Page 1

UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAKER HUGHES INCORPORATED and BAKER HUGHES OILFIELD OPERATIONS, INC. Petitioners v. PACKERS PLUS ENERGY SERVICES INC., Patent Owner

Case IPR2016-00596 - Patent 7,134,505 Case IPR2016-00597 - Patent 7,543,634 Case IPR2016-00598 - Patent 7,861,774 Case IPR2016-00650 - Patent 6,907,936 Case IPR2016-00656 - Patent 8,657,009 Case IPR2016-00657 - Patent 9,074,451

ORAL VIDEOTAPED DEPOSITION

ALI DANESHY

November 9, 2016

ORAL VIDEOTAPED DEPOSITION OF ALI DANESHY, produced as a witness at the instance of the Respondent and duly sworn, was taken in the above-styled and numbered cause on the 9th day of November, 2016, from 9:27 a.m. to 2:56 p.m., before Keith L. Vincent, Certified Shorthand Reporter in and for the State of Texas, reported by computerized stenotype machine at the offices of Norton Rose Fulbright, 1301 McKinney Street, Suite 5100, Houston, Texas 77010, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

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2 (Pages 2 to 5)

	Page 2	Page 4
1	APPEARANCES	¹ PROCEEDINGS
2		² THE VIDEOGRAPHER: We are on the record.
3	FOR THE PETITIONERS:	3 Today's date is November the 9, 2016. The time is
-	Mr. Eagle Robinson	⁴ 9:27 a.m. This is the beginning of deposition of
5	Norton Rose Fulbright, LLP	⁵ Dr. Ali Daneshy. Can I have all the attorneys identify
c	94 San Jacinto Boulevard, Suite 1100	⁶ themselves for the record.
0	Austin, Texas /8/01-4255 Telephone: 512-474-5201	7 MR. NEMUNAITIS: Justin Nemunaitis on
7	E-mail: mark.garrett@nortonrosefulbright.com	8 behalf of Rapid Completions.
0	eagle.robinson@nortonrosefulbright.com	9 MR GARRETT: Mark Garrett on behalf of
9	FOR THE RESPONDENT: Mr. Justin Nemunaitis	¹⁰ Petitioners.
	Caldwell Cassady Curry	¹¹ MR. ROBINSON: Eagle Robinson on behalf of
10	2101 Cedar Springs Road, Suite 1000	¹² Petitioners.
11	Dallas, Texas /5201 Telephone: 214-888-4853	¹³ MR. GARRETT: And we have with us in the
	E-mail: jnemunaitis@caldwellcc.com	¹⁴ room Darin Duphorne, who is in-house counsel for
12		¹⁵ Petitioners.
13	ALSO PRESENT: Mr. Darin Duphorne	¹⁶ ALI DANESHY.
	Mr. Andrew Jones, Videographer	¹⁷ having been first duly sworn, testified as follows:
15		18 EXAMINATION
16 17		¹⁹ MR. NEMUNAITIS:
18		²⁰ O. Could you please state your name.
19		²¹ A. Ali Daneshy.
20 21		²² O. And you're a doctor, right?
22		²³ A. Yes.
23		²⁴ O. Where did you get your PhD?
24 25		²⁵ A. University of Missouri - Rolla.
	Page 3	Page 5
1	Page 3 INDEX	Page 5 Q. Are you an employee of Baker Hughes?
1 2	Page 3 INDEX PAGE	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No.
1 2 3	Page 3 INDEX PAGE ALI DANESHY	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some
1 2 3 4	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue,
1 2 3 4	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125	Page 5 Q. Are you an employee of Baker Hughes? A. No. Q. But you were hired by them to offer some opinions in these proceedings on the patents at issue, correct?
