide 126:4 | defeats 47:8 | demonstrated |
| 77:15,20,25 | 143:13 225:13 | defer 185:17 | 142:13 254:18 |
| 78:3,6,8,9,13 | 281:7 | 186:7,21,25 | demonstration |
| 79:2,16 82:6 | decided 71:4,8 | 196:10,17 | 244:8 259:18 |
| 87:15 89:4 | deciding | 258:4 | denied 179:10 |
| 255:16 287:25 | 153:24 | deficiencies | density 209:25 |
| day 71:24 72:4 | decipher | 29:17 | 210:5 |
| 79:12 88:9 | 126:16 | define 110:17 | denver 3:21 |
| 255:24 286:19 | decision 71:17 | 223:19 | deny 56:1 |
| days 55:2 67:23 | 84:10 126:10 | defined 224:2 | denying 185:14 |
| 71:25 105:25 | 160:13 165:16 | 229:6,9 235:7 | 269:7 |
| 215:14 282:17 | 165:19 | defines 74:2 | department 1:2 |
| 284:3,16,19,21 | declaration | defining 145:6 | 3:5 |
| 286:20 287:18 | 224:15 | 223:20 276:13 | dependent |
| 288:2 | declaratory | definitely 42:7 | 53:17 198:11 |
| de 4:5 6:18 | 73:21 84:17,23 | 57:11 207:4 | depending |
| 7:11 23:19 | decrease | 215:22 | 136:12 199:20 |
| 63:20 | 248:16 264:2,4 | definition | 262:16 |
| deadline 20:22 | 264:23 266:17 | 234:11 235:20 | depends 74:1 |
| 61:16 81:4 | decreasing | 238:25 239:7 | 84:11 153:17 |
| 88:16,20 | 250:24 | degree 132:16 | 157:12 272:19 |
| deadlines 85:18 | dedicate 64:13 | 142:21 143:1 | deplete 267:9 |
| deal 82:13 | dedicated | 159:15 160:18 | depleted 278:9 |
| 172:6 | 24:15,21 25:2 | 163:9 262:16 | depletion 134:3 |
| dealing 130:20 | 25:8,20 26:1 | 267:9 | 134:7,7 247:17 |
| dean 3:4 14:13 | 34:2 64:21 | degrees 188:18 | 271:10 276:16 |
| 42:12 | deed 199:23 | 188:21 208:18 | deposition |
| dean.mcclu | deemed 204:25 | delaware 247:3 | 290:1 |
| 3:9 | deep 15:6 | delayed 81:23 | deprived |
| deana 4:18 5:3 | 130:21 207:17 | 81:23 | 205:12 |
| 15:22,23 23:17 | deeper 125:14 | delaying 76:12 | depth 126:1 |
| 63:17 92:6 | 154:22 238:16 | deliverability | 130:17 134:2 |
| 93:2 287:4 | 238:17 251:23 | 151:11 | 146:7,18 153:1 |

Page 22
[depth - dime]

| $153: 20154: 6,7$ | $248: 20258: 17$ | developed $81: 1$ | $228: 15239: 3$ |
| :---: | :---: | :---: | :---: |
| $154: 22155: 5$ | $258: 18278: 11$ | $99: 10117: 1,21$ | $245: 19262: 20$ |
| $155: 19178: 19$ | designated | $130: 18217: 2$ | differences |
| $184: 12,20,21$ | $24: 937: 2$ | $251: 19272: 25$ | $81: 9139: 8$ |
| $253: 11,14$ | $117: 7$ | developing | $140: 8256: 11$ |
| 264:3,23 | designed $160: 9$ | $96: 16,18113: 6$ | $274: 9$ |
| $273: 22274: 9$ | despite $74: 17$ | $247: 25$ | different $44: 21$ |
| 274:19 | detail $46: 19$ | development | $45: 696: 22$ |
| depths 132:18 | $234: 11$ | $80: 21,2298: 8$ | $114: 5117: 3,7$ |
| $184: 12,23,25$ | details $61: 20$ | $99: 6111: 14$ | $127: 1129: 14$ |
| $196: 4238: 22$ | $90: 4,7$ | $113: 3,4,11$ | $133: 10162: 18$ |
| $273: 9$ | determination | $118: 15119: 5$ | $171: 23172: 4$ |
| describe $73: 14$ | $84: 5257: 15$ | $165: 23176: 18$ | $180: 22182: 4$ |
| $100: 9208: 6$ | $258: 12260: 21$ | $197: 14,15$ | $184: 25188: 24$ |
| $214: 6221: 5$ | determinations | $199: 9214: 1,2$ | $197: 25210: 6$ |
| $241: 11242: 24$ | $257: 16$ | $214: 3216: 6$ | $210: 12212: 1$ |
| $243: 13244: 4$ | determine $74: 6$ | $222: 19225: 14$ | $231: 7,15,17$ |
| $244: 14,21$ | $209: 12254: 10$ | $229: 13232: 23$ | $232: 15248: 2$ |
| $245: 16$ | $259: 9260: 22$ | $272: 21287: 10$ | differently |
| described | determined | developments | $231: 14$ |
| $177: 13217: 13$ | $259: 13,17$ | $207: 18$ | differs $114: 21$ |
| $246: 8$ | $260: 18$ | devon $5: 17$ | difficult $41: 25$ |
| describes | determines | $17: 2018: 3$ | $160: 19212: 19$ |
| $211: 10$ | $151: 18$ | $20: 1131: 14,23$ | $216: 22251: 5$ |
| description | determining | diagnosis | $259: 1,2274: 22$ |
| $10: 2,1111: 2$ | $54: 3$ | $229: 23$ | $282: 6283: 21$ |
| $11: 1012: 2,8$ | detrimental | diagram $26: 18$ | difficulties |
| $13: 259: 19,20$ | $133: 21274: 20$ | diamonds | $152: 25$ |
| $98: 8110: 18$ | develop $98: 22$ | $212: 10$ | difficulty $83: 23$ |
| $176: 20203: 12$ | $119: 2146: 3$ | differ $114: 7$ | digital $290: 8$ |
| $207: 10$ | $164: 23176: 3,7$ | difference | $291: 3$ |
| design $132: 17$ | $208: 13213: 14$ | $81: 10135: 21$ | diligence $219: 9$ |
| $143: 18144: 1$ | $216: 4248: 9$ | $155: 3,22$ | dime $97: 9$ |
| $144: 11153: 20$ | $254: 23285: 20$ | $184: 21224: 9$ | $116: 5$ |
| $161: 3214: 9$ |  | $224: 12227: 23$ |  |
|  |  |  |  |
|  |  |  |  |

Page 23
[direct - doing]

| direct 102:5 | discussing | ditto 93:9 | 242:21 |
| :---: | :---: | :---: | :---: |
| 124:1 138:12 | 84:18 107:10 | dive 14:21 | division's 42:19 |
| 170:1 184:1 | 179:10 281:14 | divided 105:5 | 46:13 57:25 |
| 203:7 241:7 | discussion | division 1:3,7 | 72:18 81:17 |
| 260:9 | 85:23 90:14 | 3:2,6 17:5 | 100:10 103:16 |
| direction 12:20 | 164:15 172:24 | 22:12 34:11,15 | 207:3 281:10 |
| 208:16,19 | 175:9 177:10 | 42:4 44:15 | 285:23 286:4 |
| 222:17 225:3 | 183:20 210:11 | 47:10 48:19 | doable 161:10 |
| 226:20 257:22 | 239:24 | 53:22 54:3,10 | docket 1:9 14:6 |
| 269:11,13 | discussions | 55:9,21 56:1 | 14:7,22 15:6 |
| directly 84:11 | 164:20 184:1 | 56:12,16 64:24 | 16:15 17:20 |
| 149:2 159:16 | 234:25 | 67:7 68:2 71:3 | 18:9 21:8 |
| disagree | dismiss 61:14 | 71:8 73:7,13 | 22:24 23:15 |
| 151:16 162:6 | 61:21 62:2 | 73:13,18 74:2 | 28:18 29:3 |
| 187:7,10,17 | dismissed 84:3 | 74:5,20 75:24 | 30:23,25 31:11 |
| disagreement | dispense | 76:7 77:5 79:8 | 55:13 58:2,4 |
| 28:2 121:15 | 100:14 | 80:25 81:17 | 62:23 67:2,20 |
| 156:23 236:4 | displayed | 82:4,7 84:1,5 | 67:22,25 70:19 |
| disappointed | 209:25 210:1 | 84:10,17 85:8 | 86:10 |
| 72:17 | disposed 60:5 | 85:13 87:23 | dockets 18:22 |
| discount 286:9 | dispositive | 96:23 97:17 | 41:23 |
| discrepancy | 85:17 | 98:18 99:2 | document |
| 179:5,6 | distance 144:3 | 100:8,13 | 57:12 90:16 |
| discretion 59:5 | 188:7 232:9,18 | 102:11 117:7 | documentation |
| discuss 16:16 | 247:21,23 | 124:10 144:15 | 162:4 |
| 46:16 141:2 | distances | 146:21 169:19 | documents |
| 198:12 234:4 | 188:17 | 170:3 174:11 | 11:18,20 30:3 |
| 235:14 239:24 | distant 179:22 | 176:13 178:3 | 42:14 87:20,23 |
| discussed 56:23 | distinction | 191:13 192:24 | 88:1 108:6 |
| 57:22 71:20 | 243:7 | 199:18 203:11 | 127:1 137:4 |
| 85:18 96:13 | distinctions | 205:21 207:10 | doing 28:16 |
| 105:18 127:4 | 136:24 | 216:25 224:2 | 44:24 54:25 |
| 147:21 190:11 | distinguishable | 224:15 225:3 | 55:3 76:4 |
| 204:2 | 223:22 | 225:13,15 | 92:12 105:20 |
|  |  | 229:4 241:10 | 185:6 206:13 |

Page 24
[doing - e]

| 208:20 245:22 | draining 222:6 | 263:7 272:7 | drive 3:7 |
| :---: | :---: | :---: | :---: |
| 276:16 | 223:25 251:6 | 273:17 274:3 | 245:17 |
| dollars 81:12 | 264:5 | 274:19 276:4 | driving 176:3 |
| door 184:2 | drains 132:2,4 | 276:23 | 271:15 282:9 |
| double 40:8,10 | drastic 128:5 | drilled 47:22 | drop 232:5 |
| 44:4 58:21 | drastically | 51:13 99:10 | 259:25 |
| downplay | 172:4 | 110:12,23 | dropped 20:3 |
| 163:12 | draw 259:11 | 111:1,4,4,15 | 267:18 |
| downward | 260:17 287:15 | 112:13 113:8 | dropping |
| 201:25 262:2 | drawdown | 114:16,23 | 152:24 |
| 262:10 269:4 | 247:7,11 261:1 | 121:2 127:15 | dry 6:16 18:10 |
| 273:19 | 261:5 | 128:20 142:23 | 18:11,17 20:25 |
| downwards | drill 47:5,15 | 148:10 149:24 | 21:2 91:25 |
| 262:7 | 48:5,12,12 | 175:8 207:13 | 92:1,4,16,19 |
| dozen 128:19 | 49:2 51:5,8 | 207:25 208:19 | 93:8 |
| drain 97:6 | 81:12 98:22 | 217:2 243:1,19 | dual 200:4 |
| 121:16 153:19 | 111:12,18,21 | 243:21 244:9 | due 67:20 |
| 153:19 161:3 | 111:22 112:6,7 | 250:20 255:6 | 88:10 212:18 |
| 162:2 197:2 | 119:7,9 125:7 | 255:10 267:17 | 216:16 219:9 |
| 206:21 217:3 | 130:25 131:9 | drilling 13:10 | 271:10 |
| 221:17 251:15 | 132:24 133:17 | 27:22 48:9 | duly 50:18 |
| 251:16 267:2 | 133:18 136:14 | 55:1 99:1,11 | 101:22 102:2 |
| 274:7 | 136:15 137:18 | 99:14 108:21 | 123:21 169:21 |
| drainage 221:5 | 140:17 142:2,6 | 111:20 132:23 | 203:2 241:4 |
| 221:9 222:4 | 143:4 144:25 | 132:25 133:12 | 290:5 |
| 223:22 224:25 | 145:3 149:9 | 134:1 146:15 | durango 69:13 |
| 225:1 229:7 | 151:25 161:21 | 161:11 165:19 | dx 9:6 |
| 232:19 233:14 | 185:14 204:17 | 165:24 170:13 | dynamics |
| 237:23 238:1 | 208:13 216:3 | 180:16 197:15 | 235:11 |
| 238:10 239:5 | 216:12 220:11 | 216:5 217:10 | e |
| 248:17 252:3 | 236:16 237:1,2 | 219:10 236:20 |  |
| 259:14 260:8,9 | 246:19,20,22 | 237:6 243:4 | $5: 16: 1,17: 1,1$ |
| drained 217:16 | 248:11 249:5 | 244:11 274:5 | 8:1,1 9:1 10:1 |
| 259:19 | 249:13 251:8 | drills 115:24 | 11:1 12:1 13:1 |
|  | 262:21,25 | 238:7 251:2 | 14:1,1 |

Page 25
[earlier - energy]

| earlier 16:13 | eastern 123:2 | 201:7 215:7 | encapsulates |
| :---: | :---: | :---: | :---: |
| 52:8,21 59:12 | easy 42:10 | 281:4 | 59:2 |
| 59:22 150:15 | echo 30:5 | electron 98:15 | encounter 81:2 |
| 152:25 157:2 | economic 175:1 | elementary | encourage 90:5 |
| 159:2 161:24 | 207:22 251:5 | 198:2 201:23 | encroach |
| 163:13 176:12 | 263:8 | elements 84:11 | 164:18 |
| 210:12 236:8 | economics | elizabeth 40:21 | encroaching |
| 237:6 257:16 | 243:2 | 291:2,18 | 215:22 |
| 257:18 263:20 | eddy $24: 8$ | ellipsis 91:9 | endorse 83:10 |
| 274:16 287:13 | 33:10 112:14 | else's 173:6 | ends 198:14 |
| earliest 72:21 | 112:15 125:9 | elucidation | energy 1:23:5 |
| 73:1 79:5 80:2 | 241:19 | 98:4 | 5:9,17,18,18 |
| 255:9 | educational | email 71:20 | 7:2 8:12,15,17 |
| early 51:17 | 203:12 241:12 | 265:13 285:6 | 8:19 17:20 |
| 188:3 | 241:15 283:20 | 286:22 | 18:4 31:14 |
| easier 41:10 | effect 73:19 | emnrd.nm.gov | 60:24,24 69:2 |
| 252:3 | 108:3 | 43:25 | 69:5,12 90:17 |
| easily 41:18 | efficient 252:3 | emnrd.state.n... | 90:23 91:6 |
| 151:22 | 273:17 274:3 | 43:15 | 98:24 99:12 |
| east 4:20 5:5 | efficiently | emnrd.state.n... | 103:24 104:4,7 |
| 24:7 33:10,14 | 251:15 | 44:1 | 107:20 144:13 |
| 34:25 35:3,8 | effort 194:2 | emotions | 144:18 145:24 |
| 35:10 36:1,3 | 206:5,9 212:1 | 234:17 | 146:7 147:20 |
| 37:21 38:3 | efforts 193:12 | emphasize | 148:4,20 152:3 |
| 39:9 40:1 | 207:20 229:13 | 210:6 217:20 | 164:14 165:18 |
| 45:22,23 59:15 | eight 120:11 | 252:11 | 168:6 171:1,2 |
| 64:7,13,19,21 | 133:1 226:21 | emphatically | 172:25 173:24 |
| 96:10 110:22 | either 19:14 | 142:22 | 174:20,23 |
| 128:13 129:3 | 54:18 56:21 | employed | 175:8,19,22 |
| 129:25 131:5,7 | 66:13 92:23 | 290:11,14 | 176:2 177:11 |
| 132:15 156:6 | 96:1 99:6,7,20 | 291:8,11 | 177:15 179:25 |
| 188:13,16 | 101:4 108:3 | employee | 183:20 200:21 |
| 208:18,20 | 141:22 149:9 | 290:13 291:10 | 200:25 214:7 |
| 212:19 272:1 | 149:11 152:1 | employment | 216:14 233:11 |
| 273:5 | 160:1 179:24 | 170:4 | 241:17,18 |

Page 26
[energy - evidence]

| 243:3,8 248:21 | enhanced | 70:2,4 90:17 | established |
| :---: | :---: | :---: | :---: |
| 250:12 | 116:15 173:8 | 91:2 | 182:13 207:11 |
| energy's 99:4 | 185:6,14 | $\operatorname{eog}$ 3:11 15:9 | 211:16 246:15 |
| 176:3,7 177:20 | 191:23 192:3,9 | 15:17 16:13 | estimated |
| 214:6 247:23 | enhances | 19:3,10,12 | 155:5 |
| 252:6 279:14 | 281:10 | 61:9 62:8 | estimation |
| engage 171:21 | ensure 43:3 | equal 219:20 | 174:15 |
| engineer 8:19 | 160:22,23 | 274:1 | et 60:25 165:25 |
| 93:23 94:18 | enter 21:6 | equally 133:14 | 256:11 |
| 100:7 125:23 | 91:11 92:10 | equation | ethe 236:9 |
| 125:23 126:4 | entered 17:9 | 117:18 | evaluate 20:12 |
| 132:16 143:13 | 19:3,20 21:23 | equivalent | 71:14 209:12 |
| 143:17 144:5 | 91:15 92:7 | 135:24 215:2,3 | 210:23 |
| 144:14,15,19 | entering 16:7 | ergo 143:3 | evaluated |
| 144:19 153:23 | 18:14 23:17 | errors 30:14 | 71:14 |
| 160:9,15 161:1 | 61:10 63:19 | es 290:4 | evasive 274:21 |
| 164:17 165:1,3 | 91:14 | especially 68:6 | evd 10:2,11 |
| 165:5,10,14,15 | entire 180:21 | 143:5 243:18 | 11:2,10 12:2,8 |
| 165:19 177:10 | 214:4 246:6 | 285:1 | 13:2 |
| 185:23 214:7 | 272:25 | esquire 3:12,18 | event 51:7 |
| 214:16 241:2 | entirely 286:7 | 4:3,10,18 5:3 | everybody |
| 241:16,19 | entirety 25:12 | 5:11,19 6:3,9 | 50:12 61:24 |
| 248:20 274:17 | 45:21,22 46:8 | 6:16 7:3,9,15 | 71:3 83:3 |
| engineering | 59:15 199:7 | 7:21 8:3 | 85:15 166:4 |
| 49:8 51:3 | entities 69:3 | essence 284:25 | 173:6 199:6 |
| 75:22 137:11 | 92:11 198:12 | 285:2 | 219:9 270:3 |
| 137:21 188:17 | entitled 223:4 | essential 73:17 | 286:22 288:5 |
| 188:20 203:14 | entity 36:17 | 73:20 74:15 | everybody's |
| 250:20 252:15 | entries 23:13 | essentially | 211:17 |
| 257:6 | 68:13,14 69:17 | 48:21 54:17 | evidence 30:18 |
| engineers | entry 17:22 | 75:24 120:19 | 66:23 101:19 |
| 149:13 164:21 | 18:7 23:2 31:2 | 155:4,11 | 109:1,8 133:20 |
| 179:14 | 31:10,15,23 | 158:18 257:17 | 134:20 169:6 |
| enhance 285:23 | 60:10,18 63:13 | establish | 178:13 218:9 |
|  | 67:5,11 69:4 | 223:21 | 252:25 285:12 |

Page 27
[evident - examiner]

| evident $56: 17$ | $18: 1,2,5,11,13$ | $84: 13,1985: 4$ | $182: 23183: 15$ |
| :---: | :--- | :--- | :--- |
| exact 115:3,6 | $18: 16,20,25$ | $85: 5,11,22$ | $183: 23187: 9$ |
| 178:19 208:20 | $19: 5,14,22$ | $86: 3,887: 1,3,7$ | $188: 5189: 23$ |
| 253:20 260:4 | $20: 1,2321: 4$ | $87: 1888: 8,13$ | $194: 9200: 16$ |
| exactly 48:15 | $21: 10,13,18,21$ | $88: 15,19,22$ | $202: 4,11,15,19$ |
| 50:25 132:2 | $21: 2522: 9,14$ | $89: 2,1890: 3$ | $217: 25218: 3,6$ |
| $154: 20161: 20$ | $23: 4,6,9,11,22$ | $90: 10,20,24$ | $218: 12223: 4$ |
| $165: 9189: 15$ | $23: 2527: 8,12$ | $91: 2,5,8,17,22$ | $223: 11225: 16$ |
| $189: 16208: 22$ | $29: 13,15,23$ | $92: 1,3,13,21,24$ | $225: 19228: 22$ |
| $219: 13239: 16$ | $30: 4,10,21$ | $93: 7,11,17,24$ | $229: 18,24$ |
| examination | $31: 3,5,9,13,18$ | $94: 5,8,12,14,19$ | $230: 11231: 21$ |
| $89: 22,2293: 10$ | $31: 2332: 1,16$ | $95: 2,14,25$ | $231: 25233: 24$ |
| $102: 5109: 13$ | $38: 2439: 3$ | $96: 597: 19$ | $237: 19238: 6$ |
| $109: 16124: 1$ | $42: 1650: 13,21$ | $98: 399: 17,24$ | $238: 20,24$ |
| $134: 23135: 1$ | $54: 756: 4,19$ | $100: 11,18$ | $239: 15,18,25$ |
| $164: 9170: 1$ | $57: 1558: 3,7,9$ | $101: 8,13,16$ | $240: 10,18,23$ |
| $178: 14184: 2$ | $59: 2560: 16,21$ | $108: 25109: 3,9$ | $241: 25242: 3$ |
| $190: 1203: 7$ | $61: 1,6,7,11,23$ | $109: 14117: 10$ | $252: 14,17,20$ |
| $218: 11,16$ | $62: 1,4,11,20$ | $119: 18,21,22$ | $256: 1,12,17,25$ |
| $229: 1237: 24$ | $63: 2,5,8,10,13$ | $122: 3,7,10,11$ | $257: 2,9264: 11$ |
| $237: 25241: 7$ | $63: 2366: 5,10$ | $122: 14,24$ | $264: 19,25$ |
| $252: 22253: 2$ | $66: 14,1767: 1$ | $123: 7,12,17$ | $265: 6,10,14,17$ |
| $268: 19270: 3,9$ | $67: 7,9,1868: 5$ | $131: 14134: 12$ | $265: 20266: 4$ |
| $275: 22279: 10$ | $68: 17,2069: 9$ | $134: 14,17,22$ | $268: 8,14$ |
| examine $93: 1$ | $69: 15,20,25$ | $135: 19152: 11$ | $269: 14,19$ |
| $178: 11180: 3$ | $70: 6,12,16,25$ | $152: 18156: 17$ | $270: 2275: 16$ |
| examined | $72: 11,1573: 2$ | $162: 12163: 5$ | $275: 18280: 3$ |
| $50: 20102: 4$ | $73: 674: 22$ | $163: 10,18,23$ | $280: 13,16,19$ |
| $123: 23169: 23$ | $75: 5,7,14$ | $164: 3166: 10$ | $280: 22281: 1,9$ |
| $203: 4241: 6$ | $76: 10,15,20,25$ | $166: 15,23$ | $283: 1,6,13,16$ |
| examiner $2: 4$ | $77: 6,12,19,24$ | $167: 6,14,20,23$ | $284: 8,20285: 4$ |
| $14: 2,13,15,25$ | $78: 2,7,2179: 2$ | $168: 1,25169: 2$ | $285: 8,21$ |
| $15: 5,1516: 2,6$ | $80: 5,881: 19$ | $169: 3,8,14$ | $286: 17,25$ |
| $16: 9,12,20,22$ | $82: 16,2083: 1$ | $178: 4,9180: 2$ | $287: 2,3,14,19$ |
| $17: 8,14,25$ | $83: 6,9,19$ | $181: 16182: 19$ | $287: 23288: 1,4$ |
|  |  |  |  |

Page 28
[examiner - existing]

| 288:16,22 | executing | 134:13,19 | 26:14 27:5 |
| :---: | :---: | :---: | :---: |
| examiners | 40:25 | 154:19 168:7 | 30:11 36:9,10 |
| 14:16 32:4 | exhibit 10:4,6,8 | 168:13,14,14 | 37:5,9,11 38:8 |
| 60:13,22 69:10 | 10:13,14,15,16 | 168:20,21 | 43:7 46:22 |
| 79:8 89:11,22 | 10:17,19,20,21 | 169:5,5 170:8 | 57:20 65:1,10 |
| 90:21 188:7 | 10:22,23 11:4 | 170:9,12 | 65:25 66:19 |
| 202:13 217:21 | 11:6,8,12,14,16 | 172:14,16,20 | 68:2 86:23 |
| 225:22 252:11 | 11:18,20,22,24 | 172:21 173:10 | 87:11 88:2,6 |
| example 136:9 | 12:4,5,6,10,12 | 173:12,18,20 | 88:16,20 91:16 |
| 136:16 139:9 | 12:14,16,18,19 | 173:25 178:1,7 | 92:17 93:6 |
| 146:6 210:22 | 12:21,22,23,24 | 178:12,12 | 100:20 101:1,6 |
| excellent 17:15 | 12:25 13:4,6,7 | 203:21 208:9,9 | 101:11,16,18 |
| except 40:15 | 13:9,11,13,15 | 208:15,22,23 | 103:15 104:7 |
| 115:7,8 116:1 | 13:17,19 26:2 | 209:5,14,17 | 104:20 124:16 |
| 116:13 173:3 | 26:3,11,13,19 | 210:21 212:4 | 124:22 125:4 |
| 192:1,5 273:21 | 26:21 27:2 | 213:3 214:23 | 126:19 167:18 |
| exchange 54:13 | 30:16,16,17 | 216:18 217:8 | 168:7,22,22 |
| exclude 48:23 | 35:15,19,21 | 218:1,8,8 | 169:1,10 |
| excluded 173:6 | 36:7,8,12,13 | 226:18,24 | 172:14 177:25 |
| 192:12,15 | 37:12,20,22,25 | 227:11 233:5 | 178:1 185:20 |
| excludes 47:20 | 37:25 38:1,4,4 | 242:8,9 244:2 | 187:25 207:8 |
| 48:5 | 38:5,15,20 | 244:5,5,7,20,23 | 208:3,5,13 |
| excluding 46:9 | 45:2,5 53:21 | 245:14,17,18 | 215:14,24 |
| 115:5 | 56:17 58:15 | 245:19,21 | 218:1 230:9 |
| exclusive | 64:23,25 65:7 | 246:14,15,17 | 243:24 250:2 |
| 149:15 | 65:9,13,15,23 | 246:25 248:6,7 | 252:21 253:16 |
| excuse 34:11 | 66:21,22,22 | 249:22,22 | 257:7 276:3 |
| 104:15 181:14 | 100:20,21,22 | 250:6 252:15 | 286:13 |
| 268:21 | 100:23,24 | 252:16,24,24 | exist 56:8 |
| excused 122:9 | 103:6,8,23 | 253:10 255:2 | 136:13 141:8 |
| 202:16,18 | 104:2 108:5,9 | 255:15 270:14 | 270:21 271:5 |
| 280:14 | 108:9,25 109:7 | 282:15 | 278:6 |
| execute 41:3 | 109:7 124:15 | exhibits 10:4,6 | existing 148:5 |
| executed 52:18 | 124:21,23,25 | 11:5,7,22 | 148:7,10,22 |
| 52:20 245:3 | 125:1 127:22 | 12:10 26:5,5 | 152:4 155:14 |

Page 29
[existing - far]

| 249:10 276:25 | expire 50:24 | extraction | 106:2,21 |
| :---: | :---: | :---: | :---: |
| exists 145:1 | explain 32:9 | 211:11 238:3 | 107:20 112:4 |
| expect 88:1 | 36:19 39:8 | extreme 222:5 | 113:2 116:2,8 |
| 134:3 188:23 | 149:5 184:14 | extremely | 130:25 141:1,1 |
| 258:19 | 185:6 213:4 | 96:25 272:13 | 150:25 173:15 |
| expected 36:5 | 239:3 242:21 | eyes 228:13 | 186:17 188:19 |
| 71:10 235:20 | 244:1 246:14 | f | 226:22 227:8 |
| expecting | 286:11 | f $154: 19$ | 229:17 235:25 |
| 247:16 | explained | face 123:13 | 248:10 268:23 |
| expedited | 145:23 257:6 | facing 229:5 | 288:9 |
| 284:23 | explanation | fact $87: 8$ | fairest 83:7 |
| expenditure | 183:14 | 116:12 129:8 | fairly 14:6 |
| 190:19 | exploit 132:17 | 147:21 196:10 | 133:13 226:17 |
| expense 284:24 | 143:14 274:19 | 221:13,17 | 227:2,5 |
| experience | exploratory | 244:10 245:1 | fairness 223:6 |
| 22:22 106:12 | 156:1 | 246:4 271:9 | faith 175:5 |
| 112:5,5 174:8 | explore 183:21 | 278:17 | 193:25 206:5,9 |
| 241:12,15 | 192:19 | factor 151:18 | 229:12 |
| experienced | exposes 238:9 | 176:6,9 270:15 | fall 196:9 |
| 89:6 | express 144:8 | 271:15 281:24 | 282:15 |
| expert 98:19 | extend 214:10 | 282:9 | falls 287:21 |
| 99:9 169:18 | 262:19 | factors $73 \cdot 8$ | familiar 99:25 |
| 203:10 241:22 | extending | 137:13 179:23 | 124:12 133:6,7 |
| 243:7 | 51:22 278:18 | 225:15 271:1 | 141:9,11 |
| expertise 99:20 | extensively | 272:19 277:21 | 277:14 |
| 100:2 102:13 | 272:25 | 277:22 278:15 | fan 98:12 |
| 220:6 233:1 | extent 23:20 | 277.2227 .15 | far 52:15 57:8 |
| experts 99:21 | 63:20 244:13 | 81 | 57:13 59:3 |
| 100:1,4 | 257:15 259:9 | 282.4 | 89:7 115:19 |
| expiration 47:5 | 259:17,21 | facts 55.19 | 121:4 126:10 |
| 50:7 | 260:3,5 266:23 | factual 50:15 | 131:9 143:13 |
| expirations | 267:5 | facture 260:23 | 143:13,14 |
| 33:4 46:25 | extra 59:4,17 | fail $99: 15$ | 149:16 153:14 |
| 47:1,11 48:14 | 109:23 135:13 | fair 85:3,15,19 | 186:22 188:6 |
| 48:17 51:6 |  | $105: 17,22$ | 198:18 219:4 |

Page 30
[far - flat]

| 235:21 256:13 | 143:7,8,16,19 | 80:13 95:20 | 45:18,20,24 |
| :---: | :---: | :---: | :---: |
| 271:25 274:18 | 151:14 153:11 | 206:13 286:14 | 50:7,18 69:4 |
| fashion 284:11 | 153:21,21,22 | filing 20:20 | 72:13 73:13 |
| favor 84:23 | 154:17,20,23 | fill 61:19 | 75:12,21 82:12 |
| fe 2:6 3:8,15 | 155:6,17,22 | final $20: 18,18$ | 82:13 84:18 |
| 4:6,13,21 5:6 | 178:20 205:4 | 49:8 56:20 | 95:8,15,17,23 |
| 5:14,22 6:6,12 | 208:25 209:7 | 91:7 107:22 | 95:24 100:16 |
| 6:19 7:6,12,18 | 211:4,6 213:10 | 132:19 184:7 | 100:16 101:20 |
| 15:16 18:2 | 213:12 215:7,8 | 198:13 274:11 | 102:2 103:10 |
| 31:13 60:13 | 215:16 219:6 | finalized 37:16 | 103:11 123:21 |
| 69:20 90:23 | 219:15 232:9 | finally 20:6 | 128:21 156:22 |
| fed 24:15,22 | 233:4 253:12 | 65:15,20 | 169:21 180:9 |
| 25:2,9,21 26:1 | 253:13,19,22 | 105:21 150:10 | 180:13,21 |
| 34:3 | 266:10 | 274:23 | 190:17 191:12 |
| federal 20:2,7 | felt 56:2 | financially | 203:2 209:20 |
| 33:3 34:1 | fence 105:12,20 | 290:15 291:11 | 215:2 216:8 |
| 39:15,24 40:2 | ferguson 291:2 | find 154:9 | 229:5 230:12 |
| 40:5 45:24 | 291:18 | 232:10 233:20 | 241:4 244:2 |
| 46:2,3,19,25 | fiber 222:4 | findings 153:13 | 270:13 286:2 |
| 47:3,4,8,20,24 | field 59:17 | 247:3 | 286:10 |
| 47:25 48:5,24 | 256:13 | fine 59:5,8 | fit 74:13 139:23 |
| 49:1,5,7,10,16 | fight 228:11 | 122:12 186:8 | fits 146:17 |
| 49:20,25 51:1 | figure 137:24 | 187:2 206:20 | five 21:6,24 |
| 57:4 | 137:25 206:6 | 226:5 285:3 | 94:1,20 95:4 |
| fee $49: 22$ | figured 95:8 | finest 221:8 | 110:22 122:14 |
| feedback 73:17 | 149:20 | finish 122:22 | 122:21 150:7 |
| 74:5 84:4,9,12 | file 16:25 48:13 | 182:25 | 226:21 245:2 |
| 84:14,15 | 55:6 68:14 | finished 282:25 | 246:3 |
| feel $81: 21$ | 80:16 82:22 | firm 4:19 5:4 | flat 7:8 8:10 |
| 109:25,25 | 95:22 286:18 | 7:10 65:16 | 31:1,4 32:7 |
| 118:8 135:15 | 286:19 | first 8:5 15:12 | 33:16 35:4 |
| 135:15 234:1 | filed 16:13 17:3 | 21:24 27:13,16 | 36:18,25 37:1 |
| 285:22 | 17:4 19:11 | 27:17 32:22 | 37:2,17 48:21 |
| feet 106:8 | 35:19,20 37:25 | 36:5 38:25 | 49:1 54:17 |
| 118:21 125:18 | 61:14,16 71:7 | 39:7,13 45:15 | 58:4,10 |

Page 31
[flexibility - frack]

| flexibility | foot 130:23 | 143:21,22 | 258:15 266:1 |
| :---: | :---: | :---: | :---: |
| 75:20 | 213:16 232:12 | 145:1 150:23 | 266:16 |
| flip 95:14,19 | 232:25 246:6 | 154:3 155:11 | forms 10:20 |
| flow 204:13 | footage 120:15 | 163:14 171:5 | 12:12 |
| 238:13 245:9 | 126:8 | 172:19 180:22 | forth 80:10 |
| 254:20 260:23 | footages 34:3 | 186:12,13 | 172:8 |
| flowing 260:24 | force 105:1 | 196:4 197:6 | forty 110:7 |
| fluid 158:1 | 220:8,10 | 200:22 201:1 | forward 16:1 |
| fluids 138:2 | foregoing | 216:3,5 221:7 | 20:10 23:21 |
| 270:21 | 290:3,4 291:4 | 222:7 231:3,10 | 31:17 42:8 |
| focus 167:19 | foremost | 232:20 238:8 | 49:19 51:20 |
| focused 128:22 | 103:10 | 239:13 242:25 | 118:15 165:24 |
| 164:22 | forget 36:17 | 243:4,5 244:12 | 177:15,16 |
| folks 14:7,8 | 180:8,17 | 248:22 251:25 | forwarded |
| 37:17 38:3,3 | 181:10 182:11 | 264:21,22 | 43:24 |
| 40:21 53:2 | 188:12 222:8 | 265:2,23,25 | found 37:9 |
| 56:11 71:20 | 253:20 264:14 | 267:6,16 268:3 | 127:19 267:4 |
| 100:12 122:15 | 286:22 | 270:16 271:9 | foundational |
| 123:3 166:20 | form 85:6 | 278:7 | 74:4 |
| 237:24 280:3 | 96:24 220:3 | formations | four 25:10 |
| follow 51:11 | 267:6 | 24:6 112:7 | 30:25 31:6 |
| 52:6 53:19 | formation | 113:9,20 | 38:7 43:7 |
| 105:24 131:17 | 24:12 64:5,10 | 116:21 128:7 | 50:23 56:9 |
| 139:16 160:21 | 64:18 79:25 | 132:7 136:10 | 58:6,10 61:15 |
| 162:14 166:9 | 96:10,11 98:22 | 136:14,16,23 | 61:22 110:4 |
| 169:12 200:18 | 98:23 103:11 | 141:20 145:2,3 | 132:24 168:17 |
| 222:14,17 | 103:20,25 | 153:2 159:19 | frack 125:23 |
| 264:13 274:4 | 104:8 108:13 | 162:22 163:20 | 126:3,4 132:17 |
| following 86:24 | 113:24 116:24 | 174:9 198:7 | 137:24 138:1 |
| 196:23 199:25 | 117:3,16,17,19 | 204:9,11 | 141:18,18,21 |
| follows 50:20 | 117:20 118:1,3 | 207:19 209:10 | 141:22 143:14 |
| 102:4 123:23 | 118:23 121:20 | 210:12,16 | 143:18,20,23 |
| 169:23 203:4 | 126:13 135:22 | 230:20 231:8 | 144:1,11,12 |
| 241:6 | 135:22,23,24 | 231:17 236:19 | 160:9 161:3 |
|  | 136:5,6 142:18 | 238:19 258:12 | 164:16 165:11 |

Page 32
[frack - geologic]

| 165:14,15,18 | 257:15,23 | 170:4 214:1,2 | garcia 14:18 |
| :---: | :---: | :---: | :---: |
| 214:9,18 | 259:5,9,13,17 | 214:10,11 | gas 7:20 25:14 |
| 216:17,17 | 259:22 260:15 | 215:23 217:11 | 29:6 70:8 75:3 |
| 218:21 233:8,9 | 264:16 265:2 | 266:22 | 92:2 99:13 |
| 233:18 239:12 | 266:20 269:1,2 | fully $83: 9$ | 102:21,25 |
| 245:2 248:25 | 269:4,8 282:7 | 217:16 285:20 | 238:3 |
| 258:17,17,23 | fracturing | fulton 2:7 | gather 158:18 |
| 260:19 274:14 | 13:16 132:13 | 62:21 285:9 | gauge 259:12 |
| 276:14 278:11 | 234:5 247:1 | 286:21 290:2 | 260:11,13,19 |
| fracked 278:23 | 251:24 260:12 | 290:20 | 267:22 |
| fracking 132:9 | 263:25 271:5 | further 15:7 | gauges 247:6 |
| 137:12 144:8 | 278:5 | 56:18 75:3,11 | 268:1 |
| 153:10 159:20 | frame 78:17 | 85:25 86:1 | gauntlet 270:5 |
| 163:1,6 231:18 | 81:16 82:1 | 119:17 125:14 | general 10:14 |
| 272:20 | 83:2 84:7 | 163:24 177:23 | 36:8 42:3 |
| fracks 132:11 | 150:9 221:7 | 194:7 202:3 | 105:3 106:20 |
| 132:14 165:7 | 255:11,19 | 212:11 226:2 | 112:24 126:21 |
| 180:25 201:24 | framework | 228:20 239:19 | 146:25 147:2 |
| 248:20 262:14 | 77:5 206:21 | 240:1,5 247:15 | 153:9 158:19 |
| 273:16 274:1 | 211:14 212:2 | 253:14 257:7 | 168:12 174:9 |
| fracture 249:1 | 224:19,22 | 261:10 268:15 | 216:1 246:2 |
| 251:20 258:24 | 225:2 | 288:7 290:12 | 262:1,8 266:20 |
| 260:3,10,18,21 | francis 3:7 | 291:9 | generality |
| 261:5,7,15,17 | frankly 54:8 | fuse 83:23 | 262:9 |
| 261:24 262:1,6 | 76:9 | future 42:21 | generally 41:5 |
| 262:9,19,24 | free 81:21 | 55:13 58:24 | 81:24 125:10 |
| 263:6,13,18,23 | 234:1 240:6 | 111:19,23 | 180:21 219:22 |
| 266:23 268:23 | 285:22 | 243:14 | 256:10 262:10 |
| fractures | freezing 231:22 | g | 273:15 |
| 160:23 214:19 | front 198:23 | g 14:1 $21: 5$ | generous 288:2 |
| 216:22 222:1,4 | froze 232:1 | 94:11,12 | gentle 227:5 |
| 233:13 238:9 | full 57:14 67:21 | gained $144: 9$ | geochemistry |
| 238:18 247:4 | 76:14 97:17 | gamma 209:20 | 222:3 |
| 251:22,25 | 102:7 119:2,4 | $216: 19$ | geologic 162:15 |
| 253:4,6 254:19 | 124:3 161:6 |  | 164:22 214:17 |

Page 33
[geologic - going]

| 265:22,24 | 137:12 139:24 | 203:11 207:10 | 141:5 143:14 |
| :---: | :---: | :---: | :---: |
| geological | 141:25 182:4 | 282:11 284:8 | 144:1,2 146:3 |
| 137:20 139:20 | 185:8 190:5 | 286:21 | 147:22 156:16 |
| 149:5 193:23 | 208:5 212:1 | given 67:14 | 165:24 168:3 |
| 198:3 207:9 | 215:23 218:1 | 71:8 80:1 82:1 | 170:24 171:8 |
| 216:10 217:9 | 228:10,13 | 87:7 88:4 95:6 | 177:14,16 |
| 222:11 235:2 | 235:4 243:8 | 98:20 99:3 | 180:5 185:15 |
| 240:4 | 270:18 273:23 | 101:4 127:19 | 185:18 186:19 |
| geologist 8:14 | 277:3 | 237:3 241:22 | 189:20 204:1 |
| 8:17 10:7 | geomechanical | 283:17 | 204:15 207:7 |
| 11:23 26:14 | 210:6 227:11 | gives 155:21 | 208:6 212:8,12 |
| 38:8 93:20,22 | 230:23 | giving 32:5,8 | 213:8 215:6 |
| 94:9,17 118:10 | geophysical | 49:16 56:1 | 221:19 222:13 |
| 119:6,6,8,10,12 | 203:13 | 164:5 | 222:14 225:4 |
| 120:2,22,23 | geophysics | glad 59:25 | 230:12 232:5 |
| 121:4 124:7 | 203:14 | 225:6 286:10 | 233:4 234:10 |
| 125:7 132:12 | geosteering | glanced 185:21 | 234:23 240:6 |
| 146:2,22 151:5 | 209:3 | go $15: 21,22$ | 243:25 247:23 |
| 152:22 162:16 | getting 30:5 | 17:7 20:10 | 248:5 249:16 |
| 177:9,20 | 34:24 43:20 | 21:21 27:13,15 | 251:23 259:6 |
| 179:14,25 | 46:23 49:9 | 27:17 28:11 | 262:1 275:4 |
| 196:18 202:23 | 125:18,19,21 | 43:12 44:20 | 281:11 |
| 209:9 214:6 | 127:16 147:17 | 46:7,18 48:4 | goal 89:15 |
| 228:8 229:20 | 153:23 167:18 | 48:12 49:19 | 285:22 |
| 230:1 239:2 | 185:8,10 201:2 | 50:21 51:20 | goals 54:19 |
| 258:4 269:22 | 226:17 246:9 | 52:19 53:25 | goes 84:25 95:8 |
| 277:16 280:21 | 256:12 280:4 | 56:6 80:8 | 163:9 180:3 |
| 281:13 | gis 46:20 | 83:17 85:15 | 199:20,23 |
| geologist's | give 52:11 | 90:1 95:17,23 | 263:18 |
| 101:11 255:19 | 55:21 82:7 | 99:4 100:17 | going 28:1,12 |
| 270:14 | 84:22 94:6 | 102:14 103:22 | 32:4 34:12 |
| geology 11:6 | 103:15 131:15 | 111:7,17 | 35:3 41:21 |
| 26:13 38:8 | 135:8 157:23 | 118:15 121:8 | 42:1,8 44:9,23 |
| 65:9 75:22 | 161:2 170:3 | 123:3 126:5 | 49:17 50:14 |
| 98:21 99:5 | 174:11 196:20 | 128:4,25 131:8 | 52:20,24 59:12 |

Page 34
[going - guess]

| $60: 471: 22,23$ | good $15: 14,18$ | goosey $137: 6$ | groundwork |
| :--- | :--- | :--- | :--- |
| $80: 2,1084: 20$ | $15: 2018: 1,6$ | $190: 4,16206: 4$ | $20: 10$ |
| 95:15,24 96:12 | $18: 10,1921: 14$ | $224: 18$ | groups $188: 18$ |
| $100: 16105: 8$ | $23: 4,6,16$ | gotten $39: 19$ | $228: 14$ |
| $107: 3114: 24$ | $28: 1529: 1$ | $214: 25$ | grow $132: 14$ |
| $118: 20120: 16$ | $31: 5,1232: 17$ | gov $58: 25$ | $201: 1,24222: 1$ |
| $121: 13,19$ | $50: 1152: 14$ | granted $17: 6$ | $247: 5251: 25$ |
| $122: 25131: 13$ | $60: 12,20,22$ | $44: 1561: 17$ | $253: 6,8254: 19$ |
| $131: 23135: 17$ | $61: 4,863: 5,7$ | graph $13: 11,13$ | $262: 14269: 9$ |
| $137: 24138: 16$ | $63: 1667: 6,9$ | $244: 20245: 12$ | $269: 11,12$ |
| $143: 13148: 25$ | $69: 8,10,14,19$ | $245: 15$ | $273: 16274: 2,6$ |
| $149: 1150: 3,4$ | $70: 6,1589: 1$ | graphs $277: 18$ | growing $143: 18$ |
| $150: 5151: 25$ | $90: 5,19,21$ | grapple $194: 1$ | $214: 20260: 21$ |
| $155: 10156: 16$ | $91: 2592: 6$ | grapples $229: 4$ | grown $259: 14$ |
| $159: 5163: 1$ | $106: 13120: 17$ | grappling | grows $143: 19$ |
| $172: 14179: 20$ | $128: 18129: 1$ | $73: 11190: 16$ | growth $161: 8$ |
| $181: 1182: 12$ | $130: 11,12,13$ | gravity $238: 1,2$ | $257: 22269: 1,2$ |
| $185: 15187: 23$ | $130: 14,19$ | $238: 5,9,12,22$ | $273: 19,19$ |
| $194: 22196: 16$ | $131: 2,4,20$ | $251: 18$ | guadalupe $3: 14$ |
| $197: 2202: 1,7$ | $135: 3,5151: 7$ | great $62: 20$ | $4: 127: 17$ |
| $204: 10,25$ | $151: 13152: 1$ | $90: 1198: 2$ | guarantee |
| $205: 3206: 21$ | $158: 2175: 5$ | $166: 16195: 25$ | $52: 24$ |
| $208: 3221: 1,2$ | $182: 1188: 16$ | $286: 21$ | guarantees |
| $222: 2,23225: 4$ | $193: 25199: 23$ | greater $151: 1$ | $52: 3$ |
| $225: 15227: 14$ | $206: 5,9209: 17$ | $234: 11238: 21$ | guess $16: 23$ |
| $228: 11229: 19$ | $223: 18229: 12$ | $247: 17262: 16$ | $19: 1427: 20$ |
| $230: 10,15$ | $230: 9,9240: 17$ | green $210: 2$ | $39: 743: 1,12$ |
| $232: 5235: 10$ | $253: 23257: 20$ | gregory $8: 10$ | $44: 7,1245: 6,7$ |
| $235: 12237: 11$ | $270: 17271: 25$ | $39: 2049: 13$ | $45: 9,12,17$ |
| $246: 23249: 14$ | $272: 14278: 19$ | $50: 8,11,12,13$ | $48: 2050: 3$ |
| $251: 25254: 11$ | $278: 20279: 18$ | $50: 1751: 11$ | $51: 1152: 17$ |
| $255: 2256: 15$ | $279: 19,21,22$ | $52: 9,1253: 1$ | $53: 7,16,17$ |
| $261: 17262: 6$ | $279: 22,24$ | ground $205: 4$ | $54: 4,5,12,20$ |
| $263: 7275: 7$ | $281: 11282: 8$ | $235: 10,12$ | $55: 11,2557: 3$ |
| $281: 4283: 17$ | $284: 7,18287: 1$ | $251: 23$ | $57: 3,1059: 20$ |
|  |  |  |  |

Page 35
[guess - harwood]

| 59:21 67:15 | 167:1,8 181:18 | 64:12,12,20,20 | happens 90:4 |
| :---: | :---: | :---: | :---: |
| 77:8 85:7 94:6 | 225:25 226:4 | 96:9,9 103:12 | 93:4 105:13 |
| 110:17 118:19 | 228:11 | 103:12,25 | 181:11 |
| 120:25 121:9 | h | 129:25 130:1 | happy 28:13 |
| 122:18 126:25 | h 10:1 11:1 | 134:5 145:21 | 42:9 44:20 |
| 131:25 148:23 | $12: 1,24 \quad 13: 1$ | 156:9 176:15 | 52:11 66:3 |
| 156:22 157:9 | 94:10,11,12 | 176:15 182:2 | 83:15 |
| 157:20 159:3 | 151:6,8,12,15 | 199:8,8 203:17 | hard 141:20 |
| 159:23 160:20 | 210:24,25 | 261:2 278:24 | 153:22,22 |
| 160:21,23 | 211:3,5 217:6 | half's 182:3 | 159:20 206:5 |
| 161:13 162:5 | 217:8 220:22 | hand 33:4 | hardwood |
| 179:7,9 180:13 | 227:15 228:2 | 51:18,18 52:25 | 122:2 |
| 195:1,13 196:4 | 228:16 231:5 | 53:1,1,1 81:23 | hardy 7:3 10:8 |
| 196:8,11,14,25 | 270:15,15,17 | 95:5 225:7 | 23:4,5,7,7,9 |
| 197:18 198:10 | 271:11,13 | handful 39:6 | 24:3,4 27:9,10 |
| 199:25 231:16 | 277:25 281:14 | 113:16 230:15 | 27:20,21,24 |
| 231:18 232:18 | 281:21,23 | handle 167:5 | 28:5,10,12,23 |
| 235:18,20 |  | 190:18 | 28:25 29:7,9 |
| 257:24 258:6 | haddock 10 | hands 27:13 | 29:11 30:11,19 |
| 259:23 260:9 | 26:4 | handwritten | hardy's 30:8 |
| 261:4 262:17 | hailee 3:3 14:10 | 126:15 131:14 | hart 3:13 4:11 |
| 262:18 263:9 | 27:16 | handy 50:9 | 7:16 15:17 |
| 263:11 266:20 | half $24: 14,14$ | 154:14 | 31:14 60:14 |
| 266:23 272:16 | $24: 20,20 \text { 25:1 }$ | hanley 176:16 | 69:21 |
| 273:15 275:6 | 25:1,7,7,19,25 | 199:4 | hartford |
| guessed 96:12 | 33:11,14,19,22 | happen 22:11 | 282:14 |
| guessing | 33:23 34:13,18 | 148:15 159:14 | harvin 8:14 |
| 179:12 | 34:21,22,25,25 | 161:21 163:21 | 9:10 11:23 |
| guidance 86:16 | 35:4,8,10,23 | 212:25 216:11 | 94:10 123:20 |
| guiding 98:17 | 36:1,3 37:21 | 217:1 | 124:5 |
| gun 13:4 26:18 | 37:21 38:3,3 | happened | harwood 2:4 |
| 38:10 213:5 | 39:9,14,25 | 18:21 116:13 | 14:4,12,24 |
| guys 14:21 | $40: 145: 22,22$ | 244:2 | 27:18 42:24 |
| 82:15 90:11 | $45: 23 \text { 46:7,8 }$ | happening | 53:18 54:6 |
| 95:8,9 166:25 | 59:15,15 64:5 | 159:15 | 59:24 66:12 |

Page 36
[harwood - hearing]

| $68: 12$ 77:1,14 | $162: 22163: 2$ | $61: 1,6,11,23,24$ | $109: 3,9,14$ |
| :--- | :--- | :--- | :--- |
| $80: 681: 6$ | $203: 5231: 22$ | $62: 1,4,11,20$ | $117: 10119: 18$ |
| $83: 2186: 6,13$ | $231: 23,24$ | $63: 5,8,10,13,23$ | $119: 22122: 3,7$ |
| $92: 20,2293: 2$ | $232: 1237: 25$ | $65: 366: 5,10$ | $122: 11,14,24$ |
| $93: 8,1696: 4$ | 241:13 286:6 | $66: 14,1767: 1$ | $123: 7,12,17$ |
| $97: 13100: 3,6$ | heard $77: 7,13$ | $67: 3,9,1768: 5$ | $126: 19127: 4,6$ |
| $119: 25156: 20$ | $78: 2279: 2$ | $68: 17,2069: 9$ | $127: 6134: 14$ |
| $162: 10,11$ | $147: 22172: 24$ | $69: 15,19,25$ | $134: 17,22$ |
| $166: 8167: 3,17$ | $175: 9176: 12$ | $70: 12,2571: 18$ | $152: 11,18$ |
| $179: 20182: 13$ | $209: 9274: 24$ | $72: 11,14,19,23$ | $156: 17162: 12$ |
| $187: 23189: 25$ | $281: 13$ | $73: 2,6,1874: 9$ | $163: 5,10,18,23$ |
| $194: 12200: 14$ | hearing $1: 52: 1$ | $74: 12,2275: 7$ | $164: 3166: 10$ |
| $221: 1223: 8$ | $2: 414: 2,9,15$ | $75: 1276: 12,15$ | $166: 15,23$ |
| $228: 21234: 2$ | $14: 2515: 5,14$ | $76: 20,2577: 12$ | $167: 6,14,20,23$ |
| $237: 18239: 22$ | $16: 2,9,12,20,22$ | $77: 19,2478: 7$ | $168: 1,7,25$ |
| $240: 7257: 5,13$ | $17: 8,14,18,25$ | $78: 2179: 10,13$ | $169: 3,8,14$ |
| $264: 10266: 8$ | $18: 1,5,11,16,19$ | $79: 2280: 4,5,8$ | $178: 4,9180: 2$ |
| $269: 18280: 12$ | $18: 2519: 5,14$ | $81: 1982: 20$ | $181: 16182: 19$ |
| $282: 25283: 10$ | $19: 2220: 1,23$ | $83: 1,5,6,17,19$ | $182: 23183: 15$ |
| $283: 12285: 4$ | $21: 4,10,13,18$ | $84: 13,19,21,24$ | $183: 23187: 9$ |
| $285: 11286: 12$ | $21: 21,2522: 4$ | $85: 4,11,22$ | $188: 5189: 23$ |
| $288: 10$ | $22: 9,1423: 6$ | $86: 3,8,10,18,21$ | $194: 9200: 16$ |
| harwood's | $23: 11,22,25$ | $86: 2587: 3,9$ | $202: 4,11,15,19$ |
| $251: 17$ | $26: 627: 8,12$ | $88: 4,7,8,15,19$ | $218: 3,6,12$ |
| hate $274: 21$ | $29: 13,15,23$ | $88: 2289: 2$ | $223: 4,11$ |
| hates $288: 5$ | $30: 4,10,21$ | $90: 3,10,20,24$ | $225: 16,19$ |
| head $54: 898: 4$ | $31: 5,9,12,18,23$ | $91: 2,8,17,22$ | $228: 22229: 18$ |
| $113: 14$ | $32: 1,334: 8$ | $92: 1,3,13,21,24$ | $229: 24230: 11$ |
| heads $32: 5,8$ | $38: 2439: 3$ | $93: 7,11,17,24$ | $231: 21,25$ |
| hear 17:22 | $42: 1644: 13$ | $94: 2,5,12,14,19$ | $233: 24237: 19$ |
| 55:18 56:3 | $50: 13,2151: 20$ | $95: 2,14,25$ | $238: 6,20,24$ |
| $67: 1371: 24$ | $53: 2054: 1,7$ | $96: 597: 19$ | $239: 15,18,25$ |
| $72: 3,1374: 25$ | $56: 4,1957: 15$ | $98: 399: 17,24$ | $240: 10,18,23$ |
| $89: 15,16$ | $58: 3,7,959: 25$ | $100: 11101: 8$ | $241: 25242: 3$ |
| $109: 20135: 9$ | $60: 3,8,16,20$ | $101: 13,16$ | $252: 17,20$ |
|  |  |  |  |
|  |  |  |  |