1 2 3 4 5	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125	Page 5 Q. Are you an employee of Baker Hughes? A. No. Q. But you were hired by them to offer some opinions in these proceedings on the patents at issue, correct? A. Yes.
1 2 3 4 5 6	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS	Page 5 Q. Are you an employee of Baker Hughes? A. No. Q. But you were hired by them to offer some opinions in these proceedings on the patents at issue, correct? A. Yes. Q. Have you ever been deposed before?
1 2 3 4 5 6 7	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 Q. Are you an employee of Baker Hughes? A. No. Q. But you were hired by them to offer some opinions in these proceedings on the patents at issue, correct? A. Yes. Q. Have you ever been deposed before? A. Yes.
1 2 3 4 5 6 7 8	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times?
1 2 3 4 5 6 7 8 9	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times
1 2 3 4 5 6 7 8 9 10	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe.
1 2 3 4 5 6 7 8 9 10 11 12	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases
1 2 3 4 5 6 7 8 9 10 11 12 13	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings?
1 2 3 4 5 6 7 8 9 10 11 12 13 14	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not?
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every 21 hour or so. If you want to take a break at some other
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every 21 hour or so. If you want to take a break at some other 22 time, just let me know and we'll take one. The one
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not? 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every 21 hour or so. If you want to take a break at some other 22 time, just let me know and we'll take one. The one 23 exception to that would be if I ask you a question, I'd
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every 21 hour or so. If you want to take a break at some other 22 time, just let me know and we'll take one. The one 23 exception to that would be if I ask you a question, I'd 24
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Page 3 INDEX PAGE ALI DANESHY Examination by Mr. Nemunaitis: 4 Signature Page125 EXHIBITS (None offered)	Page 5 1 Q. Are you an employee of Baker Hughes? 2 A. No. 3 Q. But you were hired by them to offer some 4 opinions in these proceedings on the patents at issue, 5 correct? 6 A. Yes. 7 Q. Have you ever been deposed before? 8 A. Yes. 9 Q. About how many times? 10 A. I can't remember. Two, three, four times 11 maybe. 12 Q. Do you know if any of those were patent cases 13 or IPR proceedings? 14 A. No. 15 Q. No, they were not? 16 A. They were not. 17 Q. You're probably a little bit familiar with this 18 process, but I'll go over some ground rules in case you 19 have some questions before we start. I'm going to keep 20 going and ask my questions, but I'll take a break every 21 hour or so. If you want to take a break at some other 22 time, just let me know and we'll take one. The one 23 exception to that would be if I ask you a question, I'd 24