Page 37
[hearing - hydraulic]

| 256:1,12,17 | helped 146:2 | highlights | hopefully 20:18 |
| :---: | :---: | :---: | :---: |
| 257:2,9 264:11 | helpful 53:13 | 283:21 | hopes 274:6 |
| 264:19,25 | 55:18 | highly 130:15 | hoping 48:18 |
| 265:6,10,14,17 | helps 149:3 | 176:21 | horizontal |
| 265:20 266:4 | 223:12 | hinkle 6:10 7:4 | 12:19 24:13,19 |
| 268:8,14 | hereto 290:14 | 23:5 63:3 | 24:25 25:6,19 |
| 269:14,19 | 291:11 | historical 22:20 | 25:24 64:11,19 |
| 270:2 275:18 | hesitant 249:5 | historically | 147:13 153:9 |
| 280:3,13,16,19 | hesitations | 149:7 | 163:7 207:13 |
| 280:22 281:1,9 | 171:18 | history 55:3 | 208:16,17 |
| 283:1,6,13,16 | hey 49:15 | 170:25 259:10 | 209:8 256:20 |
| 284:8,10,20 | hfts2 222:2 | hit 260:19 | 267:20 |
| 285:8,21 286:9 | 247:2,14,18 | hobbs 65:21 | host 8:21 |
| 286:17,25 | 265:5 267:15 | 103:16 168:11 | hottest 149:25 |
| 287:2,3,14,19 | hi 152:23 | hold 37:2 47:15 | 150:2 |
| 287:23 288:1,4 | 230:14 266:6 | 48:4 50:14 | hour 60:5 |
| 288:16,22 | high 126:12 | 134:24 181:16 | 62:14,15 |
| hearings 14:3,5 | 216:19 264:17 | 182:19 183:23 | 122:15 123:2 |
| 288:7 | 264:20 269:1,2 | 225:19 | 166:17,19 |
| heart 42:20 | 270:17 271:18 | holding 111:18 | 167:7,8 280:4 |
| heck 188:22 | 278:18 | 111:20 | 283:17 |
| hedging 54:17 | higher 157:4,7 | holds 269:3 | house 119:10 |
| heel 131:7 | 157:19 158:5 | hole 120:15 | 119:12 |
| 208:25 215:6 | 171:15 201:17 | 197:18 | huge 81:14 |
| height 161:8 | 227:22 228:16 | holland 3:13 | hughes 7:23 |
| 210:25 | 238:17,17 | 4:11 7:16 | huh 145:14 |
| heisenberg | highest 243:1 | 15:17 31:14 | 147:24 |
| 98:12 | highlight | 60:14 69:21 | hundred |
| hello 60:12 | 209:22 217:20 | hollandhart.c... | 178:20 253:19 |
| 266:7 | 244:23 252:11 | 3:16 4:14 | 253:22 |
| help 46:5 73:20 | highlighted | home 245:18 | hurt 236:17 |
| 93:5 138:18 | 37:15 40:13 | honest 167:2 | hurting 233:18 |
| 144:15 209:3 | 41:13 58:16 | hope 22:16 | hydraulic |
| 252:11 | 209:21 226:25 | 34:24 40:8 | 13:15 132:13 |
|  |  | 42:18 51:4 | 216:22 221:25 |

[hydraulic - individual]

| 222:4 233:13 | 103:9 104:3 | importance | included 35:17 |
| :---: | :---: | :---: | :---: |
| 247:1,4 251:20 | 108:10 124:24 | 73:23 234:15 | 39:10,11 59:14 |
| 254:19 257:22 | 168:15 170:10 | important 44:7 | 84:3 184:23 |
| 260:3,9,12,15 | 172:17,22 | 80:11 81:18 | 256:21 |
| 263:6 266:20 | 173:13,21 | 96:25 153:25 | includes 38:1,2 |
| 266:23 269:1,2 | 208:10 242:10 | 165:10 224:16 | 49:1 89:4,10 |
| 269:8 282:6 | 244:6 | 224:16,17 | including 65:2 |
| hydrocarbon | identified | 225:5 235:6 | 87:15 115:18 |
| 239:14 | 35:17 67:22 | 239:23 | 176:15 178:7 |
| hydrocarbons | identify 14:8 | impression | 236:18 |
| 107:17 127:23 | ignorance | 73:13 75:12,21 | increase 251:24 |
| 187:5,14 | 162:16 | 82:12 84:18 | increased |
| 204:14 205:8 | illustrated | 105:3 126:21 | 264:4 |
| 205:13,14 | 245:11 | 190:17 191:12 | increases |
| 220:19,21 | imagination | 229:5 286:2,10 | 264:24 |
| 222:20 223:25 | 59:7 | improve 20:13 | incredibly |
| 225:9 | imagine 159:20 | inadvertently | 137:10 |
| hypothetically | immediate | 20:3 92:10 | indicate 35:18 |
| 115:22 238:7 | 106:16 110:25 | 199:14 | 37:5 40:7 55:9 |
| hypotheticals | 112:3,22 | incapable | indicated 36:15 |
| 136:4 | 131:21 | 263:25 | 62:2 |
| i | immediately | inception 146:4 | indicates 41:7 |
| idea 55:2 89:1 | 89:21 | incidental | indicating |
| 90:5 146:25 | impact 249:7 | 206:1 221:9 | 58:15 208:18 |
| 174:11 255:18 | 249:15,15,20 | 223:22 224:5,6 | 210:9 |
| 287:1 | 262:25 285:1 | 224:9 225:1 | indication |
| eas 3 | impair 267:1 | 239:4 260:8 | 49:17 56:12 |
| identical | 274:14 | incidentally | 198:20 214:18 |
| 197:22,25 | implemented | 239:11 275:1 | indications |
| 198:15 | 278:12 | inclined 256:2 | 216:23 |
| identification | implications | include 26:3,5 | indicative |
| $26: 12,20 \text { 27:3 }$ | 277:5,7,10,12 | 26:15 45:24 | 216:21 260:15 |
| $36: 1437: 13,23$ | implying | 47:24 48:24 | 260:24 |
| 38:6,21 65:8 | 114:19 | $65: 10148: 1$ | individual 42:8 |

Page 39
[individuals - introduced]

| individuals | intended 87:5 | 97:1 103:22,24 | interesting |
| :---: | :---: | :---: | :---: |
| 94:1 | 92:11 199:11 | 104:8,15,22 | 283:19,21 |
| indulge 228:11 | 263:21 | 107:24 108:14 | 288:18,19 |
| industry 118:7 | intending | 108:18 111:3 | interests 10:18 |
| 132:13 144:10 | 211:21 | 113:23 114:3,8 | 33:17 34:15 |
| 224:25 273:25 | intends 262:19 | 114:9,21 | 37:8,10 64:9 |
| inform 138:18 | 262:24 | 137:17 147:2 | 64:17 70:21 |
| 144:15 | intent 160:22 | 168:8,9,17,18 | 179:17 183:12 |
| information | 161:15,20 | 171:4,15,25 | 192:19 201:8 |
| 49:14 50:9 | 197:21 198:13 | 174:1,16,17,20 | 206:6 |
| 57:21 89:11 | 198:17 200:3 | 174:22,23 | interference |
| 103:17 115:14 | intention 93:5 | 175:2 179:3,4 | 181:17 216:16 |
| 117:22 140:14 | 199:16 220:14 | 179:6 180:19 | interim 68:10 |
| 179:21 | 234:10 239:9 | 180:23,24 | internet 152:24 |
| informed 105:8 | 262:21 | 182:9 183:11 | interpretation |
| 105:10 138:13 | intentionally | 184:10,10 | 277:22 |
| 156:10 | 215:19 239:10 | 185:5 187:3 | interrelations |
| infringing | intentions | 190:18 192:21 | 163:2 |
| 254:22 | 215:21 | 195:5,10 | interrupt |
| ingenuity 85:14 | interaction | 197:21,21 | 225:16 |
| ingram 8:4 | 128:6 132:7 | 198:6,11 199:9 | interruption |
| 70:16 | 162:21 231:9 | 199:12,13 | 235:14 276:18 |
| inhibit 278:10 | interchangea... | 200:5,6,21,22 | interval 125:16 |
| initial 260:21 | 118:8 | 220:9 229:16 | 128:8 130:19 |
| initially 34:5 | interchanged | 248:21 286:4 | 141:21 143:15 |
| 45:14 80:13 | 118:6 | interested | 149:18 151:14 |
| 95:21 | interest 11:16 | 15:12,13,25 | 157:17 218:23 |
| initiated | 19:8,12 20:2 | 18:8 23:14 | 271:10 278:10 |
| 183:19 | 24:5,12,18,24 | 24:1 31:10,20 | intervals |
| input 207:3 | 25:6,23 26:7,8 | 60:19 63:14,15 | 133:10 |
| instances | 28:3 35:5,24 | 65:17 67:12 | introduce |
| 233:16 | 41:7 43:12 | 70:8 91:3,12 | 188: |
| int 274:8 | 52:16 54:18 | 91:24 290:15 | introduced |
| intend 93:3,10 | 64:5 65:4,4 | 291:12 | 188:1 |
| 220:15 222:22 | 75:25 81:5,25 |  |  |

Page 40
[introduction - kind]

| introduction | 190:17 233:11 | jim 5:11 6:3 | june 65:22 |
| :---: | :---: | :---: | :---: |
| 97:14 | 246:18 250:13 | 16:6 18:13 | 107:14 127:20 |
| intuitively | 251:11 273:22 | 91:5 156:7 | 140:18 187 |
| 251:22 257:21 | 278:9 285:15 | joa 41:9 | jurisdiction |
| investigatio | issued 44:13 | job 2:8 138 | 192:24 |
| 230:6 | issues | 141:22 161:3 | justification |
| involve 25:10 | 73:11 74:19 | 278:11 | 80:2 |
| 69:3 96:8 | 80:11,23 81:3 | jobs 137:2 | justifies 216:5 |
| involved 73:8 | 81:18 83:13 | 144:11,12 | k |
| 74:19 102:20 | 85:17 124:12 | jogging 68:6 | katana 128:21 |
| 103:2 124:13 | 149:1 191:7,12 | john 8:15 9:14 | 130:4 156:5 |
| 146:23 153:23 | 191:13 204:2 | $12: 11,12,15,17$ | $272: 8,12$ |
| 180:1 226:20 | 229:4,5 277:14 | 14:18 94:17 | $\text { keep } 98: 1$ |
| 234:25 274:17 | 283:21 284:2 | 169:18,20 | 193:8 211:2 |
| involves 73:24 | 285:20,2 | 170:5 | $222: 21226: 1,8$ |
| involving 137:5 | 286:2 | johnson 7:22 | 5 |
| 191:20 | it'd 52:8 256 | 70:7 | 256.13270 .5 $275: 24$ |
| irrelevan | it'11 15 | joining 14:18 | key 96:5 |
| 188:8 | 284:8 | joint 16:13 | kicking 266:7 |
| ish 130:23 | item 86:13 | 17:4 105:6 | kidding 16:10 |
| 155:6 | 87:17 90:16,16 | joker 70:18 | $43: 1$ |
| isochores 38:13 | 96:23,23 | 137:6 | kind 20:12 44:7 |
| isopach 12:22 | items 15: | jones 7:21 70:6 | $73: 2074: 16$ |
| 209:6 | 100:19 | $70: 7,1374: 24$ | 84:16 86:16,20 |
| issuance 87:19 | j | 75:2 85:23,25 | 92:17 105:12 |
| issue 17:12 |  | jparrot 3:22 | 128:2,16 |
| 22:12 47:3,6 | jackie 6:9 63:2 | judgement | 130:14 153:18 |
| 73:12,12,16,18 | james 3:18 5:12 | $254: 14$ | 156:4 157:20 |
| 73:23 74:8 | 6:4 18:20 19:2 | juicy 93:4 | 157:24,24 |
| 75:11,16 76:3 | 61:8 | july 2:2 14:3 | $158: 1 \quad 161: 14$ |
| 76:8 81:24 | jamesbruc 5:15 | 18:9 26:25 | 171:21 174:12 |
| 82:12 84:18 | 6:7 | $38: 1782: 3$ | 191:5 196:23 |
| 120:3 126:1 | jason 181:17 | 127:6 203:19 | 197:3 205:20 |
| 154:10 183:19 | jenny 196:10 | jump 15:7 71:4 | $213: 9214: 24$ |
| 183:22,25 | jenny 196.10 | 81:21 234:1 | $216: 18 \text { 220:16 }$ |

Page 41
[kind - landing]

| $233: 1237: 11$ | $131: 4,9132: 1$ | $225: 21226: 4,6$ | laha $176: 16$ |
| :--- | :--- | :---: | :--- |
| 270:17,19,25 | $132: 4,5,9,11,11$ | $234: 17,20,22$ | $199: 4$ |
| 271:4,7,21 | $132: 15,17$ | $235: 8,10238: 8$ | land $45: 2450: 4$ |
| 272:5 273:25 | $133: 22,24$ | $247: 20253: 18$ | $51: 6,16,25$ |
| 275:25 | $134: 2,3,4,5$ | $255: 18256: 2$ | $64: 2565: 1$ |
| kinds 207:4 | $135: 10,15$ | $260: 2,4,7$ | $103: 6110: 16$ |
| knew 192:14 | $137: 11139: 7$ | $270: 4,22,24$ | $131: 24132: 24$ |
| know 17:6 | $140: 4,5,6,24$ | $271: 1,3,8,11,24$ | $137: 14150: 11$ |
| 22:20 29:20 | $141: 18,20,24$ | $272: 1,12,16,18$ | $153: 15161: 21$ |
| $32: 341: 8,8,24$ | $142: 13143: 11$ | $273: 4,6,8,10,11$ | $177: 24233: 17$ |
| $42: 5,2143: 4$ | $143: 17144: 2$ | $273: 24274: 17$ | $244: 15248: 23$ |
| $44: 2245: 2$ | $144: 10,21,22$ | $274: 21275: 8$ | $248: 25254: 5$ |
| $46: 13,2047: 4$ | $144: 23145: 9$ | $276: 13,17$ | $254: 11263: 15$ |
| $49: 1050: 3$ | $145: 11,20$ | $279: 12,23$ | $263: 16274: 13$ |
| $52: 8,2353: 15$ | $146: 17,24$ | $281: 1,6283: 18$ | landed $127: 13$ |
| $53: 23,2455: 1$ | $147: 4,5,6$ | $284: 10,15$ | $140: 18251: 14$ |
| $55: 15,1956: 8$ | $149: 3,14,14,24$ | $285: 18286: 2$ | $251: 16254: 3,4$ |
| $57: 15,21,22$ | $150: 18151: 7$ | $286: 13,18$ | $271: 19$ |
| $76: 3,7,10,11$ | $151: 13152: 7$ | knowledge | landing $7: 23$ |
| $77: 8,1078: 16$ | $154: 3,5,21,24$ | $22: 19,2079: 19$ | $99: 4,12106: 5$ |
| $83: 1,784: 19$ | $155: 6156: 4,6$ | $106: 15108: 1$ | $106: 7118: 13$ |
| $84: 2287: 7,15$ | $159: 15,16,20$ | $132: 12144: 9$ | $118: 19,21$ |
| $88: 389: 690: 7$ | $159: 20160: 8$ | $170: 22175: 13$ | $119: 3121: 6$ |
| $95: 18,20,21$ | $160: 14,18,19$ | $175: 21201: 23$ | $125: 18126: 1$ |
| $97: 2198: 14$ | $161: 5,9,10$ | $203: 24242: 13$ | $132: 1,2,3$ |
| $101: 4109: 21$ | $162: 24165: 10$ | $266: 3290: 9$ | $134: 2143: 12$ |
| $110: 1,17,18$ | $165: 15169: 18$ | $291: 6$ | $146: 12,18$ |
| $113: 11,13,16$ | $175: 9177: 9$ | known $79: 20$ | $153: 20154: 1$ |
| $113: 17115: 10$ | $178: 19180: 12$ | koala $24: 15,22$ | $154: 22155: 5$ |
| $115: 16116: 6$ | $182: 24183: 1$ | $25: 2,9,2126: 1$ | $155: 19160: 14$ |
| $122: 21125: 22$ | $183: 25187: 2$ |  | $165: 7171: 14$ |
| $125: 25,25$ | $188: 6197: 24$ | lack $105: 15$ | $171: 24177: 3,6$ |
| $126: 7127: 2,16$ | $212: 25215: 21$ | $214: 24216: 16$ | $177: 11,13$ |
| $128: 1,2,6,21,25$ | $219: 13223: 8$ | $218: 21271: 5$ | $178: 18,24$ |
| $130: 16,18$ | $224: 25225: 11$ |  | $186: 24201: 14$ |
|  |  |  |  |
|  |  |  |  |

Page 42
Veritext Legal Solutions
[landing - levels]

| $207: 14213: 22$ | $173: 16175: 9$ | layout $148: 16$ | leave $30: 2$ |
| :---: | :---: | :--- | :--- |
| $214: 9,18,19$ | $179: 22180: 16$ | layperson | $49: 1955: 22$ |
| $215: 20216: 13$ | $190: 4204: 16$ | $237: 25$ | $85: 13141: 2$ |
| $219: 3,5,7$ | $207: 12242: 18$ | layperson's | $188: 6197: 1$ |
| $232: 13,13$ | $242: 23244: 19$ | $54: 9$ | $230: 10234: 16$ |
| $239: 12247: 16$ | $246: 2249: 19$ | lays $57: 6231: 2$ | $235: 24$ |
| $248: 16252: 4,4$ | $272: 2277: 13$ | lea $64: 7105: 22$ | led $259: 14$ |
| $253: 24,25$ | $278: 16,25$ | $110: 9,10$ | left $122: 8$ |
| $267: 1273: 18$ | $279: 9282: 20$ | $112: 13,17,19$ | $137: 25215: 1$ |
| $274: 19$ | language $44: 25$ | $112: 22125: 9$ | $226: 13286: 2$ |
| landings | 162:18 $222: 9$ | $145: 15168: 12$ | leg $20: 18$ |
| $233: 16$ | lapsed $222: 3$ | $203: 18232: 24$ | legal $59: 6$ |
| landman $8: 10$ | large $14: 6$ | $233: 2241: 19$ | $110: 18129: 23$ |
| $8: 12,1510: 5$ | $68: 2578: 17$ | lead $39: 496: 2$ | $220: 9$ |
| $11: 412: 11,12$ | $205: 5248: 12$ | $194: 11237: 7$ | legislature |
| $12: 14,1626: 4$ | $254: 20260: 14$ | $257: 11$ | $193: 18$ |
| $39: 1793: 19,22$ | $260: 25$ | leads $196: 24$ | lend $185: 7$ |
| $94: 9,16137: 15$ | larger $25: 15$ | leaning $233: 1$ | lenders $168: 18$ |
| $169: 17170: 5$ | $111: 24245: 3$ | leaping $27: 14$ | letter $26: 9,23$ |
| $172: 25174: 8$ | late $16: 10$ | lease $33: 437: 1$ | $28: 365: 5,17$ |
| $177: 25180: 12$ | $67: 23280: 4$ | $46: 1947: 1,10$ | $65: 18104: 21$ |
| $188: 25$ | lateness $283: 17$ | $48: 14,1750: 7$ | $107: 9,14,23$ |
| landman's $28: 2$ | lateral $148: 25$ | $51: 652: 18$ | $127: 20137: 3$ |
| $28: 6101: 10$ | $153: 20$ | lease's $46: 25$ | $139: 25140: 17$ |
| lands $19: 12$ | laterally | $47: 5$ | $168: 21187: 3$ |
| $49: 2280: 13$ | $132: 14$ | leased $41: 15$ | $187: 12,18$ |
| $96: 898: 8,9,21$ | laterals $130: 2$ | leases $10: 18$ | $188: 1,2189: 4$ |
| $110: 13,13,14$ | latitude $285: 19$ | $37: 11,16,18$ | $190: 10,10$ |
| $110: 16,18$ | law $4: 195: 4,12$ | $40: 17,2446: 3$ | $287: 8,9$ |
| $111: 2112: 23$ | $6: 47: 10$ | $46: 2547: 2,3$ | letters $10: 21,22$ |
| $116: 3145: 16$ | lay $20: 10$ | $47: 1449: 5$ | $38: 1,2187: 3$ |
| $147: 3148: 15$ | $236: 24$ | $50: 5,2451: 12$ | $190: 22$ |
| $148: 21149: 7$ | layman's | $51: 2357: 4,9$ | level $270: 17$ |
| $150: 20151: 3$ | $228: 13$ | $58: 18111: 18$ | levels $99: 15$ |
| $152: 4171: 5$ |  | $111: 21$ |  |
|  |  |  |  |

Page 43
[lie - looks]

| lie 130:15 | 250:6 288:14 | 15:10,19 18:12 | 137:9 157:13 |
| :---: | :---: | :---: | :---: |
| 245:9 | listed 28:19 | 23:2 31:1,4 | 164:7 190:24 |
| lies 231:5 | 29:5 45:11 | 69:23 70:17 | 193:7 214:8 |
| light 72:22 | 115:5 168:19 | 92:2,2,9 | 222:9 226:18 |
| 87:25 | 200:2 256:21 | llp 6:107:4 | 228:4 271:25 |
| likelihood | 282:4 | lobe 219:8,11 | 278:15 279:11 |
| 264:4 | listening 54:12 | located 210:18 | 279:19 282:3,5 |
| likely 132:6 | 107:6 | 213:9 215:1 | looked 126:18 |
| 142:20 162:20 | listing 250:1 | location 2:5 | 128:12,15 |
| 165:5 196:25 | lists 11:16 | 10:14 36:9 | 138:5,9,25 |
| 210:9 217:5 | 37:11 | 38:10 65:10 | 141:25 151:4 |
| 236:10 | little 32:18 39:8 | 119:7,9 120:15 | 279:14 287:20 |
| likes 81:22 | 40:2,12 41:10 | 129:23 142:9 | looking 20:16 |
| limit 100:12 | 44:18 46:19 | 146:7 212:7 | 36:18 40:10 |
| 263:13 281:2 | 50:9 52:6,7 | 233:4,9,10 | 43:11 53:20 |
| 283:24 | 73:15 80:7 | 252:6 257:25 | 59:2,6 104:25 |
| limited 212:18 | 82:8 102:19 | locator 26:15 | 111:6 115:1,20 |
| 243:17 283:24 | 103:23 107:4 | 26:16 | 117:13 125:9 |
| 284:3 | 110:10 126:25 | $\boldsymbol{\operatorname { l o g }} 154: 19$ | 150:23 157:23 |
| line 40:8 55:8 | 127:25 128:9 | 157:14 210:3,8 | 165:22 177:19 |
| 167:24 210:2 | 129:13 135:18 | 273:8 | 186:3 210:15 |
| 213:7 246:7 | 135:19 145:12 | logically | 216:18 225:2 |
| 253:12 | 145:19 154:22 | 137:19 | 227:3,4 228:12 |
| lines 40:10 | 155:3 157:14 | logs 207:17,17 | 245:15 253:10 |
| 245:24 246:1 | 157:17 159:24 | long 70:3 76:7 | 279:7,8 |
| linguist 229:22 | 170:24 177:2 | 102:18 110:8 | looks 27:25 |
| link 58:22 | 194:24 201:12 | 112:5 141:3 | 28:5,7,17,19 |
| list 26:7 65:4 | 209:18 215:9 | 145:16 146:17 | 43:11 45:3 |
| 70:3 103:23 | 218:15 230:16 | 176:1 203:16 | 68:12 110:20 |
| 104:25 115:11 | 233:7 234:16 | 249:23 | 111:9 137:5 |
| 115:17 198:24 | 234:18 255:7 | longer 42:1 | 194:23 212:12 |
| 198:24 199:1 | 256:13 | look 37:24 39:7 | 227:15 228:12 |
| 199:11,12,15 | live 124:5 | 44:20 53:11 | 244:3,15 |
| 199:15,16 | llc 4:2,4 6:14 | 55:5 56:18 | 249:23 285:17 |
| 249:23,25 | 7:2,8 8:2,10 | 81:7 133:22 |  |

Page 44
[looming - marked]

| looming 33:5 | 276:15 | make 14:21 | manner 98:23 |
| :---: | :---: | :---: | :---: |
| loosey 137:6 | lowered 177:11 | 18:23 22:11 | 168:10 |
| 190:3,16 206:4 | lowering 119:3 | 36:22 41:10 | map 10:14 |
| 224:17 | 263:22 266:21 | 42:10,17,21 | 12:21,24,25 |
| lose 32:23 | 267:1 | 55:16 58:13,24 | 26:15,16 36:9 |
| loss 205:18,21 | lowest 252:1,1 | 59:9 84:5 | 38:10,11,11,12 |
| 237:7 | lp 5:17 17:21 | 87:12,16 89:17 | 65:10,11 |
| lost 206:10 | lunch 166:17 | 96:4 120:25 | 124:17 208:23 |
| lot 54:7 80:19 | 166:19 | 126:9 136:24 | 210:22 212:5 |
| 80:23 133:10 | m | 137:19 154:11 | 217:6 |
| 144:7 147:4 | ma'am 28:24 | 157:25 160:13 | mapping |
| 174:16 219:18 | made 29:4 | 165:11,16,19 | 207:20 |
| 232:22 | 31:23 105:16 | 183:15 186:19 | maps 10:15,16 |
| loving 247:2 | 129:10,11 | 197:21 198:14 | 26:16 36:9,11 |
| low 126:5 | 172:3 180:24 | 198:21 199:22 | 39:8 110:21 |
| 216:19,19 |  | 206:5 212:1 | 124:17 151:6 |
| 252:4 263:4 | 265:7 281:17 | 224:15 230:16 | 217:8 220:23 |
| 264:17 | magnitude | 246:13 251:5 | marathon 4:16 |
| lower 106:5,7 | $71: 973: 8$ | 262:20 265:14 | 15:24 63:18 |
| 106:12,17 | $74 \cdot 1681: 10$ | 278:22 284:22 | 92:9 |
| 118:13,18 | 157:20 236:11 | 287:12,20 | marathon's |
| 125:17 126:8 | $248: 17$ | makes 25:15 | 63:20 |
| 127:15 140:18 | mail 26:24 | 41:25 188:7 | march 51:17 |
| 147:6 160:11 | 65:19 101:5 | making 31:15 | marcy 4:20 5:5 |
| 171:24 177:3,5 | mailed 38:16 | 89:4 129:15 | maria 40:21 |
| 178:18 186:23 | mailing 168:19 | 183:10 184:10 | mark 8:19 9:20 |
| 206:20 213:17 | main 209:22 | 243:16 257:14 | 10:5 13:7 26:4 |
| 218:19 220:2 | 227:11 271:15 | manage 86:13 | 94:18 186:25 |
| 221:21,22 |  | management | 196:10 238:15 |
| 233:9,15 | majority | 36:21 37:4 | 241:2,3 |
| 238:18 248:16 | 174:13 210:18 | manager 37:3 | mark's 186:6 |
| 248:24 254:15 | 218:25 220:19 | manages 36:25 | 222:2 |
| 258:23 264:21 | $220: 21 \quad 231: 2$ | mandated | marked 26:11 |
| 265:23 274:12 |  | 75:19 99:2 | 26:19 27:2 |
| 274:13 276:15 |  |  | 36:13 37:13,23 |

Page 45
[marked - mean]

| 38:5,20 41:9 | mcclure 3:4 | 194:12,18,22 | 257:14 264:7 |
| :---: | :---: | :---: | :---: |
| 65:8,14,24 | 14:12,13,23 | 195:4,8,13,20 | 264:15 265:20 |
| 101:2 103:8 | 15:1,15 27:15 | 196:1,11,19,22 | 266:7 268:12 |
| 104:2 108:10 | 27:18 28:1,9 | 197:17 198:8 | 268:21 269:13 |
| 124:23 168:15 | 28:11,15,24 | 198:18 199:10 | 276:2 280:23 |
| 170:9 172:16 | 29:1,8,16,25 | 199:19,25 | 281:7,13,18 |
| 172:21 173:12 | 30:7,14 32:21 | 200:10 202:6 | 282:11,13,21 |
| 173:20 208:10 | 42:12,15,16,23 | 234:1,1,2,8,19 | 282:23 |
| 242:9 244:6 | 42:24 43:10,17 | 235:16,23 | mckenzie 5:21 |
| market 172:6 | 43:23 44:6,23 | 236:2,8,15,24 | mclean 6:9 |
| 174:17 | 46:6,12 47:12 | 237:5,10,20 | 63:2,3,6,7,9,12 |
| marleen 58:8 | 47:18 48:2,20 | 239:20 257:11 | 64:1,2 66:6,18 |
| marlene 8:21 | 50:3 51:10,21 | 257:13,24 | 66:24 |
| 17:11,15 78:12 | 52:5,14 53:5 | 258:6,10,16,22 | mean 40:16 |
| 285:5 | 53:10,16 54:21 | 259:4,16,23 | 48:2,2,3 57:19 |
| massive 190:19 | 55:11 56:20,24 | 260:2,6,16 | 59:3,5 80:10 |
| 228:11 | 57:12 58:14,24 | 261:3,10,14,19 | 113:4,5 116:17 |
| masters 203:14 | 59:1,11 66:11 | 261:22 262:5 | 117:18 121:3,5 |
| matador 4:9 | 66:12 68:8,11 | 262:15 263:2,9 | 130:10,13,24 |
| 60:9,15 62:2 | 71:4 81:20 | 263:19 264:7 | 138:3,11 |
| matt 172:3 | 86:3,5 98:5 | 264:12 265:15 | 140:12 142:11 |
| matter 1:5 74:4 | 99:25 100:3 | 266:8 268:9,17 | 143:1 144:22 |
| 95:18 99:19 | 119:24,25 | 280:8,11 283:7 | 146:15,17 |
| 129:8 141:2 | 120:5,10,17 | 283:9 288:10 | 147:12,18 |
| 145:25 167:3 | 121:7,14,21,24 | 288:17 | 148:23,25 |
| 171:22 182:1 | 122:5,8 135:18 | mcclure's | 149:21,23 |
| matters 19:4 | 156:16,19,20 | 200:19 | 150:6 152:6 |
| 21:7 146:7 | 157:2,9,18 | mccoy 8:19 | 153:14,17,21 |
| matthew 8:12 | 158:4,9,13,17 | 9:20 13:8 | 155:4 158:4 |
| 9:7 11:15,19 | 158:21,25 | 94:18,23 100:7 | 159:17 161:18 |
| 11:21 94:9,25 | 159:2,23 160:3 | 202:10 214:21 | 163:12 166:1 |
| 101:20 102:1,9 | 160:20 161:13 | 241:2,3,9,21 | 166:24 178:17 |
| $\boldsymbol{\operatorname { m a x }}$ 208:17 | 161:23 162:7 | 242:7 252:10 | 185:10 188:5 |
| maximum | 164:1 166:23 | 252:23 253:4 | 188:16 193:18 |
| 12:19 208:16 | 167:2 194:11 | 256:20 257:6 | 196:3,12,22 |

Page 46
[mean - missing]

| 198:8 199:5 | mentioned | michael 4:3 | mind 34:12 |
| :---: | :---: | :---: | :---: |
| 216:17 222:23 | 52:21 78:8 | 15:18 | 58:12 82:17,18 |
| 226:1 227:23 | 130:8 157:19 | micro 259:6 | 95:24 96:3 |
| 229:20,20,24 | 194:15 246:8 | microdarcy | 98:4,18 100:15 |
| 235:9 255:15 | 250:6 288:12 | 158:9 | 105:16 185:17 |
| 259:5 271:17 | mere 238:22 | microseismical | 218:19 278:13 |
| 272:24 273:1,6 | merely 261:25 | 259:8 | minds 203:15 |
| 273:11,21,22 | merits 73:19 | middle 210:3 | mineral 33:17 |
| 275:3,6 276:8 | 74:10,12 75:13 | midland 124:6 | 34:15 35:5,24 |
| 276:12,14,16 | 76:12 85:2 | mighty 127:21 | 37:8 52:16 |
| 277:3,24,24 | mess 131:11 | 137:6 190:3,15 | 171:4 |
| 279:1,21,24 | met 162:16 | 206:4 207:5 | minerals 1:2 |
| 281:10 285:22 | metaphor | 224:17 227:4,7 | 3:5 37:2 76:1 |
| 286:12 | 229:23 | 227:17,19 | 248:10 267:2 |
| meaning | methods | mike 8:10 | minor 29:4 |
| 114:14 245:16 | 281:25 | 50:12,17 | 218:25 |
| means 52:4 | mewbourne | mile 128:23 | minus 143:16 |
| 133:12 174:22 | 6:2 18:14 63:3 | 130:2 148:24 | minute 60:7 |
| 201:6 235:14 | 64:4,8,13,17 | 156:9 190:6 | 122:16 134:25 |
| 239:11 | 128:14,20,21 | 272:5 | 181:4 240:14 |
| measure 259:3 | 129:11 130:4 | miles 110:21,22 | minutes 62:13 |
| 259:21 | 131:6 142:13 | 128:3,4 130:21 | 62:15,16 |
| measurement | 150:17 156:4 | 131:7 182:5 | 122:15,21 |
| 270:25 | 156:11 157:25 | 187:25 188:18 | 123:1 166:16 |
| mechanical | 271:16 272:4,7 | 188:24 190:5,6 | 240:4 283:25 |
| 241:16 | 272:14 278:19 | 190:6 209:19 | mischaracteri... |
| meet 99:15 | 279:2,8 281:16 | 226:22 227:16 | 117:9 |
| 288:20 | 281:19 282:12 | 244:19 272:1 | misheard 110:7 |
| meeting 289:2 | 282:14 | 272:21 279:7 | mislabeled |
| mega 225:4 | mexico | millidarcy | 195:1 |
| memory 68:6 | 63:18 102:20 | 158:14,16 | missed 43:9 |
| 260:13 | 149:25 167:9 | 236:11 | 288:11 |
| mention 179:2 | 168:13 271:24 | million 134:5 | missing 42:6 |
| $\begin{aligned} & 207: 8,24 \\ & 234: 21250: 5 \end{aligned}$ | 290:22 | millman 28:21 | 186:20 |

Page 47
[mistake - near]

| mistake $147: 19$ | $21: 822: 25$ | moves $213: 11$ | mute $181: 18$ |
| :---: | :---: | :---: | :---: |
| mistaken 30:9 | $23: 4,6,1631: 5$ | $273: 5,5$ | $269: 25$ |
| $59: 16,2261: 15$ | $31: 12,1732: 17$ | moving $22: 23$ | muted $69: 6$ |
| $117: 15$ | $50: 1160: 13,20$ | $23: 2131: 17$ | $122: 5162: 11$ |
| misunderstand | $60: 2261: 4,8$ | $37: 540: 1,12$ | mutually |
| $248: 3$ | $63: 5,7,1667: 6$ | $126: 1160: 14$ | $149: 14$ |
| mixed $34: 25$ | $67: 969: 8,10$ | $212: 19285: 18$ | myriad $107: 5$ |
| modern $245: 2$ | $69: 14,1970: 6$ | mrc $5: 916: 7$ | $187: 21286: 13$ |
| modrall 4:19 | $70: 1585: 7$ | mrodriguez $4: 7$ | n |
| 5:4 23:17 | $90: 19,2191: 18$ | mueller $8: 17$ | n $3: 14: 15: 1$ |
| $63: 1792: 7$ | $91: 2592: 6$ | $9: 1794: 17,23$ | $6: 17: 18: 19: 1$ |
| modrall.com | $135: 3,5188: 4$ | $202: 10,23$ | $14: 194: 10,11$ |
| $4: 225: 7$ | motion $16: 14$ | $203: 1,9204: 1$ | name $14: 4,10$ |
| moment $15: 4$ | $17: 4,661: 14$ | $217: 19218: 11$ | $36: 17102: 7,15$ |
| $19: 17,2143: 24$ | $62: 271: 6,12$ | $218: 18221: 15$ | $124: 4,5168: 4$ |
| $79: 7156: 15$ | $71: 1473: 10,16$ | $226: 3,10,15,19$ | $170: 4195: 21$ |
| $202: 3268: 7$ | $83: 2584: 14$ | $228: 19229: 3$ | named $246: 12$ |
| money $251: 5$ | $127: 5138: 5,6$ | $230: 4,13$ | names $37: 17$ |
| monitoring | $138: 24140: 12$ | $234: 24235: 18$ | $93: 2594: 6$ |
| $16: 1$ | mouth $157: 3$ | $236: 3237: 15$ | $129: 17188: 12$ |
| montgomery | $159: 3160: 1$ | $237: 16,22,23$ | nanodarcy |
| $7: 10$ | $263: 20$ | $240: 5,11$ | $158: 5,12$ |
| month $255: 24$ | move $16: 1$ | $247: 22251: 1$ | natural $1: 23: 5$ |
| months $79: 21$ | $17: 1830: 24$ | $280: 18,20$ | $141: 14162: 24$ |
| $87: 10129: 1,4$ | $67: 377: 9$ | $281: 7,12,20,23$ | $204: 8271: 5$ |
| $174: 5272: 12$ | $90: 15126: 11$ | $282: 5$ | $278: 4,5$ |
| moot $183: 22$ | $126: 11134: 12$ | mueller's | naturally $274: 4$ |
| moral $28: 19$ | $150: 3154: 16$ | $234: 20277: 18$ | nature $87: 8$ |
| morgan $8: 3$ | $165: 6,6,13$ | multiple $41: 22$ | $98: 2099: 5$ |
| $70: 15,1671: 1$ | $166: 2,3178: 24$ | $176: 14$ | $234: 4245: 11$ |
| $74: 2475: 5$ | $201: 7253: 18$ | munds $6: 16$ | $247: 25252: 12$ |
| $85: 2486: 1$ | $253: 21266: 9$ | $18: 10,11,17$ | nd $138: 9$ |
| morning $15: 14$ | movement | $20: 2521: 2$ | near $55: 13$ |
| $15: 18,2018: 1$ | $201: 11$ | $91: 2592: 1,4$ | $154: 3175: 8$ |
| $18: 6,10,19$ | $92: 16,1993: 8$ | $233: 9242: 23$ |  |

[near - notice]

| $246: 1$ | $225: 3229: 6,20$ | new $1: 120: 20$ | north $3: 144: 12$ |
| :---: | :---: | :---: | :---: |
| nearby $129: 18$ | $229: 22232: 2$ | $63: 1779: 23,24$ | $7: 1724: 14,14$ |
| $133: 19254: 2$ | $235: 13255: 24$ | $102: 20120: 19$ | $24: 2025: 1,19$ |
| nearest $156: 12$ | $274: 16275: 24$ | $149: 25155: 19$ | $145: 20156: 9$ |
| $244: 18$ | $281: 15284: 9$ | $167: 9168: 13$ | $182: 2208: 18$ |
| nearly $87: 10$ | $284: 22$ | $233: 4,8,10$ | $208: 19273: 6$ |
| $244: 12261: 2$ | needed $191: 17$ | $271: 24272: 11$ | northeast |
| necessarily | $268: 13$ | $272: 13,21$ | $33: 2434: 23$ |
| $45: 1571: 11$ | needs $74: 5$ | $286: 7288: 14$ | $35: 1136: 4$ |
| $83: 10118: 5$ | $143: 14235: 6$ | $290: 22$ | northern $7: 20$ |
| $149: 14151: 4$ | $273: 12$ | news $61: 17$ | $70: 875: 3$ |
| necessary | negative $276: 6$ | $65: 21168: 12$ | $247: 2$ |
| $23: 2055: 16$ | $276: 8,10,18,21$ | newspaper | northwest |
| $56: 263: 21$ | negatively | $168: 12$ | $33: 23,2534: 21$ |
| $70: 2471: 25$ | $249: 20$ | nice $86: 15$ | $35: 12104: 1$ |
| $76: 5$ | negotiate $16: 16$ | $255: 25256: 3,9$ | $145: 19182: 2$ |
| neck $280: 4$ | negotiation | $285: 19$ | nos $1: 9$ |
| need $20: 922: 11$ | $179: 9,10184: 8$ | nm $2: 63: 8,15$ | notary $2: 7$ |
| $28: 829: 19$ | negotiations | $4: 6,13,215: 6$ | $290: 21$ |
| $47: 20,24,25$ | $95: 22105: 15$ | $5: 14,226: 6,12$ | note $31: 2233: 8$ |
| $48: 1250: 15$ | $171: 21,23$ | $6: 197: 6,12,18$ | $35: 1439: 17$ |
| $51: 1354: 15$ | $173: 23,25$ | $8: 646: 20$ | $42: 2160: 4$ |
| $55: 2056: 17$ | $176: 184: 1$ | nmocd $51: 8$ | $98: 10101: 21$ |
| $58: 14,2467: 20$ | neither $290: 10$ | nobody's | $172: 19199: 22$ |
| $75: 1177: 17$ | $291: 7$ | $105: 16$ | $209: 1$ |
| $80: 2582: 8$ | nest $203: 24$ | nonconformist | noted $120: 14$ |
| $84: 4,1687: 12$ | net $179: 18,18$ | $32: 13$ | notes $89: 5$ |
| $89: 11,16$ | network $263: 6$ | nonspecific | $107: 3126: 15$ |
| $109: 23110: 17$ | neutron $209: 25$ | $287: 25$ | $131: 14164: 7$ |
| $111: 21120: 18$ | $210: 5$ | nonstandard | $186: 19193: 7$ |
| $135: 13136: 22$ | never $22: 21$ | $33: 18,2134: 6$ | nothing's |
| $151: 25153: 19$ | $111: 14162: 16$ | $35: 2$ | $189: 16$ |
| $164: 16207: 3$ | $164: 20$ | noon $122: 23$ | notice $10: 22,23$ |
| $208: 13211: 13$ | nevertheless | normal $146: 16$ | $11: 8,13,25$ |
| $221: 25223: 23$ | $72: 2083: 4$ |  | $12: 426: 6,22$ |
|  |  |  |  |
|  |  |  |  |

Page 49
[notice - oh]

| 26:25 38:2,15 | 105:4 132:22 | objection 21:2 | 118:2 156:10 |
| :---: | :---: | :---: | :---: |
| 38:18 43:12 | 133:11,23,24 | 21:9 23:20 | 185:1 226:6 |
| 59:16 65:2,16 | 137:3,4 153:22 | 63:21 80:14 | 234:12 250:10 |
| 65:17,18 67:20 | 154:14 157:23 | 99:23 101:13 | 265:7 |
| 67:22 68:1 | 158:24 159:1 | 101:15 109:5,6 | ocd's 61:16 |
| 100:21,22,23 | 166:13 171:8 | 134:14,16 | ocean 6:16 |
| 101:4 168:10 | 179:23 181:10 | 169:1 183:14 | 18:11 92:1 |
| 168:11,21 | 181:18 243:1 | 218:3 221:2 | october 20:21 |
| 171:2 | 255:20 272:19 | 222:25 229:19 | 250:8 |
| noticed 167:18 | numbers 21:7 | 241:25 252:17 | odd 32:14 |
| 168:6 170:12 | 31:25 33:13 | objections | offer 53:11 |
| 186:1 267:18 | 55:8 64:3,23 | 86:23 87:24 | 93:6 172:3 |
| novel 74:20 | 66:1 128:10 | 99:20 100:4,5 | 177:4 178:23 |
| 190:17 191:12 | 140:13,15 | 178:6 | 184:10 192:22 |
| november | 150:15 228:3 | observe 267:22 | offered 172:5 |
| 20:19,21 22:4 | numerical | observed 222:1 | 175:4 177:3 |
| 50:8,24 51:6 | 147:5 | 247:7,11,18 | 192:18 |
| 51:14 | nw 8:5 | 259:11 | offering 92:17 |
| novo 23:19 | 0 | obvious 144:24 | 125:24 174:20 |
| 63:20 | o 14:1 21:5 | 146:21 282:7 | offers 172:2,8 |
| nuanced 40:2 | $94: 11,11,12$ | obviously | office 15:16 |
| 205:17 | $151: 6,8,12,15$ | 72:16 105:9 | 18:2 31:13 |
| number 15:8 | 270:21 271:11 | 150:2 184:21 | 50:4 51:6,16 |
| 23:3 24:11,17 | 271:13 277:25 | 196:13 285:13 | 51:25 60:14 |
| 24:23 25:4,17 | o'clock 240:14 | occ 235:19 | 69:13,20 90:23 |
| 25:22 28:18 | oa 170:18 | 239:7 | 103:16 |
| 29:3 32:25 | 199:6 | occur 269:7 | officer 290:1,2 |
| 33:10,16 34:10 | oath 8 | occurring | offset 207:12 |
| 35:4,22 37:7 | object 117:5 | 236:5 260:18 | 207:21 213:7 |
| 37:16 38:16 | $179: 21 \quad 181: 1$ | ocd 14:3,8,9,17 | 239:13 271:6 |
| 53:2 64:8,14 | $182: 12,25$ | 27:13,14 54:18 | 278:8 282:8 |
| 64:16,22 67:4 | 183:13 187:24 | 57:17 58:22 | offsetting |
| 67:12 68:22 | 221:2 229:14 | 71:13,15 73:7 | 128:12 |
| 69:170:10 | objecting 31:16 | 74:14 111:7 | oh 15:21 21:16 |
| 76:12,13 104:6 | objecting 31.16 | 116:23 117:15 | 28:11 43:12 |

Page 50
[oh - okay]

| $58: 23110: 7$ | $61: 13,2362: 4$ | $136: 3,12,22$ | $200: 10202: 4$ |
| :---: | :--- | :--- | :--- |
| $113: 13130: 6$ | $62: 11,2263: 25$ | $137: 2,20138: 4$ | $202: 11,22$ |
| $137: 1144: 24$ | $68: 17,20,23$ | $139: 4,6140: 7$ | $204: 1,15$ |
| $158: 9,25$ | $69: 1570: 2$ | $141: 1,4,7,13$ | $205: 24206: 3$ |
| $186: 25188: 25$ | $71: 272: 11$ | $142: 2,22143: 3$ | $207: 7,24208: 3$ |
| $196: 22198: 8$ | $75: 776: 25$ | $144: 4,13$ | $208: 5,15209: 5$ |
| $250: 16286: 25$ | $77: 1978: 7$ | $145: 12,23$ | $210: 11,21$ |
| ohms 209:22 | $80: 5,981: 19$ | $146: 6147: 20$ | $211: 10212: 4$ |
| oil $1: 3,63: 2,6$ | $82: 2585: 4,11$ | $148: 14,17,17$ | $212: 16,24$ |
| $4: 166: 27: 20$ | $86: 9,1088: 8$ | $148: 18,20$ | $213: 16,21$ |
| $15: 2418: 14$ | $88: 1589: 2,3$ | $149: 5150: 10$ | $214: 5,21,23$ |
| $29: 563: 3,18$ | $90: 8,1391: 8$ | $152: 8,18$ | $215: 23216: 10$ |
| $70: 875: 392: 2$ | $91: 17,2292: 3$ | $154: 15,21$ | $216: 25219: 17$ |
| $92: 999: 13$ | $92: 2193: 11,24$ | $155: 8,21,24$ | $220: 7221: 19$ |
| $102: 21,25$ | $94: 5,14,19$ | $156: 14157: 2$ | $223: 16,18$ |
| $129: 1134: 5$ | $95: 2,396: 3$ | $158: 17159: 2$ | $224: 13225: 8$ |
| $238: 3246: 6$ | $97: 23100: 11$ | $161: 23163: 24$ | $225: 12227: 8$ |
| $248: 14260: 24$ | $103: 4104: 6,20$ | $164: 25165: 18$ | $227: 21228: 18$ |
| $270: 22282: 5$ | $108: 5109: 15$ | $167: 9,22168: 1$ | $230: 8,25$ |
| okay $14: 15,17$ | $110: 12111: 1,6$ | $169: 14170: 7$ | $231: 15232: 3$ |
| $15: 516: 2,22$ | $111: 11112: 4$ | $170: 12,16,20$ | $232: 14234: 8$ |
| $17: 818: 519: 5$ | $113: 2,11,15,18$ | $170: 24171: 16$ | $235: 16,23$ |
| $19: 17,2220: 23$ | $114: 12115: 1$ | $173: 5,10,18,23$ | $236: 2,8,15,24$ |
| $21: 10,2522: 9$ | $115: 13,19$ | $174: 7,15$ | $236: 25237: 5$ |
| $22: 2428: 5,9$ | $116: 6,12,18$ | $175: 22176: 11$ | $237: 10238: 6$ |
| $28: 15,2529: 7$ | $117: 2118: 5,9$ | $177: 9,18,22$ | $238: 20239: 15$ |
| $29: 11,2330: 4$ | $119: 8,12,15$ | $179: 12180: 2,6$ | $240: 9,10,16$ |
| $31: 9,1838: 24$ | $120: 9,13,17$ | $181: 20184: 5$ | $243: 24244: 20$ |
| $40: 1141: 1,5$ | $121: 7,14,24$ | $184: 20185: 1$ | $245: 14246: 13$ |
| $41: 1944: 6$ | $122: 14,24$ | $185: 17186: 8,8$ | $247: 19248: 5$ |
| $46: 1248: 20$ | $123: 17124: 12$ | $187: 2188: 11$ | $249: 2,18,22$ |
| $51: 1052: 5,5$ | $125: 6126: 14$ | $191: 23192: 14$ | $250: 12,17$ |
| $52: 1453: 5$ | $130: 3,20$ | $194: 6,22195: 4$ | $251: 17255: 8$ |
| $56: 1958: 7,9$ | $132: 21134: 9,9$ | $196: 1,19$ | $256: 17,25$ |
| $59: 960: 2$ | $134: 25135: 16$ | $198: 18199: 19$ | $258: 16260: 16$ |
|  |  |  |  |
|  |  |  |  |

Page 51
[okay - overlooked]

| 261:3,19 262:5 | opened 184:2 | opponent 286:1 | 35:4,23 46:16 |
| :---: | :---: | :---: | :---: |
| 264:25 265:16 | opening 9:3,4 | opponent's | 48:3 51:5 |
| 266:4 267:25 | 96:4 97:21 | 99:21 | 53:20 57:5 |
| 268:14 269:13 | 98:10 | opportunity | 64:4,9,17 |
| 269:14 270:2 | operate 223:8 | 20:12,14 22:21 | 72:25 74:6 |
| 270:13 272:3 | operating 5:2 | 56:2 72:21 | 75:18 83:8 |
| 273:14 274:11 | 6:14 15:10,19 | 74:8 92:25 | 86:17 87:13 |
| 274:23 275:13 | 18:12 23:2,3 | 144:13,18 | 88:5 89:4 |
| 275:17 279:25 | 23:18 36:16,22 | 146:22 164:6 | 185:1 248:16 |
| 280:3,13,22 | 36:24 37:7 | oppose 83:11 | 259:9 263:22 |
| 281:5,12,20 | 69:23 92:2 | opposed 71:8 | order's 57:7 |
| 282:10 283:6 | 105:7 110:3,5 | 97:3 160:4 | orderly 226:1,8 |
| 286:17 287:1 | 111:25 176:17 | 196:15 | orders 42:2 |
| 288:4 | 199:4 | opposing 97:17 | 44:13 47:10 |
| oklahoma | operations | opposite | 53:14 |
| 241:17 | 261:7 | 262:13 | organized |
| old 28:21 43:5 | operator 24:9 | opposition 60:8 | 218:15 284:11 |
| older 44:18 | 37:3 148:5,9 | 67:15 138:12 | original 234:20 |
| omundsdry | 207:12 216:11 | 140:20 | outcome |
| 6:20 | 251:8 263:5 | optimal 98:25 | 290:15 291:12 |
| once 48:18 | 268:23 | 145:7 | outline 253:11 |
| 131:13 162:25 | operators | optimum 99:15 | outpaces 245:7 |
| 224:20 228:3 | 112:6 216:12 | option 77:2 | outset 33:8 |
| one's 55:1 | 223:24 237:2 | 138:25 177:2 | 84:24 |
| ones 41:1,2,8 | 245:21 | 179:2 192:18 | outside 154:17 |
| 192:8 195:20 | opine 224:15 | 213:23 | 192:23 220:5 |
| 199:2 261:12 | opined 73:14 | options 72:25 | 266:10,12 |
| 271:4 278:13 | opinion 108:12 | 73:15 78:19 | outstanding |
| ongoing 20:2 | 131:12 140:25 | 85:8 177:4 | 83:24 |
| online 49:13 | 153:25 165:11 | oral 283:23 | overall 201:8 |
| 94:3 | 176:25 201:24 | orange 245:25 | 285:23 |
| open 30:2 | 251:7 282:13 | 246:7 | overlap 153:8 |
| 55:23 199:5 | opinions 144:8 | order 16:25 | 153:14 266:18 |
| 235:15 270:2 | oppenheimer | 17:9,12 22:13 | overlooked |
|  | 98:10,11 | 33:17 34:11,14 | 91:10 288:17 |

Page 52

## [overlying - particularly]

| overlying 222:7 | 174:1 176:14 | p | paraphrasing |
| :---: | :---: | :---: | :---: |
| overriding | 180:19,23,25 | p 3:1,1 4:1,1 | 268:22 |
| 168:9,18 | 185:5 187:18 | p $5: 1,16: 1,171$ | parent 133:5,7 |
| overview 230:9 | 190:18 191:25 | 7:1 8:1,1 14:1 | 133:25 271:6 |
| 270:18 | 191:25 192:4,5 | p.a. $8: 4$ | 278:9 |
| own 97:2 104:7 | 192:8 199:12 | p.c. $3: 19$ | parrot 3:18 |
| 114:7 115:6 | 200:2,21 | p.m. 289:3 | 18:19,20 19:1 |
| 171:14 173:1 | 204:24 205:11 | p.o. 5:13 6:5,11 | 19:2,6,10,17 |
| 175:1,23 | 206:10 248:9 | 7:5 | 21:4,5,12,16,20 |
| 176:19 186:15 | 248:21 276:20 | package 271:22 | 21:22 22:1 |
| 198:4,5 200:4 | ownership | packet 41:22 | 61:4,7,9,12 |
| 207:17 229:16 | 10:16,17 12:14 | 41:25 42:5 | 62:8 |
| 244:10 245:20 | 26:7 36:11,16 | 168:7 | part 32:22 |
| 249:16 250:7 | 37:6,9,10 | packets 26:2 | 39:11 125:13 |
| owned 70:22 | 40:12 65:4 |  | 127:15 138:14 |
| 175:19 | 103:22 104:13 | 85:8 86:18 | 138:20 139:23 |
| owner 20:7 | 104:25 113:19 | page 9:2 40:13 | 140:1 141:9 |
| 37:1 102:16 | 115:1,2 118:22 | ceate 41:6,11 43:6 | 160:11 191:2,9 |
| 114:13,15 | 172:20 176:9 | 55:8 59:6 | 193:12 210:9 |
| 115:3,6 131:22 | 181:2 184:16 | 120:25 127:7 | 212:21 236:14 |
| 180:20 200:3 | 184:19 197:13 | 198:22,23 | 236:16 238:8 |
| owner's 206:6 | 200:6 205:14 | 223:12 | 261:20 270:21 |
| owners 11:17 | 273:22 274:9 | pages 43:9 | 270:22 276:15 |
| 28:4 37:20 | 277:13 | 284:4 | participating |
| 40:14 41:8 | ownerships | paid 42:18 | 14:9,11 |
| 43:12 52:16 | 115:21 | pandemic | particular 20:6 |
| 75:25 103:24 | owning 137:17 | 32:23,24 | 45:9 71:24 |
| 105:5,19 | 137:17 | paragraph | 112:18,21 |
| 113:23 114:4,6 | owns 97:1,3 | 36:19,23 59:4 | 138:19 164:24 |
| 114:11,20,24 | 103:24 104:4 | $222: 18 \text { 223:2,9 }$ | 187:18 193:5 |
| 115:5,12,12,15 | 104:14,18,19 | $223: 10,14$ | 195:9 199:1 |
| 115:17 116:1,7 | 114:9 115:3 | $232: 8$ | 249:3 275:9 |
| 116:13 168:9,9 | 186:11 220:8 | parameters | particularly |
| $\begin{aligned} & 168: 10,17,18 \\ & 171: 4 \text { 173:1,19 } \end{aligned}$ | $\begin{aligned} & \text { oxy } 7: 1467: 4 \\ & 68: 1 \end{aligned}$ | 110:22 161:2 | 131:4 |

Page 53
[parties - perspective]

| parties $15: 13$ | path $179: 9$ | $138: 6,7139: 2$ | $158: 3,6236: 9$ |
| :---: | :---: | :---: | :---: |
| $15: 2516: 16$ | $222: 12,14$ | $139: 3,11,11,13$ | $271: 4278: 5,20$ |
| $18: 820: 17$ | $274: 4$ | $142: 3,4161: 10$ | $279: 22$ |
| $23: 1424: 1$ | pattern $214: 9$ | $182: 10,11$ | permeant |
| $29: 2131: 10,20$ | paula $3: 124: 10$ | $183: 5,7193: 9$ | $250: 23$ |
| $41: 14,1557: 14$ | $15: 1631: 13$ | $193: 9199: 8$ | permian $4: 16$ |
| $58: 1660: 19$ | $60: 1369: 24$ | $200: 5205: 1$ | $5: 915: 2416: 7$ |
| $63: 1565: 17$ | pay $266: 21$ | $211: 8,9216: 20$ | $24: 963: 18$ |
| $67: 1270: 3,4$ | pdf $36: 10$ | $227: 20231: 2,4$ | $69: 2279: 3,12$ |
| $70: 2172: 4$ | pe $209: 24$ | $266: 24$ | $79: 1792: 9$ |
| $76: 779: 5,11$ | pending $49: 7$ | percentage | $206: 7208: 17$ |
| $79: 1480: 3$ | $49: 24,2551: 1$ | $127: 10140: 11$ | permits $33: 3$ |
| $86: 2287: 8$ | $57: 2079: 10$ | $179: 5183: 12$ | $34: 139: 15,24$ |
| $91: 3,24104: 21$ | $84: 14$ | $184: 9193: 8$ | $40: 3,546: 3$ |
| $168: 16181: 10$ | penetrate | $205: 5211: 20$ | $47: 4,848: 11$ |
| $194: 1198: 21$ | $160: 10$ | percentages | $49: 7,10,16,24$ |
| $198: 25199: 13$ | penetrating | $173: 2179: 3,8$ | $49: 2551: 4,7,8$ |
| $199: 16211: 24$ | $141: 22$ | $180: 1184: 17$ | person $146: 19$ |
| $213: 25273: 14$ | penetration | perfect $17: 14$ | $199: 1$ |
| $290: 11,14$ | $276: 14$ | $23: 1167: 20$ | persons $15: 13$ |
| $291: 8,11$ | people $38: 16$ | $169: 14241: 15$ | $18: 823: 14$ |
| partnership | $76: 2181: 24$ | $270: 7$ | $24: 131: 11,20$ |
| $36: 24$ | $94: 20105: 1,3$ | perfecting | $60: 1963: 14$ |
| parts $125: 15$ | $132: 22137: 16$ | $67: 25$ | $67: 12198: 19$ |
| party $70: 9$ | $143: 25144: 9$ | performed | $198: 25288: 15$ |
| $91: 12173: 5$ | $149: 18150: 4$ | $245: 20$ | perspective |
| $229: 15$ | $162: 18$ | period $129: 10$ | $54: 971: 15$ |
| paseo $4: 56: 18$ | peralta $4: 5$ | $133: 21158: 22$ | $80: 1297: 15$ |
| $7: 11$ | $6: 187: 11$ | $255: 3$ | $111: 24149: 6$ |
| pass $134: 21$ | percent $81: 8,11$ | permanently | $162: 15174: 7$ |
| $152: 17$ | $97: 1,2,3,4$ | $145: 4217: 11$ | $204: 6214: 17$ |
| past $42: 7$ | $104: 4,14,15,16$ | $250: 21$ | $216: 11239: 2$ |
| $143: 20241: 18$ | $104: 19,19$ | permeability | $250: 20282: 22$ |
| $255: 6$ | $127: 9,11,17$ | $126: 12157: 5,8$ | $286: 7$ |
|  | $136: 17,18$ |  |  |

Page 54
[perspectives - pool]

| perspectives | phone 18:21 | planning 22:15 | point 41:21 |
| :---: | :---: | :---: | :---: |
| 286:6 | 95:1 223:8 | 56:12 87:9 | 42:17 43:1 |
| pertain 179:23 | photoelectric | 252:8 | 47:9 48:10 |
| pertained | 209:24 | plans 51:20 | 49:3,12,15 |
| 279:9 | phrase 198:9 | 79:19 99:16 | 53:12,24 55:7 |
| pertains 187:25 | phrased 219:25 | 110:9 165:23 | 79:21 89:19 |
| 193:9 226:15 | phrases 260:8 | 243:20 269:21 | 100:7 101:7 |
| pertinent 10:18 | phyllis 40:22 | play 149:25 | 115:8 118:21 |
| 37:11 | pick 72:4 119:9 | 179:16 238:2,9 | 118:23 121:6 |
| pervious 67:20 | 150:9 156:24 | 238:12 251:19 | 151:24 152:17 |
| ph 10:5,7 26:4 | 212:20 | 261:16 270:24 | 160:8 163:11 |
| 26:14 32:19 | picked 119:7 | playing 238:1 | 163:19 166:13 |
| 40:21 176:16 | 119:10 146:14 | plays 238:5,21 | 175:7 183:13 |
| 199:4 209:16 | 272:14,15 | plaza 8:5 | 183:22 187:20 |
| 282:14,16 | picture 286:5 | pleadings | 211:15 213:21 |
| phase 49:8 51:3 | piece 228:13 | 156:10 | 215:2,4 217:9 |
| phases 51:2 | place 83:24,25 | please 37:24 | 219:3 222:25 |
| pheasant | 84:6,11 87:14 | 43:2 67:5,7 | 226:6 229:25 |
| 127:21 137:6 | 149:24 150:2,4 | 69:5,18 90:18 | 234:15 245:18 |
| 190:3,15 206:4 | 174:9 260:13 | 95:5 109:21 | 272:20 273:2 |
| 207:5 224:17 | 267:16,22 | 110:1 117:11 | 278:22 288:6 |
| 227:4,7,17,19 | 270:25 275:12 | 135:10 144:17 | pointed 73:22 |
| phi 12:24 151:6 | 282:15 | 148:8 181:18 | 118:12 191:24 |
| 151:8,12,15 | placed 96:22 | 185:6 187:9 | 245:18 247:20 |
| 210:24,25 | 231:10,16 | 262:4 270:11 | 271:17 276:24 |
| 211:3,5 217:6 | plan 13:17 22:8 | 277:9 282:11 | pointing |
| 217:8 220:22 | 47:19 48:21 | pleasure | 114:17 247:24 |
| 227:15 228:2 | 51:8 81:13,13 | 288:20 | points 36:5 |
| 228:16 230:18 | 83:5 97:5 | plenty 223:24 | 146:10 184:8 |
| 231:5 270:15 | 146:20 148:24 | pllc 7:22 | 226:5 |
| 270:15,17 | 220:11 222:19 | plot 26:7 65:3 | poncho 199:4 |
| 271:11,13 | 225:14 229:13 | 103:6 282:16 | poof 57:21 |
| 277:25 281:14 | 248:7 287:10 | plus 143:16 | pool 24:5,12,18 |
| 281:21,23 | planned 219:5 | pmvance 3:16 | 24:24 25:5,11 |
| 282:8 |  | 4:14 | 25:14,18,23 |

Page 55
[pool - premature]

| 28:19,20,20,21 | 64:9,17 75:18 | positive 276:9 | 250:21 |
| :---: | :---: | :---: | :---: |
| 28:22 39:13,16 | 80:18 96:10,11 | 276:20 | practice 102:25 |
| 39:22,23 40:3 | 100:25 108:17 | possibility | precedent |
| 40:6 41:7 | 140:1 171:4 | 51:22 52:2 | 54:10,25 56:7 |
| 44:12 65:5 | 179:22 180:9 | 136:20,21 | 57:17 235:19 |
| 70:21 79:17 | 180:11,21 | 159:10,14 | precisely 235:7 |
| 96:24 103:11 | 181:6,21,22 | 214:15 225:12 | predates 45:3 |
| 103:15,16,20 | 190:12,23,25 | possible 53:4 | predominance |
| 106:16,19 | 190:25 195:9 | 140:7 144:25 | 142:15 |
| 108:13 116:24 | 201:8 204:20 | 148:4,9,20,23 | predominantly |
| 118:4,4 120:7 | 206:17 267:6 | 160:17,22 | 174:10 279:4 |
| 138:20,25 | pools 28:18 | 163:4 165:13 | preface 135:8 |
| 139:9,12 142:6 | 96:22 117:7 | 243:7 253:9 | prefer 42:9 |
| 142:24 156:8 | 153:4 156:13 | 276:7,11,21,25 | 56:21 |
| 191:2 195:10 | 186:10 | 277:16 286:5 | preferable |
| 200:3 204:16 | poor 261:19 | possibly 110:21 | 216:3 |
| 204:17 220:4,8 | 270:20 | 132:7 134:2 | preference |
| 220:10 224:20 | poorer 125:21 | 145:4 149:1 | 20:22 39:23 |
| pooled 26:8 | 246:20 | 151:20 152:7,7 | 42:19 57:23,25 |
| 41:14 44:16 | poorest 219:8 | 190:6 192:19 | 72:22 77:18 |
| 45:11,25 46:4 | porosity 157:7 | 217:10,13 | 79:4 122:15 |
| 48:8 58:17 | 209:25 210:5 | 278:10 | 167:4 |
| 105:1 138:14 | 210:24 211:4,6 | posted 44:3 | preferred |
| 139:8,14 | 216:20 | potential 119:2 | 45:25 46:1,4 |
| 140:22 198:19 | portion 204:25 | 145:2,8 148:22 | 49:19 253:25 |
| 198:20,21,25 | pose 88:10 | 150:12,13,21 | 254:15,17 |
| 199:2 206:7 | position 75:23 | 150:22 151:1,2 | prehearing |
| 221:7 223:21 | 98:14 113:22 | 151:9 209:11 | 22:13 74:9 |
| 224:1,21 | 121:15 160:5 | 209:13 211:11 | 77:18 86:16 |
| 288:14 | 182:9 189:1,7 | 217:11 234:9 | 87:13 88:4 |
| pooling 12:6 | 189:10 192:15 | 243:4,11,14,17 | 89:3 287:8 |
| 33:17 34:11,15 | 197:5 208:7 | 272:15 273:11 | preliminary |
| 35:5,24 40:14 | positions | potentially | 99:19 |
| 40:16 49:21 | 281:11 284:2 | 54:2 57:10 | premature |
| 52:15,17 64:4 |  | 120:1 159:8 | 77:16 |

[preparation - pride]

| preparation | $238: 18,21$ | prevention | $125: 7,8,17$ |
| :---: | :---: | :---: | :--- |
| $127: 2$ | $247: 6251: 18$ | $108: 14$ | $143: 5144: 13$ |
| prepare $86: 14$ | $251: 24252: 1,1$ | preview $96: 13$ | $144: 18145: 23$ |
| prepared $11: 18$ | $259: 12,25$ | previous $41: 23$ | $145: 24146: 3,7$ |
| $11: 2083: 17$ | $260: 17,19$ | $55: 1067: 22$ | $147: 20148: 2,4$ |
| $85: 186: 24$ | $261: 1,2,7,19$ | $147: 22172: 24$ | $148: 20152: 3$ |
| $104: 22108: 6$ | $264: 20,21,24$ | $175: 10$ | $152: 22155: 4$ |
| $115: 12291: 3$ | $267: 5,5,10,18$ | previously | $159: 4,8161: 1$ |
| preparing $87: 9$ | $271: 3,9278: 3$ | $100: 13102: 10$ | $161: 6,19,24$ |
| $164: 13$ | $278: 4,20$ | $124: 9203: 11$ | $162: 1164: 14$ |
| presence | $279: 23282: 7$ | $241: 10,18,24$ | $164: 21165: 18$ |
| $150: 24271: 4$ | pressures | $243: 9276: 24$ | $166: 1170: 25$ |
| present $8: 9$ | $260: 14$ | pride $5: 98: 12$ | $171: 2,20$ |
| $69: 1272: 17$ | presumably | $8: 129: 711: 15$ | $172: 25173: 3,5$ |
| $84: 1085: 7$ | $49: 3$ | $11: 19,2191: 6$ | $173: 24174: 19$ |
| $94: 1188: 4$ | presume | $94: 9,25,25$ | $174: 23175: 8$ |
| $284: 11$ | $102: 15$ | $95: 396: 10,15$ | $175: 19,22$ |
| presentation | presuming | $96: 1797: 2,8$ | $176: 2,3,6$ |
| $23: 1032: 9$ | $53: 17$ | $98: 2499: 4,12$ | $177: 5,11,15,20$ |
| $89: 8,10101: 12$ | pretty $54: 23$ | $101: 21102: 1,7$ | $178: 18179: 25$ |
| $141: 25151: 5,5$ | $57: 659: 2$ | $102: 9,18$ | $183: 20185: 14$ |
| $154: 12269: 17$ | $75: 1597: 16$ | $103: 10,24$ | $186: 11189: 9$ |
| $283: 20$ | $122: 22129: 1$ | $104: 4,7106: 1$ | $192: 1,5,11,11$ |
| presentations | $138: 3158: 16$ | $106: 10107: 4$ | $192: 16198: 4$ |
| $288: 19$ | $180: 23183: 2$ | $107: 20108: 24$ | $200: 2,3,25$ |
| presented | $188: 16198: 25$ | $109: 10,11,18$ | $213: 11214: 5,7$ |
| $67: 21$ | $228: 4,16$ | $110: 3,12$ | $215: 10216: 14$ |
| presenting | $271: 23,23,25$ | $113: 18114: 7$ | $233: 11236: 4,8$ |
| $42: 2045: 14$ | $279: 21,22,22$ | $114: 18115: 8$ | $236: 16237: 1,6$ |
| preserve $31: 16$ | $279: 24$ | $116: 1,5,14,25$ | $243: 3,8247: 23$ |
| $63: 1970: 23$ | prevent $96: 17$ | $117: 9,15,17,20$ | $248: 11,15,21$ |
| preserving | $98: 24141: 21$ | $118: 14119: 16$ | $248: 25249: 9$ |
| $23: 19$ | $214: 19$ | $119: 24120: 21$ | $250: 12,15$ |
| $158: 2238: 5,17$ | $120: 25121: 10$ | $252: 6253: 13$ |  |
|  | preventing | $121: 25122: 4$ | $253: 18254: 9$ |
|  |  |  |  |

Page 57
[pride - producing]

| 254:16 258:18 | 220:22 242:17 | procedural | 161:15,16 |
| :---: | :---: | :---: | :---: |
| 262:19,23 | 259:13 271:4 | 61:20 90:7 | 187:5,13 |
| 263:12 266:9 | principle 98:13 | 287:5 | 195:17 196:5 |
| 271:20 272:6 | 98:13,17 | procedure | 196:16 197:6 |
| 274:13 276:9 | prior 51:14 | 22:10 | 211:21 214:11 |
| 276:19 277:1 | 73:18 74:9 | proceed 22:4 | 218:20 219:23 |
| 279:14 288:13 | 79:14 81:3 | 24:3 42:17 | 220:13,15,18 |
| pride's 94:8 | 107:5 127:4 | 49:2 52:10 | 220:18,20,24 |
| 96:16 97:11 | 165:19 179:10 | 54:13 56:21 | 221:5,14,21,23 |
| 108:13 118:10 | 290:5 | 71:23 72:20,25 | 222:22,24 |
| 120:7 121:14 | priorities 231:7 | 82:14 84:21 | 224:20 266:24 |
| 131:19 134:13 | priority 35:18 | 85:1 89:21 | produced |
| 134:17 159:24 | private 49:22 | 90:1 94:7 | 106:22 112:25 |
| 159:25 160:3,5 | 193:2 198:12 | 97:16 98:1 | 113:9 139:1 |
| 160:22 161:15 | probably 56:10 | 164:15 167:15 | 189:12 193:15 |
| 171:12 179:5 | 57:16 81:11,25 | 167:21 213:25 | 205:25 206:19 |
| 185:11 208:20 | 94:6 95:10 | proceeding 2:5 | 206:24 207:25 |
| 211:2 213:8 | 107:6 121:8 | 34:8 63:22 | 223:15 236:20 |
| 219:19 225:8 | 130:12 142:7 | 74:15 144:20 | 251:19 |
| 232:13 236:21 | 157:13 163:1 | 291:4 | producer |
| 247:16 250:7 | 186:22 188:22 | proceedings | 273:11 |
| 254:22 261:11 | 195:13 217:3 | 140:3 290:3,4 | producers |
| 263:20 267:1 | 219:15 225:24 | 290:6,8 291:6 | 212:6 213:8 |
| 274:14 | 226:6 230:24 | proceeds 75:12 | produces |
| primarily | 235:1,24 | process 41:15 | 115:25 192:7 |
| 36:15 37:6 | 238:14 239:13 | 49:9 139:21 | producibility |
| 127:24 140:19 | 272:16 277:16 | 197:20 224:7 | 106:13 270:16 |
| 142:7 222:1 | 278:12 285:5 | 238:2,3 | producing |
| 247:5 253:6 | problem 57:3 | procure 223:16 | 51:14 88:1 |
| 261:4 262:14 | 88:11,13 | produce 87:22 | 159:8,11 |
| primary 29:5 | 109:24 130:14 | 96:20 107:16 | 197:10,11 |
| 45:7,12 59:14 | 135:14 161:12 | 116:13,16 | 201:14,18 |
| 59:20 107:16 | problems 57:9 | 121:1,5,11,13 | 204:5,18,21 |
| 126:2 176:9 | 96:21 | 121:19 140:19 | 205:5 211:12 |
| 187:5,13,15 |  | 142:3 160:4 | 224:3,11,21 |

Page 58
[producing - proposing]

| 239:4,7,9 | 234:12 235:20 | propagate | 213:22 216:8 |
| :---: | :---: | :---: | :---: |
| 244:16 250:8 | 245:7,25 246:1 | 160:23 216:22 | 283:17 |
| 254:10 267:20 | 248:12,13 | 251:22 261:17 | proposed 11:12 |
| 270:23 279:3,5 | 250:9,13 | 262:6,9 264:16 | 13:6,17 21:3 |
| product 29:5 | 259:10 271:6 | 265:3 266:21 | 26:6 34:20 |
| 193:15 204:13 | 271:19,25 | propagates | 45:11 65:2 |
| 251:19 | 272:9,13 275:8 | 267:4 | 75:177:23 |
| production | 278:8,18 | propagation | 84:8 96:16 |
| 5:17 17:21 | 279:13,15,17 | 261:15 | 98:24 99:12 |
| 18:4 27:22 | 279:19 281:18 | proper 221:5 | 100:21 105:5 |
| 31:14 60:10,15 | 281:24 282:8 | 229:13 274:14 | 118:13 121:2 |
| 75:18 87:20 | 282:19 | 281:8 | 121:10,16 |
| 97:7,9 98:25 | productions | properly 271:8 | 131:8 162:1 |
| 99:15 106:24 | 106:17 | properties 8:2 | 171:3 172:15 |
| 114:16 116:2 | productive | 70:17 75:6 | 190:12 195:16 |
| 126:22 127:10 | 130:8 133:19 | 210:8 230:23 | 195:20 196:2,3 |
| 128:13 136:16 | 242:25 246:3 | 231:18 245:10 | 212:8 213:7,8 |
| 136:23 139:2,8 | productivity | 254:21 261:16 | 214:13,14,25 |
| 142:15 145:2,7 | 151:18 245:7 | 262:16 | 216:13 219:3 |
| 148:22 150:12 | professional's | proposal 10:21 | 222:19 233:3,5 |
| 150:13,14,17 | 65:1 | 12:16 20:11,20 | 233:8,10 234:4 |
| 150:21,22 | program 275:3 | 21:9 22:2 26:9 | 247:16 248:7 |
| 151:1,2,12 | progress 256:3 | 28:3 38:1 65:5 | 249:9,20 254:3 |
| 159:5 170:13 | prohibited | 104:21 107:10 | 254:22 261:11 |
| 180:11 181:7 | 99:13 | 137:3 138:9,14 | 271:20 274:18 |
| 181:12 182:10 | project 176:22 | 138:20 140:17 | proposes 143:5 |
| 183:6 190:11 | projected | 155:19 170:17 | proposing 60:6 |
| 191:1 193:22 | 279:15 | 173:10 190:10 | 77:5,21 78:1,3 |
| 204:5 205:1 | prolific 129:16 | 190:10 | 81:20 82:2,21 |
| 207:21 209:11 | 142:12 149:17 | proposals | 108:2 128:24 |
| 209:13 211:14 | 159:18 | 79:15,16,18 | 197:1 207:14 |
| 212:9,10,25 | prolifically | 80:16 105:11 | 248:24 254:5 |
| 219:1 221:7,8 | 192:7 | propose 78:3 | 258:18 263:16 |
| 221:9 223:20 | promise 239:1 | 84:16 86:17 | 264:3 272:6 |
| 224:2 229:7 |  | 201:11 213:11 | 283:25 284:21 |

Page 59
[proration - question]

| proration | providing | pulled 197:7 | quantify |
| :---: | :---: | :---: | :---: |
| 176:15 187:18 | 58:13 85:8 | pulling 205:8 | 209:15 281:25 |
| prospective | 140:7 | pulls 43:19 | quantifying |
| 130:15 | proving 245:8 | pumped 245:1 | 217:7 |
| protect 13:17 | 249:11 | purple 34:16 | quantitative |
| 98:25 190:18 | proviso 30:13 | 35:25 | 257:20 |
| 193:21 197:16 | proximal | purpose 1:7 | quarter 33:23 |
| 206:22 248:8 | 236:14 | 47:9 244:22 | 33:24,25,25 |
| protected | proximity 35:7 | purposes 67:25 | 34:21,22,23,24 |
| 116:9 173:7 | 35:7,16,19 | pursuant 37:3 | 35:11,12,12 |
| protecting | 133:13 163:4 | 86:19 | 36:4 46:9,10 |
| 229:16 | 267:7 | push 176:3,7 | 81:12 104:1 |
| protocol 16:24 | proxy 151:8 | put 58:1 80:12 | 179:15 181:11 |
| 17:2 | prudent 251:7 | 111:24 119:3 | 182:2,3 |
| proves 245:6 | 254:20 | 126:7 153:22 | quarters |
| 245:22 251:21 | psi 247:8 261:1 | 153:22 154:12 | 127:17 179:15 |
| provide 49:14 | public 2:7 | 155:6 156:10 | 228:1 |
| 50:14 52:3 | 246:25 290:21 | 157:3 159:3,25 | question 19:18 |
| 56:7 58:18 | publication | 172:4 181:18 | 29:16 40:9 |
| 71:19 78:12 | 12:5 65:21 | 256:11 263:19 | 45:10 52:1,6,7 |
| 81:25 97:14,16 | 67:21,23 | 266:10 282:22 | 53:14 78:23 |
| 98:19 144:14 | 100:24 101:5 | 284:16 | 87:5 100:1 |
| 144:18 183:14 | 168:11 | q | 102:24 107:22 |
| 189:4 195:14 | publications | quail 129:22 | 109:24 112:20 |
| 199:15 265:8 | 144:10 | 133:23 155:16 | 115:11 116:18 |
| 265:11 283:23 | publicly 256:6 | qualifications | 117:11,25 |
| 285:9 | publish 26:25 | qual:12,23 | 118:10,19 |
| provided 77:9 | published | qualified 100:4 | 120:1,23 121:4 |
| 100:10 107:9 | 38:17 65:22 | qualined 100.4 | 121:8 127:7,8 |
| 110:19 115:13 | 168:11 | quality 125.22 | 135:14 153:8 |
| 168:20,21 | pull 40:5 43:21 | $210: 23255: 22$ | 156:22 159:6 |
| 170:19 180:1 | 45:21 46:3 | $\begin{aligned} & 10: 2325]: 22 \\ & 258: 4274: 13 \end{aligned}$ | 161:25,25 |
| 189:6 241:11 | 120:22 143:1,9 | quantifies | 163:14 164:6,8 |
| provides 65:18 | 208:4 | $270: 22$ | 179:21 181:2,3 |
| 97:14 245:14 |  |  | 182:15,16,24 |

Page 60
[question - read]

| 186:7 187:8 | 152:21 156:15 | 124:18 142:12 | 89:18 90:9 |
| :---: | :---: | :---: | :---: |
| 188:9 193:13 | 156:21 162:8 | 151:13 174:4 | 169:4 |
| 194:14 195:24 | 162:15 163:24 | 190:5,7 209:4 | rate 271:24 |
| 196:24 197:19 | 163:25 164:1,4 | 221:10 | rates 27:22 |
| 200:1 218:18 | 166:9 168:24 | quote 113:20 | 144:2 194:15 |
| 220:5 224:18 | 169:9,13 | r | 271:19,25 |
| 227:9 229:21 | 177:23 178:3 | r 3:1 4:1 5:1 6:1 | 278:18 |
| 231:20 232:6 | 178:16 186:9 | $7: 18: 1 \quad 14: 1$ | rather 28:20 |
| 232:22 233:20 | 194:7 200:11 | 44:13,14 94:10 | 46:8 57:18 |
| 238:15,25 | 200:17 202:2,3 | 94:11,12 | 89:23 120:12 |
| 251:18 253:23 | 202:5,6,8,8,12 |  | 166:24 201:25 |
| 254:12 258:5 | 202:13 216:1 | raise 95.5 | 225:25 252:2,4 |
| 262:4 263:10 | 218:15 225:6 | 118:21 253:24 | 261:25 273:19 |
| 265:21 270:13 | 226:3,10 | raised 80:22 | 274:5 283:22 |
| 273:14 277:8 | 228:20,25 | 135:19 184:1 | ratio 146:25 |
| 277:11 283:9 | 230:12,15 | raising 87:5 | 198:4,6,10 |
| questioning | 233:22 235:15 | ramble 197:12 | ratios 182:14 |
| 135:9 | 236:2 237:15 | ran 127:2 | ray 209:20 |
| questions 27:5 | 237:21 239:20 | ranch 28:21 | 216:19 |
| 27:10,11,14,19 | 253:1 256:14 | range $24: 733: 9$ | rex 9:6 |
| 29:9,14,20 | 257:8 264:8,13 | 64:6,13,21 | rdx 9:6 |
| 32:4,10 38:23 | 268:7,9,9,16,16 | 155:20 158:16 | reach 165:7 |
| 39:1,5,18 | 270:1 274:11 | $236: 12$ | 171:20 172:10 |
| 42:14 53:8 | 275:15,21 | $\text { rankin } 7: 15$ | 175:4 179:7 |
| 59:21 66:3,9 | 280:7,9,11 | $67: 6,7,10,14,17$ | 201:6 229:13 |
| 66:13,16 68:8 | 283:3,7,11 | $68: 6,9,18,19$ | 288:6 |
| 68:11,16 73:16 | quick 27:19 | 69:19,20 70:1 | reached 215:10 |
| 92:25 93:6 | 43:1 44:24 | 72:13,14 73:3 | read 7:14 44:24 |
| 100:12 105:24 | 120:1,3,24 | 75:9,14 76:16 | 53:25 56:11 |
| 109:10,11,19 | 203:11 236:2 | 76:18,23 77:6 | 69:2,18,22 |
| 119:17,21,24 | quickly 60:6 | $77: 25 \text { 78:2,23 }$ | 73:22 74:17 |
| 120:21,24 | 154:9 226:17 | $79: 182: 6,16$ | 78:17 80:14 |
| 121:25 122:4 | 280:18 | $82: 25 \text { 83:4,9 }$ | 81:12 96:14 |
| 131:18 135:7 | quite 41:18,25 | $87: 1,488: 12$ | 140:5,5 189:2 |
| 135:18 152:9 | 42:1 57:1 | $88: 17,2189: 1$ | 189:7 |

Page 61
[reading - reducing]

| reading 59:19 | 128:22 196:23 | 255:21 | 183:16 200:1,3 |
| :---: | :---: | :---: | :---: |
| readings 162:3 | 228:6 251:4 | recognize | 200:5,8 205:14 |
| ready 82:14 | 254:1 | 32:18 | 218:2 240:20 |
| 84:21 167:15 | reasonable | recognized | 240:22 252:15 |
| real 193:22 | 105:22 173:16 | 125:10 242:4 | 255:9 256:8 |
| 203:11 | 232:18 | 243:3 | 284:10 287:10 |
| reality 205:3 | reasons 71:11 | recognizes | 287:12 290:9 |
| realize 70:3 | rebuttal 240:8 | 116:23 117:15 | 291:5 |
| 73:7 128:3 | 268:12 269:20 | 118:3 | recorded 290:6 |
| really 59:674:5 | 270:4 281:2,3 | recognizing | recording |
| 75:20 76:8 | 281:13 283:4,8 | 280:6 | 260:12 290:8 |
| 79:23 80:1 | recall 133:11 | recollection | 291:4 |
| 84:4 87:12,14 | 152:16 157:4 | 44:17,19 56:15 | records 108:8 |
| 93:4 108:19 | 269:21,23 | recommend | 111:7 |
| 115:16,16 | recapitulating | 89:19 164:16 | recover 97:9 |
| 131:8,8 132:19 | 82:18 | 165:2,3,5 | recovered |
| 136:22 173:5 | recapitulation | recommendat... | 128:25 129:4,9 |
| 176:2 190:16 | 199:17 | 89:25 160:25 | 250:25 |
| 193:25 205:24 | receipts 26:23 | 161:4,7 | recovery |
| 206:4,9 207:3 | 168:20 | reconcile | 236:17 237:7 |
| 214:17 215:12 | receive 73:17 | 193:14 235:2 | recross 164:9 |
| 215:13 216:5 | 107:2 114:15 | reconvene | 268:19 275:22 |
| 222:12 223:23 | 114:17,25 | 62:14 | red $40: 8,10$ |
| 224:14 225:3 | 116:2,5,8 | record 14:3 | 209:21 210:3 |
| 226:25,25 | 204:25 248:22 | 15:11 27:6 | 253:12 |
| 230:4 232:21 | received 30:17 | 30:2 37:1 | redirect 119:19 |
| 235:6,13 | 65:19 66:22 | 55:23 62:17,19 | 152:13 184:3 |
| 243:15 247:13 | 84:12 101:19 | 62:25 66:1 | 189:24 190:1 |
| 249:12 257:20 | 109:8 134:19 | 67:13 101:6,17 | 228:23 229:1 |
| 258:25 270:17 | 169:6 171:2,11 | 101:21 102:8 | 257:4 270:9 |
| 270:18 271:18 | 178:13 218:9 | 107:14,14 | redo 255:15 |
| 271:18 272:15 | 252:25 | 123:3,5,6 | reduced 271:10 |
| realm 196:25 | recent 107:14 | 134:10 167:11 | 290:6 |
| reason 33:1 | recently 211:18 | 167:13 168:23 | reducing |
| 67:24 105:2 | 241:19 255:20 | 178:2,10 | 138:10 |

[refer - repeated]

| refer $52: 12$ | reflecting | $211: 13,21$ | relief $208: 25$ |
| :--- | :--- | :--- | :--- |
| $113: 2$ | $270: 19$ | $212: 2221: 6$ | $209: 4215: 5$ |
| reference $13: 15$ | reflection | $224: 19,22$ | $227: 7228: 15$ |
| $38: 1245: 6$ | $71: 13139: 19$ | $225: 2235: 3,5$ | rely $17: 1$ |
| $127: 21158: 13$ | reflects $70: 22$ | $238: 25275: 5$ | $188: 20277: 7$ |
| $215: 6244: 2$ | refused $118: 17$ | rehash $281: 4$ | $279: 13$ |
| $257: 20261: 1$ | $183: 20$ | reiterate $287: 6$ | relying $143: 25$ |
| $269: 1271: 16$ | regard $44: 15$ | reiterating | $273: 19$ |
| $282: 14$ | $45: 553: 20$ | $230: 16$ | remainder |
| referenced | $54: 455: 12$ | relate $46: 25$ | $240: 12$ |
| $13: 1944: 9$ | $59: 2168: 14$ | $47: 158: 17$ | remaining |
| $46: 2259: 13$ | $194: 15257: 14$ | $208: 13$ | $116: 1,7$ |
| $155: 15157: 4$ | $258: 16261: 14$ | related $19: 4$ | remains $85: 12$ |
| $200: 1250: 1$ | regarding $73: 8$ | $26: 536: 18$ | remember $50: 6$ |
| $251: 21257: 17$ | $103: 17107: 5$ | $53: 1365: 1,10$ | $123: 1138: 24$ |
| $258: 1259: 7$ | $126: 22204: 5$ | $190: 23202: 8$ | $144: 4147: 12$ |
| $265: 21285: 12$ | $234: 11240: 4$ | $285: 14290: 11$ | $182: 20195: 21$ |
| references | $281: 21$ | $291: 7$ | $243: 7,11$ |
| $246: 25$ | regardless | relates $278: 6,7$ | $250: 12$ |
| referencing | $46: 18181: 10$ | relation $36: 19$ | remind $79: 8$ |
| $46: 22261: 25$ | $253: 5$ | $190: 12209: 10$ | reminder |
| $269: 6275: 24$ | regards $236: 4$ | $263: 10$ | $288: 17$ |
| referral $55: 17$ | $281: 24$ | relationship | remining |
| referring | regional $26: 15$ | $133: 5,8271: 7$ | $115: 15$ |
| $197: 20223: 5$ | regular $162: 18$ | relative $157: 19$ | remote $2: 5$ |
| $223: 12250: 15$ | $168: 9181: 21$ | $247: 17281: 11$ | remove $145: 10$ |
| $250: 16268: 25$ | regulation | $290: 13291: 10$ | removed $134: 4$ |
| refers $223: 21$ | $211: 13$ | relatively | rena $34: 2$ |
| $270: 21$ | regulations | $227: 18258: 13$ | repeat $109: 22$ |
| refile $62: 3$ | $193: 14204: 19$ | $258: 15$ | $135: 11138: 16$ |
| reflect $35: 16$ | $204: 20205: 17$ | release $275: 3$ | $148: 8176: 5$ |
| $176: 24$ | $205: 25$ | relevance | $187: 8232: 2$ |
| reflected | regulatory | $181: 3187: 24$ | $254: 12262: 4$ |
| $173: 24$ | $137: 14139: 20$ | $193: 4208: 7$ | repeated |
|  | $193: 19206: 17$ | $244: 1282: 12$ | $244: 12$ |
|  |  |  |  |

Page 63
[repetition - respectfully]

| repetition | 59:14 $61: 25$ | $245: 9246: 24$ | $276: 10,11$ |
| :--- | :--- | :--- | :--- |
| $89: 13$ | $74: 2181: 24$ | $250: 24251: 6$ | $278: 3,4,20$ |
| rephrase | $87: 19101: 5$ | $251: 15254: 20$ | reservoirs |
| $117: 11,25$ | $281: 8$ | $264: 5267: 20$ | $116: 20,22,25$ |
| $187: 10$ | requested | $274: 25275: 2$ | $117: 6,17,21$ |
| replacement | $16: 1427: 21$ | reservoir $93: 22$ | $132: 8159: 18$ |
| $22: 16$ | $30: 344: 19$ | $98: 21100: 7$ | $162: 25163: 20$ |
| reply $82: 9$ | $53: 2354: 11,17$ | $117: 2,3,19,20$ | $249: 13$ |
| report $12: 14$ | $68: 2,1371: 11$ | $118: 1,5125: 22$ | residence $124: 4$ |
| $168: 19172: 20$ | $125: 17177: 5$ | $135: 23,24$ | resist $93: 9$ |
| reported $2: 7$ | $178: 18199: 2$ | $136: 5,7,9,13,24$ | resistance |
| $106: 23250: 9$ | requesting $24: 8$ | $137: 11141: 5,6$ | $222: 13,15$ |
| reporter $62: 18$ | $42: 472: 23$ | $141: 10142: 10$ | resistivity |
| $123: 6167: 12$ | $75: 23154: 16$ | $142: 19143: 23$ | $209: 21210: 4$ |
| $182: 21240: 21$ | $195: 10$ | $144: 14,19$ | $216: 19$ |
| $284: 22285: 6$ | requests $32: 7$ | $145: 1,3,4,5$ | resolution |
| $286: 23$ | $32: 1287: 25$ | $163: 15,20$ | $172: 11$ |
| reports $168: 19$ | require $88: 5$ | $178: 25198: 3$ | resolve $138: 18$ |
| represent | required $75: 17$ | $209: 15,23$ | $140: 8,9141: 3$ |
| $86: 18$ | $75: 1983: 11$ | $210: 10,13,16$ | $171: 21$ |
| representation | $99: 2$ | $210: 18,23$ | resolved $73: 14$ |
| $106: 21113: 25$ | requirement | $211: 8213: 13$ | $151: 21,22$ |
| $117: 8$ | $42: 4$ | $217: 12,16,17$ | resources $1: 2$ |
| representative | requirements | $218: 23220: 22$ | $3: 5,114: 96: 14$ |
| $168: 5208: 24$ | $38: 19$ | $222: 21227: 11$ | $6: 177: 88: 10$ |
| represented | requires $75: 15$ | $227: 20230: 19$ | $15: 9,1719: 3$ |
| $203: 20209: 16$ | $99: 5230: 5$ | $230: 24236: 18$ | $24: 931: 1,4$ |
| representing | reserve $118: 9$ | $237: 8238: 4,13$ | $61: 1069: 22$ |
| 91:6 | $152: 15169: 10$ | $239: 10241: 19$ | $107: 10145: 18$ |
| repressure | $202: 2,8240: 8$ | $247: 25250: 22$ | $206: 7$ |
| $264: 17$ | $268: 12269: 20$ | $252: 4,5,7$ | respect $34: 9$ |
| request $33: 2,6$ | reserves $106: 22$ | $254: 11257: 25$ | $39: 1254: 25$ |
| $34: 744: 11$ | $133: 15145: 10$ | $258: 3261: 2$ | $239: 19$ |
| $45: 7,13,15,18$ | $185: 11217: 4,7$ | $266: 11,13,14$ | respectfully |
| $45: 2057: 11$ | $224: 10,11$ | $271: 3273: 24$ | $74: 7$ |
|  |  |  |  |
|  |  |  |  |

[respective - rights]

| respective | return 26:23 | 85:19 86:8 | 209:17 211:15 |
| :---: | :---: | :---: | :---: |
| 284:2 286:20 | 65:19 75:10 | 89:3 90:1,10 | 211:19,22 |
| respectively | 168:20 | 90:11,13 91:10 | 213:3 215:2,18 |
| 129:9 | revenue 114:25 | 92:24 93:12,12 | 217:23 218:12 |
| respond 76:5 | reversed | 93:25 94:6,20 | 220:9 230:11 |
| 97:25 281:8 | 120:11 | 95:3,4,5,6 | 233:17 234:18 |
| response 73:23 | review 23:20 | 108:23 109:9 | 235:25 238:21 |
| 82:4,10 83:16 | 42:2 43:2 | 110:2 113:13 | 239:18 240:8 |
| 88:10,12 97:22 | 63:20 82:8,10 | 117:13 118:17 | 240:18 242:3 |
| 263:10 | 100:10 125:14 | 119:15 122:8 | 248:9,19 |
| rest 166:12 | 137:9 148:2 | 123:15 130:15 | 249:19 250:19 |
| 202:2 | 230:5 265:7 | 135:12 137:25 | 252:20 254:16 |
| restart 159:6 | 282:11 284:19 | 138:8,24 139:4 | 256:14 265:1 |
| restrict 161:7 | reviewed | 139:5,22,22 | 266:5 268:3,15 |
| resubmit 41:11 | 124:18 137:4 | 140:8,14 142:5 | 269:20 273:4 |
| result 25:15 | 256:6 | 144:1,4 146:19 | 275:11 276:1 |
| 81:3 97:11 | revised 30:13 | 147:14 148:13 | 278:3,21 280:2 |
| 99:14 174:15 | 41:16 58:15 | 148:16 150:4 | 283:13 286:18 |
| 246:20,21 | 199:15 | 151:21 153:16 | 288:5,18 |
| 263:8 276:6 | revisit 55:13 | 155:11 157:10 | rights 13:18 |
| 282:18 | right 15:7 | 157:10 158:7 | 23:19 31:16 |
| resulting 99:14 | 16:11,19,23 | 158:11,11,20 | 63:20 70:23 |
| results 130:4 | 17:15,16 22:1 | 160:2,19 | 74:3 75:16 |
| 188:24 245:4 | 22:14 23:7,12 | 163:23 166:5 | 97:11 99:1 |
| 249:6 250:10 | 24:2 27:12,18 | 166:15 167:6 | 113:23 114:3 |
| 258:7,20 259:6 | 29:24 30:10,21 | 168:2 169:3 | 114:14 116:8 |
| 259:8 262:7 | 30:23 32:3,23 | 176:17 178:9 | 116:14 119:2 |
| 276:8,9,10 | 39:3 40:15,18 | 178:16 185:14 | 131:23 173:7 |
| 279:2 281:19 | 41:4 43:17 | 194:9,14 | 185:4,14 |
| resume 100:10 | 46:11 48:7 | 196:13 197:6 | 191:24 192:4,9 |
| 241:11 | 49:6,25 50:21 | 197:20 199:24 | 193:21 197:16 |
| retained | 51:2,16 57:24 | 200:16 201:8 | 206:22 235:11 |
| 145:24 | 58:23 63:13 | 202:15 204:22 | 248:8 251:12 |
| retiring 22:15 | 66:10,17 67:3 | 204:23 205:7 | 254:23 |
|  | 67:13 82:19 | 205:25 206:25 |  |

[rip - savage]

| rip 2:4 14:4 | run 145:2 | 207:13,18,22 | santa 2:6 3:8 |
| :---: | :---: | :---: | :---: |
| 17:1172:5 | 148:25 149:1 | 208:2,24 209:6 | 3:15 4:6,13,21 |
| rise $89: 14$ | 207:17 234:18 | 209:23 210:1,8 | 5:6,14,22 6:6 |
| risk 254:7 | 270:5 | 211:1,4,7,15 | 6:12,19 7:6,12 |
| 276:4 | running 126:15 | 212:6,6,9,10,20 | 7:18 15:16 |
| road 57:9 | rushed 109:25 | 212:22,23 | 18:2 31:13 |
| 288:23 | 109:25 135:15 | 213:10,13,15 | 60:13 90:22 |
| robert 98:1 | 135:15 | 214:20 215:8,9 | sante 69:20 |
| rock 4:2,4 | S | 215:17,20,22 | sat 274:23 |
| 15:10,19 16:13 | S 3:1 4:1 5:1 6:1 | 216:7,9 217:4 | satisfied 38:18 |
| 185:8,16 | $7: 18: 1,3 \quad 10: 1$ | 217:18 219:1,8 | 68:15 |
| 261:15 262:16 | 11:1 12:1 13:1 | 220:15,22 | satisfy 51:5 |
| 271:3 | 14:1 151:6,8 | 221:18 222:21 | satisfying 74:1 |
| rocks 278:5 | 151:12,15 | 227:15,20 | saturation |
| rodriguez 4:3 | 151.12,15 | 228:16 231:5 | 282:6 |
| 15:18,19 16:3 | 271:13 | 231:12 233:15 | savage 5:19 9:4 |
| 16:18,20,21 | safe 154:15 | 242:16 245:9 | 9:9,12,13,16,19 |
| role 238:1,2,5 | 260:6274:19 | 245:10 247:7 | 9:22 17:24 |
| 238:10,13,21 | safer 57:16 | 247:14 254:14 | 18:2,6 19:23 |
| 261:16 | sage $34: 16$ | 255:4 271:22 | 19:25 22:6,7 |
| roughly 127:16 | 35:25 | 276:15 282:1 | 60:20,23 61:2 |
| 128:3 143:8,18 | sale 20:5,6 | sands 126:3,6 | 62:10 69:8,11 |
| 151:15 155:17 | salvidrez 8:21 | 126:13 142:12 | 69:16 73:4,5 |
| 155:18 182:11 |  | 154:2 165:12 | 74:23 75:10 |
| 253:20 271:21 |  | 210:7 211:1,5 | 76:2 77:1,14 |
| royalties 36:24 | $61: 19,21$ | 211:9 213:19 | 77:20,22 78:10 |
| 37:7 201:2 | $72: 1,578:$ | 217:15,16 | 78:11,14,16 |
| royalty $168: 9$ | sample 26:8 | 218:24 231:13 | 80:6,9 82:2,21 |
| 168:18 | $65: 5 \text { 104:20 }$ | 232:23 236:10 | 83:19,21 84:15 |
| ruin 217:10 | $168: 21$ | 249:1 | 84:20 85:3,5 |
| rules 139:20,23 | sanctioned | sandstone 8:2 | 85:14,19 86:12 |
| 286:9 | 224:4 | 70:17,22 75:6 | 87:4 88:23,24 |
| ruling 73:21 |  | 86:2 | 90:6,19,22,25 |
| 84:17,23 |  | sandstones | 91:1,11,13,19 |
|  | 151:14 197:14 | 157:5 | 93:16,21 94:15 |

Page 66
[savage - section]

| $94: 1695: 8,12$ | $223: 10,13,14$ | save $161: 25$ | schill $5: 2018: 3$ |
| :--- | :---: | :---: | :---: | :---: |
| $95: 13,16,20$ | $223: 18224: 13$ | saw $215: 13$ | $60: 2369: 11$ |
| $97: 13,20,24$ | $225: 11228: 22$ | $260: 14271: 11$ | $90: 22$ |
| $98: 699: 18,23$ | $228: 24229: 2$ | saying $43: 14$ | schill's $69: 13$ |
| $100: 6101: 14$ | $229: 17,19,22$ | $45: 1847: 21$ | school $203: 15$ |
| $101: 15109: 5,6$ | $230: 3,8234: 3$ | $50: 25114: 2,5$ | science $137: 21$ |
| $109: 11,12,15$ | $234: 6,14,24$ | $114: 21118: 2$ | sciences $139: 20$ |
| $109: 17117: 10$ | $235: 17,24,25$ | $126: 22143: 4$ | $193: 23235: 3$ |
| $117: 12,24$ | $237: 17239: 19$ | $153: 2,12$ | scope $87: 22$ |
| $119: 15122: 11$ | $239: 22240: 7$ | $154: 23158: 5$ | $192: 24$ |
| $122: 12123: 7$ | $240: 13,17,24$ | $160: 17,21$ | scott $8: 370: 16$ |
| $123: 11134: 15$ | $241: 1,8,21$ | $183: 4,5187: 4$ | scratch $222: 12$ |
| $134: 16,22,24$ | $242: 5,6252: 14$ | $189: 6211: 19$ | screen $94: 21,21$ |
| $135: 2152: 8,12$ | $257: 4,5,10$ | $213: 18,19$ | screens $94: 22$ |
| $164: 3,5,10$ | $264: 9265: 10$ | $220: 17221: 11$ | scrolling |
| $166: 5,8,11,18$ | $265: 12,16,19$ | $221: 20222: 22$ | $195: 22$ |
| $166: 22167: 15$ | $268: 8,11$ | $224: 8232: 3$ | second $46: 4$ |
| $167: 17,22$ | $269: 16,18$ | $253: 5254: 9$ | $49: 1850: 14$ |
| $168: 3,4,5$ | $270: 7275: 19$ | $262: 23$ | $72: 25131: 15$ |
| $169: 7,9,13,15$ | $275: 20,23$ | says $35: 146: 20$ | $132: 23133: 1,8$ |
| $169: 16170: 2$ | $279: 25280: 16$ | $96: 1998: 13$ | $133: 22180: 9$ |
| $177: 22178: 5$ | $280: 17,20,24$ | $107: 19117: 14$ | $180: 13209: 21$ |
| $179: 20181: 1$ | $281: 6,12,20$ | $140: 18148: 2$ | $216: 9233: 15$ |
| $182: 12,23$ | $282: 3,10,21,24$ | $187: 12220: 25$ | $249: 17$ |
| $183: 13,16,17$ | $283: 2,14,15$ | $286: 1$ | secondly $103: 4$ |
| $184: 3,5187: 23$ | $284: 5,6,14,18$ | scale $282: 19$ | seconds $232: 2$ |
| $189: 23,25$ | $285: 11286: 1,8$ | scattering | section $12: 23$ |
| $190: 2194: 6,10$ | $286: 15287: 15$ | $212: 23$ | $26: 16,17,17$ |
| $194: 14198: 23$ | $288: 20,24$ | scenario $56: 6$ | $33: 23,24,25$ |
| $199: 10,22$ | $289: 1$ | $136: 12142: 16$ | $34: 21,22,23,24$ |
| $200: 13202: 5,7$ | savage's $82: 12$ | $149: 10,12$ | $35: 8,11,11,13$ |
| $202: 16,17,22$ | $87: 2117: 8$ | schedule | $36: 1,4,438: 12$ |
| $203: 6,8217: 23$ | $123: 13226: 11$ | $258: 18,23$ | $38: 1346: 10$ |
| $218: 7,10221: 1$ | $274: 24$ | scheme $235: 3,6$ | $65: 12111: 5,6$ |
| $221: 11222: 25$ |  | $112: 10125: 15$ |  |
|  |  |  |  |

Page 67

| $128: 22129: 6$ | $155: 24164: 7$ | seem $53: 21$ | separate $95: 7$ |
| :---: | :---: | :---: | :---: |
| $129: 24130: 1$ | $166: 16174: 9$ | $114: 19127: 25$ | $116: 20,22,24$ |
| $132: 24133: 1$ | $176: 6181: 2$ | $138: 11140: 20$ | $116: 24117: 16$ |
| $148: 12,14,24$ | $187: 24193: 19$ | $280: 25282: 8$ | $118: 3136: 6$ |
| $150: 17152: 5$ | $198: 20200: 21$ | seemed $45: 13$ | $162: 25184: 19$ |
| $155: 1,2182: 4$ | $214: 17223: 5$ | $159: 4,7197: 3$ | $228: 14249: 12$ |
| 209:19 213:6 | $223: 14230: 15$ | $214: 6$ | separated |
| $232: 15244: 25$ | $230: 22231: 11$ | seems $32: 22$ | $37: 21$ |
| $246: 23271: 17$ | $233: 5,8,15,18$ | $125: 12128: 2$ | separately |
| sections $24: 7$ | $233: 19240: 13$ | $130: 3140: 5$ | $117: 1,21$ |
| $24: 14,2125: 1$ | $247: 16248: 5$ | $204: 3225: 24$ | $138: 15,21$ |
| $25: 8,12,20,25$ | $249: 2250: 19$ | $254: 25282: 22$ | $213: 15$ |
| $33: 9,2034: 18$ | $255: 18,23,25$ | $285: 2$ | separating |
| $45: 2364: 6,12$ | $256: 3,9258: 19$ | seen $57: 2$ | $216: 24$ |
| $64: 2070: 9$ | $269: 21276: 12$ | $102: 24107: 24$ | separation |
| $96: 9103: 12$ | $284: 2288: 22$ | $126: 17127: 1$ | $157: 14213: 13$ |
| $124: 17156: 5$ | seeded $159: 4,8$ | $222: 16229: 10$ | $232: 12,25$ |
| see $15: 6,7$ | seeding $159: 10$ | $232: 15233: 13$ | september |
| $17: 1421: 17$ | $159: 13$ | $259: 2270: 13$ | $16: 1520: 20$ |
| $22: 2327: 13$ | seeing $41: 18$ | seismic $209: 2,2$ | $72: 9,1074: 12$ |
| $37: 10,1440: 11$ | seek $23: 1934: 5$ | $259: 6$ | $76: 1777: 4,20$ |
| $40: 1942: 1$ | $35: 136: 2$ | select $225: 14$ | $77: 2578: 3,6,8$ |
| $44: 1046: 16$ | $39: 1649: 20$ | selected $76: 20$ | $78: 13,15,20,24$ |
| $62: 13,15,22$ | $51: 863: 20$ | selection $77: 2$ | sequencing |
| $68: 13,2572: 4$ | seeking $25: 5$ | self $10: 811: 14$ | $82: 18$ |
| $76: 980: 1$ | $32: 739: 13$ | $26: 2189: 5$ | serious $204: 4$ |
| $81: 2287: 18$ | $64: 4,970: 21$ | $103: 4$ | $230: 5248: 2$ |
| $88: 990: 12$ | $79: 17103: 11$ | sense $87: 16$ | $252: 7$ |
| $91: 994: 23$ | $103: 19220: 10$ | $89: 17137: 19$ | served $88: 6$ |
| $99: 3105: 13$ | seeks $24: 5,11$ | $158: 21224: 12$ | services $37: 4$ |
| $117: 13119: 20$ | $24: 17,2325: 17$ | sent $26: 2242: 2$ | set $51: 1270: 5$ |
| $123: 12126: 14$ | $25: 2233: 16$ | $65: 1679: 15$ | $71: 2372: 19$ |
| $134: 3,6135: 20$ | $34: 10,1435: 4$ | $168: 10170: 16$ | $77: 378: 12,17$ |
| $140: 24146: 13$ | $35: 2364: 13,17$ | $187: 17,20$ | $79: 1080: 3$ |
| $154: 10155: 15$ |  | $190: 12$ | $87: 1196: 24$ |
|  |  |  |  |

Page 68
[set - similar]

| 215:23 225:4 | 53:9,10 54:21 | shot 52:12 | sic 21:6 169:4 |
| :---: | :---: | :---: | :---: |
| 225:15 235:19 | 54:24 55:15 | 84:22 | 196:10 262:18 |
| 250:4 | 56:5,10 57:16 | shots 167:1 | side 30:8 |
| setbacks | 57:24 58:8,12 | show 81:8 | 193:19 270:23 |
| 146:16 | 58:23 59:1,9 | 98:20 99:9 | side's 286:5 |
| sets 26:22 | 59:23 | 208:12 209:16 | sidebar 44:8 |
| 49:24 65:16 | shale 214:4 | 210:6 243:10 | sides 39:9 |
| 75:1,2,5 | 217:15 219:12 | 245:24 246:1 | 88:18 97:18 |
| settled 71:21 | 231:14 | 247:4 255:16 | 105:9 283:20 |
| 120:18 | shales 125:19 | 271:12 | sideways 163:9 |
| settlement | shanor 6:10 7:4 | showbiz 13:4 | 222:14 |
| 183:25 | 23:5 63:3 | 155:20 195:18 | sign 52:25 |
| seven 21:14 | share 114:15 | 195:22 196:2 | 199:6 |
| 100:20 174:5 | 115:4,7 116:2 | 208:17 211:4 | signature |
| several 87:10 | 116:8 198:14 | 213:6,6 | 290:19 291:17 |
| 105:5 | shared 171:18 | showed 142:14 | signed 40:17 |
| severance | 266:15 | showing 13:9 | 41:9 105:6 |
| 130:17 253:11 | sharon 7:9 31:4 | 46:20 151:12 | significance |
| 253:14 273:22 | she'd 235:15 | 185:24 210:3 | 242:22 244:4 |
| severances | she'll 196:20 | 211:7 212:5 | 244:21 |
| 274:9 | sheehan 85:6 | 226:19 227:1 | significant |
| severely 113:22 | sheet 22:24 | 244:8 266:19 | 216:15 217:4 |
| 114:2,14 | shelf 145:19 | shown 133:20 | 247:11 261:16 |
| shaheen 7:9 | shift 217:17 | 168:13 194:20 | 266:18 |
| 31:3,4,6,8 32:5 | shoe 197:18 | shows 19:19 | significantly |
| 32:16 39:5,12 | shoot 20:19,21 | 65:21 103:24 | 227:22 |
| 40:15,19,24 | short 21:15 | 208:24 209:7 | signing 37:18 |
| 41:4,12,19 | 74:8 82:1 83:2 | 209:20 213:6 | silence 17:18 |
| 42:6,20,25 | 83:8,23 97:14 | 245:21 246:17 | 61:24 67:13 |
| 43:8,14,19 | 97:16,25 | 247:6 262:12 | similar 62:3 |
| 44:3,17 45:20 | 122:21 154:8 | 262:13 | 85:6 128:24 |
| 46:11,24 47:16 | 157:17 247:2 | shrugging | 180:23 189:14 |
| 47:22 48:7 | shorter 51:9 | 167:4 | 189:17,18 |
| 49:6 50:6 52:9 | shortly 28:14 | shut 75:24 | 204:18 210:7,8 |
| 52:10,11,21,22 |  |  | 227:2,16 228:4 |

Page 69
[similar - spacing]

| 230:22 231:8 | 164:2 166:14 | smaller 211:20 | sound 51:21 |
| :---: | :---: | :---: | :---: |
| 231:17 247:17 | 167:25 177:17 | smiling 123:13 | 82:15 125:24 |
| 248:1 255:11 | 182:22 202:14 | solely 181:7,23 | 284:5 |
| 257:24 258:13 | 218:5 252:19 | 182:6 183:11 | sounded 18:23 |
| 258:15,19 | 270:1,12 277:9 | 200:5,8 | 263:21 |
| 261:12 265:24 | 280:15 283:5 | solid 209:21 | sounds 28:15 |
| 268:1 272:6 | site 13:16 247:1 | solution 177:19 | 29:1 52:14 |
| similarities | 251:21 | 249:2,4 | 54:8 90:4 |
| 231:12 232:4 | sites 180:17 | somebody | 120:17 137:3 |
| similarity | sitting 105:12 | 81:22 86:11 | 138:5 142:7,22 |
| 228:7 | 105:19 | 140:14 191:11 | 165:22 172:7 |
| similarly 254:3 | situated 157:10 | 228:9 251:2 | 177:18 217:12 |
| 254:4 | situation 97:7 | 273:12 | 239:8,9 240:17 |
| simpaxi 32:19 | 99:8 131:2,20 | someone's | 284:6 |
| simple 74:18 | 204:17 | 52:24 151:25 | south 3:7 24:7 |
| 120:10 | situations | somewhat | 24:20 25:1,7,7 |
| simply 51:22 | 235:21 | 53:17 273:9 | 25:25 33:9 |
| 58:170:23 | six 19:15 21:19 | soon 44:4 53:3 | 64:6,13,21 |
| 71:15 75:22 | 27:23,24 | sorry 15:21 | 96:9 188:13,16 |
| 84:25 89:19,25 | 110:21 111:9 | 16:9 21:16 | 208:19 212:11 |
| 100:20 101:3,5 | 128:3,3 132:25 | 28:13 43:9,13 | 233:1 273:6 |
| 164:22 183:5 | 147:22 203:17 | 45:22 76:15 | southeast 35:12 |
| 259:18 267:21 | 226:21 243:24 | 77:24 78:2 | 46:9 154:25 |
| 267:22 | 252:21 | 86:12 110:7 | 155:1 |
| simulations | skills 290:10 | 122:25 138:17 | southern |
| 259:5 | 291:6 | 138:22 139:17 | 232:24 |
| simultaneously | skip 34:12 | 158:10,23,23 | southwest |
| 280:25 | slide 244:22 | 159:6 162:13 | 33:24 34:22,23 |
| single 136:9 | 270:14,14 | 195:23 231:19 | 46:9 155:2,2 |
| 138:25 199:1 | 271:12 | 232:10 233:19 | 157:25 182:3 |
| 210:16 | slight 120:6 | 254:12 262:3 | 227:17 |
| sir 21:12 | slightly 220:5 | 269:25 271:18 | space 270:20 |
| 124:11 125:5 | slot 209:4 | sort 53:19 59:8 | spacing 24:10 |
| 126:20 144:24 | small 249:15 | sought 176:21 | 24:13,19,25 |
| 146:1,5 148:13 |  | 220:7 | 25:15,16,19 |


| 33:6,19 34:6 | speculate | 111:20 112:9 | 161:11,17,21 |
| :---: | :---: | :---: | :---: |
| 35:2,6,10 | 258:11 | 112:12,25 | 162:21 164:19 |
| 44:11 45:10,25 | speculating | 113:6,20 114:8 | 171:14,25 |
| 64:11,19 75:19 | 237:11 | 114:9,10,16,22 | 173:2 174:10 |
| 112:13 113:1,9 | speculation | 114:23 115:2,4 | 174:13,16,24 |
| 209:8 | 236:25 | 115:7,11,17,24 | 175:12,20,23 |
| spaghetti | speed 98:14 | 115:25 116:3 | 176:4,8,19,21 |
| 245:15 | sperling 4:19 | 116:12,21,25 | 177:15 178:25 |
| spans 230:19 | 5:4 23:17 | 117:17,19 | 179:15 180:10 |
| sparse 273:10 | 63:17 92:7 | 118:4 119:1 | 180:14,17,18 |
| speak 39:20 | spike 261:7 | 121:6,11,17 | 180:20,21,22 |
| 51:25 52:2 | spikes 260:14 | 124:19 126:23 | 183:6 184:16 |
| 159:16 186:4 | spoken 54:1 | 127:9,12,12,13 | 184:18,22,24 |
| 235:4 243:13 | spot 271:20 | 127:16 129:6 | 185:5,13,16,22 |
| 251:17 267:13 | spreadsheet | 129:20 130:7 | 185:24 186:4 |
| 281:18 | 12:4 19:19 | 130:11,19 | 186:24 187:13 |
| speaks 214:24 | 100:23 | 132:1,23,25 | 189:13 192:1,7 |
| special 71:18 | spring 13:10,12 | 133:1,9 134:1 | 192:12 195:11 |
| 72:19 | 13:14 24:6,12 | 135:22 136:4,8 | 196:8,12 |
| specialist | 24:18,24 25:5 | 136:15,17 | 197:10,11,15 |
| 229:21 | 25:11,11 26:16 | 139:1,3,10 | 197:22 198:1,4 |
| specific 57:8 | 28:18,20,22 | 140:2,11,19 | 200:4,9 201:12 |
| 112:22 140:11 | 33:11,14,18 | 141:8,15 142:2 | 201:15,18 |
| 140:12 203:18 | 34:20 35:6 | 142:3,8,16,23 | 204:9,17,19,21 |
| 204:19 205:18 | 38:11,13 40:4 | 143:6,10 | 204:22,24 |
| 206:16 224:22 | 64:5,10,18 | 145:22 147:1,7 | 205:6 206:8,21 |
| 287:24 | 79:17 80:17 | 147:9,14,16,20 | 207:19 208:2 |
| specifically | 96:11,19,21 | 147:25 148:5 | 208:14 209:23 |
| 107:19 141:17 | 97:1,3,6,8 | 148:10 149:2,8 | 210:19,23 |
| 143:20 190:24 | 98:22 99:6,10 | 149:16,21 | 214:2 215:20 |
| 191:1 | 103:20,25 | 151:14 152:4 | 216:2,8,12,24 |
| specification | 104:8 106:18 | 153:2 155:13 | 218:19 219:1,3 |
| 177:12 | 106:23,24 | 156:25 157:11 | 219:19 220:2 |
| specify $162: 24$ | 107:16,25 | 159:9,12 160:4 | 220:12,17,21 |
|  | 111:2,5,8,15,18 | 160:11,24 | 221:14,22,22 |

Page 71
[spring - stellar]

| $222: 11224: 2,3$ | 282:1,20 | 204:18 220:3 | stateline's $37: 1$ |
| :--- | :---: | :---: | :---: |
| 224:20 225:9 | spring's 150:11 | started $49: 9$ | statement $9: 3,4$ |
| $227: 10,15$ | 150:21 $151: 1$ | $132: 23,25$ | $10: 911: 14$ |
| 230:20 231:3 | springing | $147: 17$ | $13: 726: 22$ |
| 232:20 233:15 | $186: 4$ | starting $207: 14$ | $28: 296: 4$ |
| $233: 17242: 16$ | springs $65: 11$ | $243: 10253: 19$ | $97: 21,22,25$ |
| $242: 17,22,24$ | $104: 16,17,18$ | state $1: 122: 21$ | $103: 5105: 17$ |
| $243: 9,19,21$ | $114: 7$ | $41: 1347: 1,5$ | $113: 25116: 19$ |
| $244: 8,13,24$ | squarely $119: 4$ | $47: 1348: 4$ | $130: 25159: 9$ |
| $245: 4,6,24,25$ | squeeze $58: 4$ | $49: 2,5,20,21$ | $175: 7186: 17$ |
| $246: 2,4,16,21$ | staci $8: 179: 17$ | $50: 1,2,4,5,24$ | $187: 7188: 19$ |
| $246: 24247: 7$ | $94: 17185: 8$ | $51: 6,12,16,22$ | $203: 23226: 22$ |
| $247: 10,12,15$ | $186: 25196: 17$ | $51: 2564: 14,22$ | $232: 7,15242: 8$ |
| $247: 18,21$ | $202: 23203: 1$ | $72: 1699: 4$ | $242: 12,16$ |
| $248: 13,18$ | staci's $185: 15$ | $102: 7106: 1$ | $268: 24269: 3$ |
| $249: 8,11,16,24$ | staked $146: 19$ | $111: 8,17124: 3$ | $287: 8$ |
| $250: 7,25251: 2$ | stand $38: 22$ | $127: 8128: 4,25$ | statements |
| $251: 8,16$ | $240: 11$ | $129: 22,25$ | $240: 4$ |
| $253: 21254: 2$ | standard $24: 13$ | $131: 8133: 23$ | states $27: 25$ |
| $254: 14,21,24$ | $24: 19,2525: 16$ | $133: 24146: 3$ | $102: 21140: 10$ |
| $255: 4,5256: 4$ | $25: 18,2434: 17$ | $147: 22155: 16$ | static $270: 25$ |
| $259: 12,15,18$ | $35: 6,9,2536: 3$ | $155: 16162: 24$ | stating $59: 22$ |
| $259: 25260: 25$ | $36: 664: 11,19$ | $171: 8212: 8,13$ | statue $74: 3$ |
| $261: 6262: 20$ | $219: 7$ | $213: 8215: 6$ | status $16: 14$ |
| $262: 22,24$ | standing $25: 6$ | $233: 5247: 23$ | $22: 25107: 6$ |
| $263: 1,18,23$ | standpoint | $261: 23290: 22$ | $187: 21$ |
| $264: 1,6,20,22$ | $137: 14,15$ | state.nm.gov | statute $73: 24$ |
| $265: 2,23$ | $198: 3211: 21$ | $43: 5$ | $74: 175: 17$ |
| $266: 16267: 9$ | $275: 5277: 3,16$ | state.nm.us $3: 9$ | $180: 11181: 6$ |
| $267: 16,21,23$ | star $52: 17$ | stated $45: 14$ | $181: 21234: 13$ |
| $268: 2271: 14$ | start $42: 25$ | $113: 18131: 19$ | statutes $193: 14$ |
| $272: 24273: 20$ | $66: 1182: 11$ | stateline $36: 16$ | stay $34: 13$ |
| $276: 15277: 1$ | $135: 17147: 14$ | $36: 16,17,23,24$ | $81: 16150: 4$ |
| $278: 24,24$ | $152: 21153: 18$ | $36: 2537: 6,7$ | stellar $271: 23$ |
| $279: 4,5,15,20$ | $163: 1194: 14$ |  |  |
|  |  |  |  |

Page 72
[step - suite]

| step 74:15 | 254:20 263:8 | 116:3 145:16 | 199:21 287:7,8 |
| :---: | :---: | :---: | :---: |
| 156:3 182:20 | structural | 147:2 148:15 | 287:9,11 |
| 284:18 | 12:23 26:17 | 148:21 149:7 | subparts 178:7 |
| steptoe 7:22 | 155:3 208:25 | 150:11,20 | subpoena |
| 70:7 | 209:4,19 215:1 | 151:2 152:4 | 87:20 |
| stevens 7:14 | 215:3,5 227:6 | 155:1 171:5 | subsequent |
| 69:2,18,22 | 228:15 | 175:8 179:8 | 77:2 259:14 |
| 73:22 74:17 | structure 12:21 | 204:16 207:12 | substance |
| 78:17 80:14 | 12:25 26:16 | 227:2 242:18 | 167:19 172:7 |
| 81:13 96:14 | 38:11,11 65:11 | 242:23 243:20 | substantial |
| 189:2,7 | 124:17 208:23 | 244:15,19 | 204:10 242:17 |
| stimulate 271:8 | 212:5 226:24 | 246:1 249:18 | substitute |
| stop 39:17 76:4 | 227:2,5 | 272:2 278:16 | 22:20 |
| storativity | studies 222:2 | 278:25 279:9 | success 259:3 |
| 270:19 | study 13:16 | 282:20 | successes 207:9 |
| story 261:20 | 247:1,4,18 | submission | successful 20:7 |
| straddles 145:1 | 251:21 257:17 | 57:20 | 149:18 244:11 |
| straight 14:21 | 257:20,25 | submissions | 282:18 |
| 179:13 223:24 | 258:8,11,17 | 90: | successfully |
| straightforward | 259:7 261:12 | submit 28:8,13 | 208:1 274:7 |
| 75:16 76:9 | 261:25 262:8 | 30:13 41:16 | suggest 55:22 |
| stratigraphic | 262:12,12,13 | 42:7,13 47:19 | 160:7 162:5 |
| 26:17 65:11 | 265:5,6,11,21 | 47:23 48:22 | suggested |
| streamline | 265:24 266:19 | 53:19 86:22 | 240:2 266:10 |
| 32:10 89:9 | 267:3,14,21,24 | 177:24,25 | 266:14 |
| street 3:7 5:21 | 288:13 | 217:25 284:1 | suggesting |
| stress 12:20 | stuff 44:7 200:4 | submittal 30:3 | 48:15 127:14 |
| 208:16,17 | 234:12 | 55:14 288:12 | suggestion |
| 226:20 | sub 65:11 | 288:13 | 274:16 284:7 |
| stretch 20:18 | 168:7,22 178:1 | submitted 26:3 | suggests 125:16 |
| 59:7 | subject 19:13 | 35:14 42:12 | 273:10 |
| string 219:13 | 29:19 98:8,9 | 64:24 68:1,9 | suite 3:14,20 |
| stringing 83:12 | 99:16 110:9,13 | 68:12 87:19 | 4:12,20 5:5 |
| strong 56:15 | 110:14,16,18 | 88:6 100:20 | 7:17,23 8:5 |
| 79:4 246:21 | 111:2 112:23 | 107:23 124:15 |  |

Page 73
[sulvidrez's - talked]

| sulvidrez's | suppose 93:3 | surprise 90:24 | take 29:18 36:5 |
| :---: | :---: | :---: | :---: |
| 91:9 | 136:1 169:9 | 115:14 | 37:24 39:7 |
| summarize | 196:25 197:4 | surprising | 42:20 44:20 |
| 89:24 | 284:15 | 134:6 137:16 | 53:11 54:14 |
| summarizing | supposed | surrounded | 55:5 56:17 |
| 284:1 | 155:10 245:17 | 212:9 | 57:10,19 60:7 |
| summary 12:19 | sure 16:23 | surrounding | 62:14,23 67:15 |
| 90:2 104:21 | 18:23 30:5 | 110:9,14,20 | 71:10,13 72:1 |
| 144:8 208:15 | 41:11 45:17 | 111:2 112:1,15 | 79:5,7 89:23 |
| summed 16:21 | 54:1 58:13,24 | 112:23 145:16 | 91:11 92:25 |
| sun 65:21 | 59:25 61:17 | 147:2 150:1 | 122:25 141:3 |
| 168:12 | 72:5 78:14 | 212:17 242:18 | 146:10 166:18 |
| super 57:8 | 80:8 82:20 | suspect 128:5 | 166:19,24 |
| superior | 87:3 89:14 | 189:24 287:14 | 180:9,20 181:9 |
| 222:19 | 95:25 114:11 | sustain 229:19 | 182:21 214:7 |
| supervision | 120:25 122:22 | sustenance | 215:2,4 240:14 |
| 27:22,22 | 130:19 136:21 | 180:1 | 240:24 273:18 |
| 104:23 108:7 | 137:23 141:4 | swear 50:15 | 274:8 285:7 |
| supplement | 143:2 148:19 | sworn 50:18 | taken 27:6 |
| 55:23 140:17 | 154:11 155:9 | 101:22 102:2 | 29:22 30:2,12 |
| supplemental | 156:15 165:11 | 123:21 169:19 | 47:9 55:22 |
| 55:6,16 68:1 | 166:4 183:15 | 169:21 203:2 | 56:22 66:2,20 |
| 86:16,22 | 186:19 198:21 | 241:4,9 290:5 | 68:3,18 140:2 |
| supplementary | 208:11 214:22 | sympathetic | 140:4 179:21 |
| 42:13 57:12 | 218:14 221:10 | 192:15 | 205:13 207:16 |
| supplementat... | 230:16 239:6 | synonymous | 262:8 290:3,12 |
| 56:23 | 241:13 242:23 | 163:15,19 | 291:9 |
| supplements | 244:7 245:17 | system 17:13 | talk 41:21 69:7 |
| 86:17 | 246:13 251:20 | t | 122:6 133:4 |
| support 56:7,8 | 255:17 285:8 | t 10:1 11:1 12:1 | 146:22 162:17 |
| 65:20 107:23 | 288:5 | 13:1 94:11 | 163:3 177:2 |
| 176:18 287:9 | surface 120:15 | $130: 23 \text { 215:1,6 }$ | 209:9 235:8,11 |
| 287:15 | 184:13,17 | tab 38:7 | 253:4 |
| supporting | 192:22 | table 83:14 | talked 95:12 |
| 199:9 |  | 177:7 213:23 | 132:19 138:6 |

Page 74
[talked - testify]

| 138:10 155:9 | 217:14 239:10 | ten 59:6 60:7 | 204:4,4,20 |
| :---: | :---: | :---: | :---: |
| 164:25 171:16 | targets 216:8 | 122:16 129:10 | 211:11 223:19 |
| 185:21 223:19 | 219:9 | 134:5 240:14 | 223:23 229:6 |
| 231:6 233:7 | teal 129:19,25 | 240:19 255:6 | 235:1,4 239:23 |
| 242:15 | 133:24,24 | 283:25 284:3,4 | 258:3 |
| talking 19:15 | 155:15,16,16 | 284:16,21 | terribly 139:17 |
| 21:11 69:1 | team 171:16,17 | 286:20 287:18 | test 13:16 |
| 72:2 84:13 | 171:20 177:10 | tend 201:24 | 125:11 131:3 |
| 86:11 93:18 | 177:12 | 222:16 233:14 | 131:20 147:18 |
| 112:18,21 | technical 14:13 | 238:18 262:1 | 148:5,7,11,21 |
| 132:3 134:8 | 14:16 18:2 | 264:16 269:8 | 150:5 244:16 |
| 140:12 150:20 | 30:14 60:22 | 269:10 273:16 | 245:20,23 |
| 161:19 180:15 | 69:10 89:11 | 274:2 | 247:1 249:5,10 |
| 182:8 184:20 | 90:21 135:19 | tendency | 249:16 251:20 |
| 192:4 197:19 | 152:16 188:7 | 254:18 | 267:22 268:1 |
| 267:15 271:7 | 202:13 204:20 | tender 108:25 | 273:12 275:24 |
| 277:12,23,24 | 224:12 225:21 | tendered | 276:4,5,6,25 |
| 278:4 | telephone 5:11 | 126:19 241:22 | 277:1 |
| tank 210:10 | 6:3 8:13 | tends 222:4 | tested 244:10 |
| 217:17 | tell 16:4 29:17 | 252:2 | 244:23 |
| $\boldsymbol{\operatorname { t a p }} 4: 2,415: 9$ | 50:19 71:3 | term 117:2,6 | testified 50:20 |
| 15:19 16:13 | 95:11 102:3 | 157:19 163:3 | 100:8,13 102:4 |
| target 13:6 | 123:22 169:22 | 163:14 176:1 | 102:10 117:15 |
| 130:5,6 196:4 | 203:3 224:11 | 206:19 221:4 | 123:23 124:9 |
| 207:22 208:24 | 224:13 226:16 | 224:22,24 | 161:15 169:19 |
| 210:1 211:2,16 | 241:5 248:10 | 237:23 246:9 | 169:23 177:20 |
| 213:7,8,12,19 | 273:3 282:6 | terminate | 182:17 203:4 |
| 214:25 215:11 | telling 182:8 | 47:14 49:5 | 203:10 218:22 |
| 242:17 246:17 | 244:3 | 50:5 51:23 | 236:9 241:6,10 |
| 247:14 253:12 | tells 230:23 | terminated | 241:23 259:24 |
| 254:3,22 | template 45:1 | 20:4 46:23 | testify 49:14 |
| 255:22 263:22 | templates 43:3 | terminology | 87:11 93:14 |
| targeting 106:1 | temptation | 235:12 | 145:24 168:6 |
| 149:19 211:17 | 93:9 | terms 74:2 | 230:1 |
| 215:13,19 |  | 86:16 193:21 |  |

Page 75
[testifying - things]

| testifying 119:8 | 281:14 | 101:15 108:24 | 242:5 243:6 |
| :---: | :---: | :---: | :---: |
| 261:11 290:5 | tests 131:19 | 109:3,6,18 | 257:2,3,9,13 |
| testimony 10:4 | texas 124:6 | 112:4 116:18 | 264:7,9,10,11 |
| 10:6 11:4,6,8 | tha's 146:1 | 117:12 118:11 | 269:13,14 |
| 11:22 12:10 | thank 14:15,25 | 119:15,22 | 275:14,18,20 |
| 26:4,13 28:6 | 16:2 17:15 | 120:20 121:7 | 278:14 279:25 |
| 50:15 65:1,9 | 18:5,16 19:1,5 | 121:24 122:1,2 | 282:10,21,24 |
| 65:16 88:2,6 | 19:25 21:3 | 122:3,13 | 283:1,15 284:7 |
| 88:20 89:21,24 | 22:1,22 23:22 | 123:11 134:10 | 285:10 287:16 |
| 91:16 92:17 | 23:24 24:4 | 134:16,24 | 288:3,18,24 |
| 113:19,21 | 27:7,8,11 | 135:3,6 144:25 | thanks 31:9 |
| 116:21 117:13 | 29:10,11 30:19 | 150:10 152:8 | 85:25 194:10 |
| 120:7 124:16 | 31:3,18 32:1 | 152:11,18 | 288:16 |
| 124:22 125:3 | 32:16 39:2 | 156:18,20 | that'd 59:5 |
| 147:22 152:16 | 42:24 44:6 | 158:17 161:23 | 195:25 |
| 157:3 159:24 | 46:12 51:11 | 162:8,9,10,12 | theatres 98:10 |
| 162:20 163:11 | 52:5 53:5,9,10 | 166:5,8,22 | theirs 166:3 |
| 165:23 170:7 | 58:8 59:10,11 | 167:10,14 | thereto 36:8 |
| 170:21 172:25 | 59:23,24 60:16 | 168:4 169:7,16 | thew 247:10 |
| 175:10 183:5,8 | 61:1,11 62:4,8 | 178:4 183:17 | thick 151:13,14 |
| 186:6 194:25 | 62:10,12,21 | 184:5 189:20 | 279:6 |
| 203:20 204:3 | 63:9,23 64:2 | 189:22,25 | thickness 209:7 |
| 207:8 217:24 | 66:5,8,18,24 | 194:6,8,12 | 209:10 278:25 |
| 219:17 220:17 | 67:17 68:5,19 | 195:4 200:12 | thicknesses |
| 222:23 223:1 | 68:20 69:8,15 | 200:13,14,15 | 150:23 |
| 234:20 236:16 | 69:25 70:12,25 | 202:18,21 | thing 30:1 |
| 237:6,12 240:4 | 72:11,14 73:2 | 213:3 217:23 | 59:12 79:23 |
| 242:15 255:1 | 73:5 74:20,22 | 218:10 228:18 | 85:15 118:1 |
| 255:20 257:16 | 75:3,7 80:9 | 233:22 234:2,7 | 126:17 132:19 |
| 263:21 264:16 | 85:10,20 86:2 | 235:16,23 | 144:1 153:25 |
| 265:22 270:14 | 88:25 90:11,13 | 236:1,15 | 186:1 193:17 |
| 276:2 281:2,3 | 91:8 92:3,12 | 237:10,15,17 | 208:21 228:2 |
| 283:4,8 | 92:13,20,22 | 237:18,19 | 284:15 288:11 |
| testing 13:12 | 93:7,12 97:12 | 239:25 240:17 | things 20:9 |
| 13:14 131:10 | 98:6 99:16,17 | 240:23 241:1 | 74:25 102:14 |

Page 76
[things - third]

| $116: 17129: 17$ | $163: 19165: 15$ | $277: 10279: 1$ | $184: 18,22,24$ |
| :--- | :--- | :--- | :--- |
| $135: 21,25$ | $172: 2,5176: 9$ | $282: 7284: 25$ | $185: 13,16,21$ |
| $165: 1,4189: 20$ | $184: 2185: 7,8$ | $285: 21286: 3$ | $185: 24186: 3$ |
| $226: 25234: 18$ | $185: 15,23$ | $288: 10$ | $186: 23187: 13$ |
| $274: 1$ | $187: 17189: 15$ | thinking $43: 23$ | $189: 12196: 7$ |
| think 20:13 | $191: 5,9194: 20$ | $52: 1953: 18$ | $197: 10,10,14$ |
| $22: 2428: 6$ | $196: 24197: 8$ | $57: 1689: 9$ | $197: 15198: 1$ |
| $29: 830: 8$ | $197: 25198: 9$ | $98: 11157: 24$ | $201: 11204: 9$ |
| $32: 20,2135: 16$ | $198: 13,22$ | $283: 22$ | $204: 17,18,21$ |
| $43: 2447: 23$ | $200: 10201: 14$ | third $12: 22$ | $204: 21,24$ |
| $49: 18,2350: 25$ | $201: 17202: 1,7$ | $13: 996: 19$ | $205: 5206: 20$ |
| $52: 153: 855: 9$ | $202: 9215: 15$ | $97: 5,898: 22$ | $207: 13,18,22$ |
| $55: 1659: 1,13$ | $216: 15218: 21$ | $99: 6,10106: 17$ | $208: 2,13,24$ |
| $61: 1668: 15$ | $219: 25220: 5$ | $106: 23,24$ | $209: 6,23210: 1$ |
| $70: 2271: 19$ | $220: 20221: 25$ | $107: 15111: 1$ | $210: 8,19211: 1$ |
| $73: 1976: 4$ | $225: 21226: 5$ | $112: 12,25$ | $211: 4,7,15$ |
| $78: 1881: 4,23$ | $229: 25231: 21$ | $114: 6,8,10,22$ | $212: 6,9,20,22$ |
| $83: 684: 7,20$ | $232: 1,14$ | $114: 23121: 6$ | $213: 10,13,15$ |
| $84: 2585: 9,14$ | $233: 10,12$ | $126: 23127: 8$ | $214: 20215: 7,9$ |
| $85: 1787: 17$ | $234: 16235: 3,6$ | $127: 12,13,15$ | $215: 17,19,22$ |
| $88: 1795: 9,12$ | $235: 15236: 7$ | $129: 6,20130: 7$ | $216: 2,7,12$ |
| $104: 6107: 22$ | $237: 14238: 1$ | $130: 11,18,18$ | $217: 4,5,17$ |
| $117: 8118: 20$ | $239: 22243: 2$ | $132: 1133: 9$ | $218: 19,24$ |
| $120: 10,11,14$ | $243: 17246: 8$ | $134: 1136: 8,14$ | $219: 1,2220: 2$ |
| $121: 12127: 21$ | $247: 22248: 12$ | $140: 19141: 15$ | $220: 12,15,21$ |
| $130: 12131: 1,1$ | $249: 4,12$ | $142: 2,23143: 6$ | $221: 14,18,22$ |
| $131: 11133: 20$ | $251: 20,22$ | $143: 9145: 22$ | $221: 22222: 20$ |
| $139: 22,24$ | $252: 13253: 9$ | $151: 14161: 11$ | $224: 1,3,20$ |
| $141: 17143: 5$ | $253: 23254: 6$ | $161: 21164: 19$ | $225: 9227: 10$ |
| $144: 24147: 19$ | $256: 5257: 1,5$ | $171: 14,25$ | $227: 15,20$ |
| $151: 10152: 14$ | $257: 19258: 25$ | $173: 2174: 13$ | $228: 16231: 5$ |
| $152: 14153: 19$ | $264: 3266: 18$ | $174: 23177: 15$ | $231: 12232: 23$ |
| $154: 13158: 12$ | $268: 6272: 17$ | $178: 25179: 15$ | $242: 16,16,22$ |
| $158: 14160: 18$ | $273: 3,25$ | $180: 13,15$ | $242: 24243: 9$ |
| $162: 10163: 16$ | $275: 25276: 2$ | $183: 6184: 15$ | $243: 18,21$ |
|  |  |  |  |
|  |  |  |  |

Page 77
[third - titus]

| $244: 8,13,24$ | $86: 4,7$ 98:5 | 55:12 56:20,24 | $133: 14,21$ |
| :--- | :---: | :---: | :---: |
| $245: 3,9,10,25$ | $99: 25100: 5$ | $283: 18284: 9$ | $135: 4,6,13$ |
| $246: 2,4,16,20$ | $122: 4,6152: 20$ | $284: 12$ | $141: 3147: 12$ |
| $246: 23247: 7,9$ | $152: 23153: 7$ | threat $252: 7$ | $150: 9152: 20$ |
| $247: 11,15,17$ | $153: 16154: 5$ | three $21: 13$ | $161: 6166: 24$ |
| $247: 20248: 13$ | $154: 15155: 8$ | $44: 1849: 7$ | $167: 9177: 25$ |
| $248: 17249: 7$ | $155: 13,21,24$ | $79: 2189: 4$ | $222: 3230: 10$ |
| $249: 10,24$ | $156: 7,14,17$ | $93: 21127: 16$ | $246: 22248: 1$ |
| $250: 7,25251: 8$ | $164: 1200: 17$ | $129: 13179: 14$ | $255: 3,11,19$ |
| $251: 16253: 21$ | $200: 18,25$ | $196: 12227: 25$ | $257: 11273: 3$ |
| $254: 2,13,21,23$ | $201: 5,10,16,21$ | $240: 3,14,19$ | $280: 1,10$ |
| $255: 3,5256: 4$ | $202: 1,6230: 12$ | $261: 6262: 20$ | $283: 24284: 25$ |
| $259: 12,15,18$ | $230: 14,25$ | thursday $2: 2$ | $285: 2$ |
| $259: 25260: 25$ | $231: 6,15,22,23$ | $72: 7,8,9,10$ | timeframe |
| $262: 24263: 1$ | $232: 3,14233: 3$ | $78: 1598: 9$ | $186: 3$ |
| $263: 18264: 6$ | $233: 7,19,24$ | $287: 9,11$ | timeline $20: 17$ |
| $267: 21,23$ | $239: 20264: 13$ | tight $141: 21$ | $50: 474: 13$ |
| $271: 13273: 20$ | $265: 15266: 5,6$ | $216: 21$ | $86: 20$ |
| $276: 15278: 23$ | $266: 14,19$ | time $2: 332: 11$ | timely $26: 24$ |
| $278: 24279: 4,5$ | $267: 3,11,14,25$ | $32: 20,2439: 2$ | $65: 22168: 10$ |
| $279: 20282: 1$ | $268: 6,10,17$ | $39: 16,2440: 3$ | $168: 11$ |
| $282: 19$ | $280: 7,9283: 7$ | $40: 545: 147: 5$ | times $118: 6$ |
| thirds $227: 25$ | $283: 11$ | $49: 2450: 1$ | $137: 3210: 24$ |
| thompson $3: 3$ | thompson's | $51: 754: 14,15$ | $243: 1244: 9$ |
| $14: 10,1115: 2$ | $32: 2052: 7$ | $66: 1168: 3$ | $245: 3246: 3,3$ |
| $15: 3,1527: 17$ | thorough | $70: 2071: 9,15$ | timing $34: 1$ |
| $29: 13,14,16,22$ | $217: 24$ | $74: 1378: 17$ | $82: 17$ |
| $39: 4,640: 11$ | thoroughly | $79: 2080: 25$ | title $37: 170: 22$ |
| $40: 18,2341: 1$ | $257: 6$ | $81: 15,1682: 1$ | $168: 10200: 2,3$ |
| $41: 5,17,20$ | thought $14: 17$ | $82: 883: 284: 7$ | $200: 5,9$ |
| $42: 11,1954: 21$ | $14: 1753: 7$ | $89: 2398: 15,24$ | titled $198: 24$ |
| $56: 20,2557: 1$ | $55: 2177: 12$ | $107: 13109: 13$ | titus $32: 19$ |
| $58: 13,2166: 14$ | $197: 20233: 20$ | $109: 18,23$ | $53: 1255: 2$ |
| 66:15 68:7,16 | thoughts $46: 13$ | $111: 19,22$ | $58: 1959: 3$ |
| $71: 481: 21$ | $54: 5,12,20$ | $119: 16123: 2,2$ |  |
|  |  |  |  |

Page 78
[titus's - trying]

| titus's 56:11 | 153:12 154:2,3 | tract 35:16 | travels 261:24 |
| :---: | :---: | :---: | :---: |
| today $14: 3,7,11$ | 154:4,20 155:7 | 36:9,10 37:6,8 | tried 40:7 |
| 15:6 18:21 | 155:11,17 | 39:7,9,9 | 154:24 174:19 |
| 40:25 69:23 | 156:24 157:5 | 103:25 104:5,6 | triple 207:16 |
| 71:16 72:17 | 157:10 159:18 | 105:4,4 181:9 | trivializing |
| 79:10 91:1 | 186:11,23 | 181:11 182:1 | 194:3 |
| 92:12 93:6 | 219:4,6,12,16 | 195:6 209:20 | trouble 22:17 |
| 119:9,13 | 233:17 234:17 | 209:21 210:4,5 | true 113:24 |
| 144:15 161:15 | 236:5,10 | tracts 11:16 | 115:3 118:22 |
| 168:6 172:13 | 251:14 252:5 | 26:7 35:7 | 136:11 256:20 |
| 176:12 188:15 | 267:7 | 39:14,14,16,22 | 269:3 277:4 |
| 189:3,8 219:17 | topic 235:18 | 39:23 40:3,5,7 | 281:3 290:9 |
| 285:9 286:20 | topics 239:23 | 65:3 103:23 | 291:5 |
| 287:13 | toss 96:1 | 181:23 | trust 96:1 |
| today's 14:9 | tossed 204:4 | trade 124:7 | truth 50:19,19 |
| 23:15 30:22 | total 43:11 | transcriber | 50:20 95:11 |
| 31:11 62:23 | 154:6 207:24 | 291:1 | 102:3,3,4 |
| 67:2 86:10 | 209:15 211:8 | transcript | 123:22,22,23 |
| 90:16 286:9 | 217:15 227:20 | 53:25 55:5,8 | 169:22,22,23 |
| 288:7 | touch 51:20 | 55:17,23 | 203:3,3,4 |
| toe 131:6 | 105:2 222:2 | 284:10,17,19 | 241:5,5,6 |
| 208:25 215:6 | touched 127:22 | 284:23 291:3,5 | truthful 170:22 |
| together | 201:16 | transcriptionist | 203:24 242:13 |
| 284:16 | touching 52:7 | 290:7 | try 93:9 123:1 |
| token 161:11 | tough 232:21 | transcripts | 143:13,20,23 |
| told 138:19 | toward 54:5 | 53:12 56:6,11 | 157:3 159:25 |
| 215:11 | towards 40:12 | 58:18 | 160:10 161:7 |
| tomorrow 98:9 | 53:16 157:5 | transfer 198:10 | 171:21,24 |
| ton 105:1 | 238:18 251:25 | transit 168:19 | 175:4 201:5 |
| took 132:24 | 271:2 | translated | 206:5,9 209:15 |
| 163:11 | township 24:7 | 235:5 | 222:9 256:13 |
| top 73:15 | 33:9 64:6,12 | transmission | trying 41:2 |
| 113:13 126:13 | 64:20 228:3 | 183:2 | 69:7 81:16 |
| 127:17 129:15 | track 10:15,16 | traveling 18:20 | 83:2 117:13 |
| 130:16 143:20 | 32:23 |  | 122:6 132:5,18 |

Page 79
[trying - understand]

| 137:23,25 | 120:11,24 | 270:23 | 97:5,6 99:13 |
| :---: | :---: | :---: | :---: |
| 139:7,19 | 128:7,23 | typo 29:4 120:6 | 104:22 108:7 |
| 143:15 153:7 | 129:12 130:15 | 120:14 170:14 | 115:23 116:4,4 |
| 158:18 161:2 | 130:21 131:7 | 194:15 | 116:10,10,15 |
| 161:20 182:21 | 131:17 132:7 | u | 116:16 176:16 |
| 198:9,20 | 133:18 136:10 | u 94:11,12 | 180:11 181:6 |
| 209:22 211:25 | 136:13 148:24 | $\begin{aligned} & \text { u } \quad 94: 11,12 \\ & \text { uh } 145: 14 \end{aligned}$ | 181:20 204:19 |
| 226:7 232:10 | 150:6,18 | 147:24 | 204:19 205:4 |
| 233:20 | 155:14 156:12 | ultimate | 205:25 206:19 |
| tuesday 35:20 | 159:18,22 | 236:17 | 221:6 224:22 |
| turn 19:23 | 163:3 182:5 | ultimately | 235:10,12 |
| 32:15 35:3 | 186:10 188:17 | 38:17 76:11 | 238:10 249:13 |
| 42:15 50:1 | 188:20 198:15 | unavailable | 278:16 279:9 |
| 83:16 94:21,22 | 204:8 209:10 | $77: 7$ | underground |
| 109:1 156:16 | 210:16 226:21 | uncertain | 272:22 |
| 156:19 233:25 | 227:1,3,16,24 | 57:18 249:6,7 | underlying |
| 264:12 | 227:25 228:10 | uncertainty | 24:6,12,19,24 |
| turned 94:20 | 228:13 231:7 | 33:3 98:13 | 25:12,18,23 |
| twenty 147:15 | 240:3 241:18 | 272:22,23 | 64:10,18 75:25 |
| twice 89:16 | 246:3 249:12 | uncommitted | 149:2 171:5 |
| 114:9 151:15 | 250:5 265:25 | 24:5,18 25:23 | undermine |
| 169:11 227:6 | 271:4 272:1,5 | 26:8 34:15 | 148:6 229:11 |
| two 17:7 25:13 | 272:16 274:11 | 35:5,24 64:4 | undermining |
| 28:16 31:24 | 279:20 283:3,7 | 64:17 65:4 | 145:7 276:11 |
| 49:23 56:21 | tx 7:24 | 168:8 171:4 | underneath |
| 63:1,18 67:23 | type 100:12 | 199:12,16 | 264:20 |
| 69:3 71:24 | 128:7 145:22 | uncontested | understand |
| 73:15,25 75:1 | 154:19 157:14 | 181:22 204 | 51:10 53:6 |
| 76:13 82:7 | 245:15 279:1 | under 27.6 | 72:18 82:17 |
| 85:7 89:14 | 286:23 | 29.18,22 30.2 | 109:21 116:6 |
| 91:14 92:15 | types 256:19 | $30: 1254: 14$ | 135:10 138:23 |
| 93:19 95:6 | typewriting | 55:22 56:22 | 139:18 143:3 |
| 96:23 97:17 | 290:7 | $57: 11,1966: 2$ | 148:16 162:17 |
| 102:24 115:20 | typically 81:6 | 66:20 68:3,18 | 174:21 187:11 |
| 116:20,22 | 112:6 213:17 | 75:18 89:21 | 191:19,20 |

Page 80
[understand - upwards]

| $196: 12$ 204:7 | uninformed | unnecessary | $187: 6,15$ |
| :---: | :--- | :--- | :--- |
| $210: 15214: 5,8$ | $54: 9$ | $89: 23$ 99:1,14 | $189: 11190: 11$ |
| $215: 12,18$ | unit $20: 324: 13$ | $165: 25254: 6$ | $190: 13,23$ |
| $223: 7225: 22$ | $24: 15,19,21,25$ | unpunished | $196: 16197: 2,9$ |
| $229: 3230: 17$ | $25: 2,6,8,19,20$ | $199: 24$ | $197: 11198: 1$ |
| $235: 13247: 19$ | $25: 24,2533: 19$ | unqualified | $204: 9205: 9,11$ |
| $248: 8,19$ | $33: 2234: 6,17$ | $225: 12$ | $205: 25207: 23$ |
| $252: 12254: 8$ | $35: 2,6,10,25$ | unresolved | $208: 14210: 7$ |
| $269: 20270: 4,8$ | $36: 337: 9$ | $73: 2384: 17$ | $211: 1212: 21$ |
| $286: 4$ | $44: 1145: 25$ | $85: 12$ | $214: 4,11,11$ |
| understanding | $64: 11,14,19,21$ | unusual $32: 18$ | $215: 12216: 13$ |
| $16: 1922: 3,5$ | $75: 19104: 13$ | $38: 9$ | $217: 1,5,10,14$ |
| $39: 2144: 2,14$ | $112: 7,13113: 1$ | upper $96: 17,18$ | $217: 15218: 20$ |
| $52: 2354: 16$ | $113: 10139: 14$ | $96: 2097: 6$ | $218: 23219: 21$ |
| $61: 1370: 20$ | $140: 22148: 6,7$ | $98: 2399: 7,11$ | $220: 3,8,13,19$ |
| $104: 12117: 4$ | $148: 11176: 15$ | $106: 3,13,22$ | $221: 6,14,17,21$ |
| $136: 3160: 5$ | $187: 19191: 2$ | $107: 18110: 13$ | $221: 23222: 6$ |
| $161: 14,19$ | $204: 18209: 8$ | $110: 23112: 12$ | $222: 10,21,22$ |
| $162: 19195: 15$ | $223: 21224: 21$ | $113: 1121: 20$ | $222: 24224: 1$ |
| $196: 2,5,14$ | $227: 1243: 11$ | $121: 21125: 8$ | $224: 10,11$ |
| $198: 2,10236: 3$ | $249: 20276: 4$ | $125: 10126: 3$ | $225: 8231: 12$ |
| $239: 3264: 15$ | units $24: 10$ | $126: 22127: 10$ | $236: 10238: 7$ |
| $281: 10285: 20$ | $25: 16,1633: 7$ | $127: 24130: 5$ | $250: 20258: 23$ |
| $285: 24$ | $45: 1051: 9$ | $131: 20132: 2$ | $263: 13271: 21$ |
| understands | $104: 10111: 11$ | $136: 6,8,15$ | $272: 3273: 10$ |
| $226: 6$ | $113: 3,12139: 9$ | $138: 10,15$ | $274: 5279: 2$ |
| understood | $148: 22149: 6$ | $139: 3,13$ | $282: 2$ |
| $117: 18$ | $210: 6244: 16$ | $141: 15142: 6$ | upward $201: 24$ |
| undeveloped | university | $142: 12,24$ | $222: 1,5,17$ |
| $276: 4$ | $241: 16$ | $143: 4147: 7$ | $233: 14262: 2,9$ |
| unfortunately | unleased $37: 8$ | $151: 25154: 1,6$ | $268: 25269: 2$ |
| $76: 23,24$ | $52: 16$ | $154: 17161: 16$ | $273: 18274: 5$ |
| uniform $113: 19$ | unlocatable | $162: 2165: 12$ | upwards |
| $181: 2$ | $38: 17168: 16$ | $173: 1183: 7$ | $178: 24254: 14$ |
|  |  | $184: 16,18,25$ | $254: 19261: 24$ |
|  |  |  |  |
|  |  |  |  |

Page 81

## [upwards - wants]

| 262:6,14 265:3 | 16:25 17:3 | 244:16 249:2,4 | 74:25 75:9 |
| :---: | :---: | :---: | :---: |
| 266:21 267:4 | 31:12,13,19,22 | videoconfere... | 84:9 90:3 |
| 269:9 | 32:2 38:25 | 2:1 3:3,4,12,18 | 92:25 95:14,16 |
| usa 4:16 7:14 | 39:1 60:12,13 | 4:3,10,18 5:3 | 100:1,9 102:14 |
| 67:4 | 60:17 62:1,5 | 5:19 6:9,16 7:3 | 105:16,24 |
| use 32:14 117:6 | 69:24 | 7:9,15,21 8:3 | 106:10 109:12 |
| 206:18 210:22 | variations 81:8 | 8:11,14,16,18 | 118:18 125:24 |
| 281:25 286:15 | various 103:5 | 8:20,21 | 126:2,11 |
| used 222:9 | 124:21 180:25 | view 13:4 76:1 | 131:23 132:8 |
| 229:12 235:4 | 181:23 201:6 | 97:17 115:20 | 135:17,20 |
| 237:24 243:9 | 237:24 | 121:19 176:1,2 | 144:12 151:24 |
| 285:13 | vast $220: 19,20$ | 213:5 217:9 | 154:11 159:19 |
| user 181:17 | 245:8 | viewed 139:11 | 162:23 167:3,5 |
| using 34:19 | vehemently | vigorously 71:7 | 169:10 185:6 |
| 117:2 151:8 | 83:11 | violation 97:10 | 185:18 186:11 |
| 154:25 182:9 | verge $37: 18$ | 251:11 | 195:24 199:20 |
| 183:5,11,12 | verified 11:14 | virtual 235:14 | 226:4 236:22 |
| 184:9,9 191:7 | 103:4 | 276:17 | 255:25 256:2 |
| 258:11 | verify 186:11 | visual 13:9 | 263:19 265:13 |
| usual 22:10 | vernaray | 244:7 | 269:23 274:25 |
| 32:14 38:8 | 282:16 | volumes 129:10 | 281:1 282:18 |
| 54:23 126:14 | versus 81:13 | 129:11 144:2 | 284:17 285:17 |
| utilize 266:22 | 185:22,24 | 158: | 287:6,17,24 |
| utilized 229:10 | 186:4 212:23 | voluntary | wanted 18:23 |
| v | 227:25 239:13 | 185:2 192:23 | 19:16 39:7 |
|  | 256:4 258:17 | w | 53:19 59:3 |
| valuable | 260:9 282: | wait 20:5 86:10 | 80:18 119:2 |
| 174:17 | vertical 55:1,1 | 133:17 181:4 | 134:10 164:23 |
| value 172:4 | 55:3 163:6 | aiting 49:8 | 209:1 237:13 |
| 176:20 179:19 | 32:9 259:16 | 51:2 79:21 | 246:13 287:12 |
| 198:11,16 | 259:21 | 105:20 133:21 | wanting 164:17 |
| values 197:25 | vetted 172:2 | want $27: 15$ | wants 27:13 |
| vance 3:12 4:10 | viability 251:5 | 32:8 39:17 | 49:13 61:25 |
| 15:14,16 16:3 | viable 79:25 | 46:17 51:25 | 82:21 96:15,17 |
| 16:4,11,12,21 | 130:5,6 177:19 | 55:25 58:12 | 106:5,7 125:7 |

Page 82
[wants - wells]

| 274:12 286:15 | weaponized | wellbores | 157:25 159:8 |
| :---: | :---: | :---: | :---: |
| warrants 81:15 | 229:11 | 153:14 | 160:3 161:11 |
| waste 98:25 | weapons | wells 13:19 | 161:21 162:1 |
| 99:15 108:15 | 229:21 | 24:10,16,22 | 165:25 172:15 |
| 165:24 235:9 | wearing 91:1 | 25:3,9,21 26:1 | 175:8,10,12,19 |
| 251:11 | webpage 43:19 | 32:19 34:16 | 185:25 186:2 |
| water 204:14 | 43:21 | 51:5 55:1,2,4 | 188:11,15,18 |
| way $42: 12$ | website 43:3,5 | 65:3 99:1,14 | 188:24 191:21 |
| 45:18 71:12,22 | 43:25 58:22 | 105:6 110:5,12 | 195:16,18,19 |
| 85:9 94:7 | wednesday | 110:23 111:1,5 | 196:2,15 |
| 100:19 108:3 | 72:7,8,9,10 | 111:8,9,12,17 | 207:13,17,25 |
| 109:25 130:24 | 78:15 82:4,22 | 111:18,19,20 | 212:16,22,23 |
| 132:8 151:21 | 82:23 83:20 | 111:22,23 | 212:24 215:1 |
| 164:16 167:19 | week 16:13 | 112:1,8,9,12,24 | 216:16 226:20 |
| 187:4 238:13 | 40:25 52:20 | 113:8 121:1,10 | 227:2,16,17 |
| 249:11 259:13 | 86:21 88:7 | 121:16 125:14 | 232:19 236:17 |
| 279:11 285:7 | weekend | 127:14,21 | 236:20,21 |
| we've 19:20 | 287:22 | 128:14,16,18 | 237:1,2,7 |
| 26:2 32:24 | weeks 189:8 | 128:19,23 | 243:4 246:5,5 |
| 37:14,20 38:16 | 228:12 | 129:6,8,10,11 | 246:11,22 |
| 38:18 49:9,24 | weigh 49:13 | 129:18,19,20 | 247:8,9 249:11 |
| 50:23 51:1,16 | 56:18 | 130:4,7,9,12,20 | 249:19,23,25 |
| 60:4 79:21 | weight 180:4 | 130:25 131:6 | 250:1,4,5,7,11 |
| 84:12 92:7 | welcome 14:5 | 132:23,25 | 254:1,4 255:4 |
| 105:10 110:5 | 63:8 76:3 | 133:1,5,9,12,25 | 255:5,8,12,16 |
| 110:10 127:22 | 152:10 166:7 | 134:4 137:7,18 | 255:21,23 |
| 182:13 204:2 | 166:10 | 140:18 142:14 | 256:19,20,21 |
| 207:16,21 | wellbore 119:4 | 145:22 146:3,3 | 262:21 267:23 |
| 210:12 214:25 | 126:11 132:3 | 147:1,1,7,8,14 | 271:16,24 |
| 244:23 249:9 | 151:11,23 | 147:20,23 | 272:3,4,5,12,14 |
| weaponization | 165:6,14 205:4 | 148:1,11 | 273:4 278:19 |
| 229:15 234:16 | 206:20 247:21 | 149:23 150:17 | 278:23 279:3,8 |
| weaponize | 247:23 252:2 | 150:19 152:4 | 279:12,20,21 |
| 229:12 | 260:23 264:5 | 153:9 155:14 | 281:16,19 |
|  | 275:7,9 | 156:5,5,11 | 282:12,20 |

Page 83
[went - wolfcamp]

| went 28:3 38:2 | withdrew | 200:8,15,24 | 79:3 82:13 |
| :---: | :---: | :---: | :---: |
| 241:16 | 161:24 | 201:4,9,13,20 | 91:18,19 93:1 |
| west $33: 11,19$ | witness 50:16 | 201:22 202:2,5 | 93:13,18 |
| 33:22,23 34:13 | 50:18,23 51:15 | 202:16,20 | 100:14 169:11 |
| 34:18,21,22,25 | 51:24 76:14 | 203:2,5,10 | 186:22 195:14 |
| 35:23 37:21 | 78:4 88:20 | 230:22 231:4 | 226:11 240:8,9 |
| 38:3 39:9,14 | 89:20,24 98:20 | 231:11,19 | 270:4 283:4,8 |
| 39:25 45:22 | 99:9 100:16 | 232:10,21 | wo $79: 4$ |
| 46:7,8 59:15 | 101:21 102:2 | 233:6,12 234:4 | wolf 96:24 |
| 64:5,11,12,20 | 109:2 121:3,12 | 234:22 235:22 | 106:15,19 |
| 96:9,9 103:12 | 121:18,23 | 236:7,13,23 | 107:25 129:11 |
| 103:12,25 | 122:9,17,19,23 | 237:4,9 238:4 | 220:4 276:15 |
| 110:21 129:23 | 123:15,15,19 | 238:14,23 | wolfcamp |
| 130:1 132:15 | 123:21 134:21 | 239:6,17 | 12:25 13:11,13 |
| 176:15,15 | 153:5,13,17 | 240:15,25 | 20:12 24:6 |
| 182:3 199:8,8 | 154:8,18 | 241:4,22 243:8 | 25:13,18,23 |
| 208:20 273:5 | 155:12,14,23 | 257:1,19 258:3 | 26:15 29:2 |
| what'd 52:20 | 156:2 157:1,7 | 258:9,14,21,25 | 33:12,15 34:16 |
| whatnot 45:4 | 157:12,22 | 259:11,20 | 35:23,25 38:12 |
| 234:13 | 158:7,11,15,20 | 260:1,4,11,20 | 38:14 40:6 |
| wildcat 155:25 | 158:23 159:1 | 261:9,13,18,21 | 79:18,25 80:19 |
| 156:3 | 159:13 160:2,7 | 262:3,11,23 | 80:21,22 83:24 |
| wildcat's 156:6 | 160:25 161:18 | 263:4,15 264:2 | 84:2,6 96:10 |
| willingness | 162:3,23 163:8 | 264:18,23 | 96:17,18,20,22 |
| 72:19 | 163:16,21 | 265:4,8 266:2 | 97:2,4,6 98:23 |
| wisdom 73:6 | 166:7 169:13 | 266:12,17,25 | 99:7,11 103:11 |
| wise 106:13 | 169:17,18,21 | 267:8,12,19 | 103:15 104:4,5 |
| wish 14:21 52:9 | 180:3 184:4 | 268:4,12 | 104:14,16,19 |
| 54:3 81:21 | 185:18 189:22 | 275:17 280:14 | 105:21 106:2,3 |
| 86:4 167:20 | 194:8,17,20 | 280:21 281:13 | 106:4,12,13,17 |
| wishes 50:4 | 195:3,7,12,18 | 290:4 | 106:22 107:17 |
| withdraw | 195:25 196:7 | witnesses 9:6 | 107:18 108:13 |
| 121:8 | 196:17,20 | 72:24 76:16,19 | 110:13,15,23 |
| withdrawing | 197:8,24 | 77:7,10,15 | 111:12,16,19 |
| 34:7 | 198:16 199:3 | 78:18,24 79:1 | 111:23 112:1,9 |

Page 84

## [wolfcamp - work]

| $112: 12113: 1,7$ | $154: 6,17,20$ | $212: 6,8,10,16$ | $255: 12,21,22$ |
| :--- | :--- | :--- | :--- |
| $113: 20,24$ | $155: 7,18156: 8$ | $212: 21,23,24$ | $256: 4260: 25$ |
| $114: 6,10,13,17$ | $156: 12,12,24$ | $213: 14,19$ | $263: 14265: 23$ |
| $114: 22,24,24$ | $157: 6,10$ | $214: 3,3,4,4,11$ | $266: 12,15,24$ |
| $115: 2,4,7,12,18$ | $161: 16,22$ | $214: 11215: 12$ | $267: 2,6,7,10,17$ |
| $116: 20,23$ | $162: 2,21$ | $216: 13,24$ | $267: 24,25$ |
| $117: 16,19$ | $165: 12171: 5$ | $217: 1,3,6,10,14$ | $268: 2271: 14$ |
| $118: 3,23119: 4$ | $172: 1173: 1$ | $217: 15218: 20$ | $271: 22272: 3$ |
| $119: 5121: 2,13$ | $174: 17175: 14$ | $218: 23,25$ | $272: 21273: 1$ |
| $121: 20,22$ | $175: 17176: 4,7$ | $219: 4,6,16,18$ | $273: 10274: 7$ |
| $124: 19125: 8$ | $176: 19177: 16$ | $219: 22,22$ | $274: 12275: 25$ |
| $125: 10,11,13$ | $178: 20179: 6$ | $220: 3,8,13,19$ | $276: 5,19277: 1$ |
| $125: 14126: 2$ | $179: 16180: 17$ | $220: 24221: 6$ | $279: 3,12$ |
| $126: 23127: 11$ | $182: 11183: 7$ | $221: 15,17,21$ | $281: 14282: 2$ |
| $127: 18,24$ | $184: 16,18,18$ | $221: 23222: 6$ | $282: 16$ |
| $128: 12129: 5$ | $184: 23,25$ | $222: 10,21,22$ | wolfcamp's |
| $129: 15,18$ | $185: 22,24$ | $222: 24224: 1$ | $130: 13150: 13$ |
| $130: 5,8131: 3$ | $186: 5,12,12,16$ | $224: 10,11$ | $150: 22151: 2$ |
| $131: 4,10,20,23$ | $186: 16,23$ | $225: 8,10$ | wonder $46: 14$ |
| $131: 24132: 2$ | $187: 6,6,14,16$ | $227: 10228: 3$ | woodlands |
| $135: 22136: 6,7$ | $189: 11190: 11$ | $230: 20231: 10$ | $7: 24$ |
| $136: 8,15,18$ | $190: 13,24,25$ | $231: 13,13$ | woods $280: 5$ |
| $137: 17,18$ | $191: 1,3,25$ | $232: 23236: 5$ | word $32: 14$ |
| $138: 10,15,21$ | $195: 5,17196: 6$ | $236: 10238: 8$ | $96: 5153: 7$ |
| $139: 3,12,13,14$ | $196: 13,16$ | $243: 10,15$ | $156: 6223: 15$ |
| $140: 2,20,22$ | $197: 2,9,11,14$ | $244: 9,16,18,24$ | $238: 1$ |
| $141: 9,15142: 4$ | $197: 22198: 1,5$ | $245: 2,5,7$ | words $118: 6$ |
| $142: 6,12,24$ | $200: 7,22201: 1$ | $246: 1,4,19$ | $157: 3159: 3,25$ |
| $143: 4,21$ | $201: 19204: 9$ | $247: 5,8,10,14$ | $163: 18178: 24$ |
| $145: 21147: 1,7$ | $205: 9,12,25$ | $248: 9,11,14,17$ | $221: 20238: 12$ |
| $147: 11,13$ | $206: 7,14,18$ | $248: 22,24$ | $263: 20278: 9$ |
| $148: 6,21149: 2$ | $207: 19,23$ | $249: 1,5,10$ | $278: 21$ |
| $149: 8,9,21,23$ | $208: 14210: 7$ | $250: 19,21$ | work $75: 2,6$ |
| $151: 23152: 1$ | $210: 24211: 1,5$ | $251: 14253: 11$ | $87: 21151: 7$ |
| $153: 2154: 1,3$ | $211: 9,20212: 5$ | $253: 14255: 8,9$ | $161: 5166: 20$ |
|  |  |  |  |
|  |  |  |  |

Page 85
[work - zone]

| 174:19 241:12 | 170:7 203:20 | 148:17 150:16 | 132:22 134:6 |
| :---: | :---: | :---: | :---: |
| 287:25 | 237:12 242:7 | 154:18 155:12 | 145:18 147:13 |
| workable 88:22 | 284:1 | 156:14 158:17 | 147:15,18 |
| worked 110:8 | wrong 17:19 | 160:20 162:23 | 150:6,7,8 |
| 140:14 144:7,9 | 29:18 39:19 | 164:7 166:1 | 203:18 241:18 |
| 145:15,17,18 | 54:22 56:14 | 170:5 171:13 | 255:6,13 |
| 203:16,17,18 | 71:5 120:15 | 171:23 174:6 | yellow 40:14 |
| 206:5 | wrote 188:11 | 177:5 187:9 | 41:7 210:4 |
| working 19:12 | $\mathbf{x}$ | 194:22 195:25 | уep 59:11 |
| 51:15,18 52:25 | x 9:1 10:1 11:1 | 196:22 197:17 | 234:8 |
| 53:175:25 |  | 198:8 199:19 | yesterday |
| 104:15 132:12 | 186:16 227:10 | 201:9 203:13 | 35:20 37:25 |
| 168:8,17 174:1 |  | 206:2 207:11 | z |
| 179:4,5 190:18 | y | 211:18 213:5 | zero 97:3 |
| 199:9 200:6,21 | y 186:16 | 214:13 217:7 | 216:20 |
| 200:22 214:7 | 227:10 247:14 | 217:14 231:25 | $\text { zeros } 158: 22$ |
| 241:17 248:21 | y'all 50:25 yeah | 236:23 253:1 | $\text { zimsky } 69: 6,13$ |
| 254:7 | yeah 22:7 | 256:23 259:5 | $69: 14$ |
| worksheet 21:8 | 27:17 30:7 | 266:6 267:11 | zippo 107:1 |
| world 193:22 | 39:6 40:23 | 267:23 268:18 | $\text { zone } 99: 4,12$ |
| worried 222:6 | 41:17 44:23 | 272:23,24 | 106:1,3,6,7 |
| worry 180:16 | 46:6,12 47:11 | 273:21 275:5,9 | 118:13,19 |
| worse 245:4 | 48:2 50:11,23 | 287:21 288:22 | $119: 3125: 11$ |
| 288:25 | 50:24 51:24 | year 22:15 | 125:18 146:12 |
| worst 56:5 | 53:5,6 57:1 | 51:18 129:10 | 160:14 165:7 |
| wozniak 3:19 | 61:6 88:24 | 133:17 145:20 | 171:14,24 |
| 19:2 61:9 | 95:19 112:24 | 150:6 174:6 | 177:6,11,13 |
| wrapping | 118:2 120:18 | 207:15 247:8 | 178:18,24 |
| 287:5 | 121:3 122:20 | 255:24,24 | 201:7,14 |
| wrestle 193:13 | 125:1 129:21 | 261:2 | $207: 14 \text { 213:22 }$ |
| 193:20 | 130:22,22,24 | years 44:18 | $214: 9 \text { 215:20 }$ |
| wrestling 73:10 | 133:7,20 134:9 | 102:19 110:4,6 | $216: 13 \text { 219:14 }$ |
| writing 57:5 | 138:11 141:23 | 110:7,11 | $219: 22 \text { 220:8,9 }$ |
| written 13:7 | 146:24 147:12 | 111:25 112:6 | $220: 10,18$ |
| 90:1 113:21 | 147:17 148:9 | 129:12,14 | $248: 16253: 5$ |

Page 86

## [zone - zones]

| $253: 19,24$ |
| :--- |
| $254: 11,15,17$ |
| $260: 15,22$ |
| $266: 9,22 \quad 267: 1$ |
| $273: 18$ |
| zones $126: 2$ |
| $130: 15 \quad 177: 3$ |
| $272: 18$ |
|  |
|  |
|  |
|  |