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3 (Pages 6 to 9)

		- ()
	Page 6	Page 8
1	A. Sure.	¹ I cannot give you a number.
2	Q. I think the court reporter mentioned this	² Q. When did you start advising companies on
3	before we started, but it's helpful if we don't talk	³ fracturing work for a particular well?
4	over each other. So I'm going to try to, you know, stop	⁴ A. Just as soon as I was I got into oil-and-gas
5	and listen to you; and I'd ask that you do the same for	⁵ industry in 1969.
6	me. Okay?	⁶ Q. And that's something you've done throughout
7	A. Okay.	7 your entire career, more or less?
8	Q. And also the court reporter can't take down a	⁸ A. Off and on, yes.
9	nod of the head or an "uh-huh," "huh-uh" sort of	⁹ Q. Do you generally keep up to speed to advances
10	response. So if you can try to phrase your answers so	¹⁰ or changes in technology in the hydraulic fracturing
11	they're clear that he can take them on the record, that	¹¹ space?
12	would be helpful. Okay?	¹² MR. GARRETT: Objection, form.
13	A. Okay.	¹³ Q. You can answer the question.
14	Q. And at times, one of your attorneys here, the	¹⁴ A. To the extent practical, yes.
15	attorneys for Baker Hughes may say "Objection, form",	¹⁵ Q. And why do you try to do that?
16	something like that, to one of my questions. But if	¹⁶ MR. GARRETT: Same objection.
17	that happens, you can still answer the question, as long	¹⁷ A. I think people who are in this business, if
18	as your attorney doesn't instruct you not to answer.	¹⁸ they want to continue staying, you know, well-informed,
19	Does that make sense?	¹⁹ they need to be abreast of what is available out there.
20	A. If that's the rule, that's the rule.	²⁰ Again, to the extent possible.
21	Q. And lastly, there's a number of overlapping	Q. Do you think you're an expert in the field of
22	proceedings that you're being deposed about today.	the '774 patent that's at issue in these proceedings?
23	I think there's six proceedings on these instituted	A. Can you tell me what '774 patent is, please.
24	IPRs. So at times I may ask the same question but tweak	Q. Sure. I can give you a copy of that.
25	it a little bit to ask about one patent versus another.	²⁵ A. Yes, I understand this patent.
	Page 7	Page 9
1	Page 7	Page 9
1 2	Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear O&A on the	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent?
1 2 3	Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense.	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes.
1 2 3 4	Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay.	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing
1 2 3 4 5	Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in
1 2 3 4 5 6	Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry?	Page 9 Q. So would you say you're an expert in the field of the '774 patent? A. Yes. Q. If you could think back to what you were doing in 2001, do you think you would have been an expert in the field of the '774 patent at that time?
1 2 3 4 5 6 7	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry 	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001;
1 2 3 4 5 6 7 8	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. 	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at
1 2 3 4 5 6 7 8 9	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. Q. Can you tell me what your experience has been 	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at 9 that time also, yes.
1 2 3 4 5 6 7 8 9 10	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. Q. Can you tell me what your experience has been with hydraulic fracking? 	Page 9 Image Page 9 1 Q. So would you say you're an expert in the field 0 2 of the '774 patent? 3 A. Yes. 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at 9 that time also, yes. 10 Q. Why do you say it's difficult to go back to
1 2 3 4 5 6 7 8 9 10 11	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. Q. Can you tell me what your experience has been with hydraulic fracking? A. All of that period, I've been engaged in 	Page 9 I Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at 9 that time also, yes. 10 Q. Why do you say it's difficult to go back to 11 2001.
1 2 3 4 5 6 7 8 9 10 11 12	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. Q. Can you tell me what your experience has been with hydraulic fracking? A. All of that period, I've been engaged in hydraulic fracking. 	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at 9 that time also, yes. 10 Q. Why do you say it's difficult to go back to 11 2001. 12 A. I wasn't quite sure what your question was.
1 2 3 4 5 6 7 8 9 10 11 12 13	 Page 7 I'm not trying to be repetitive and waste your time. I just want to make clear we have a clear Q&A on the record, if that makes sense. A. Okay. Q. Could you tell me at a high level what your experience has been in the oil-and-gas industry? A. I have been active in the oil-and-gas industry since 1969, continuously. Q. Can you tell me what your experience has been with hydraulic fracking? A. All of that period, I've been engaged in hydraulic fracking. Q. What sort of work have you do with hydraulic 	Page 9 1 Q. So would you say you're an expert in the field 2 of the '774 patent? 3 A. Yes. 4 Q. If you could think back to what you were doing 5 in 2001, do you think you would have been an expert in 6 the field of the '774 patent at that time? 7 A. It's very difficult for me to go back to 2001; 8 but, yeah, I could have given you an expert opinion at 9 that time also, yes. 10 Q. Why do you say it's difficult to go back to 11 2001. 12 A. I wasn't quite sure what your question was. 13 I thought that could also mean that, did I know this
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4 (Pages 10 to 13)

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	Page 10	Page 12
1	A. Yes.	¹ want to have I'm going to be asking you a bunch of
2	Q. And that's a fracturing technique where packers	² questions today and I want to have a name that I can use
3	are used to provide zonal isolation and balls are used	³ so I don't need to explain this concept in every
4	to open sleeves to fracture through the open-hole	⁴ question I ask.
5	segment. Fair?	⁵ A. I understand. My intent is to make sure
6	A. I wasn't catching the details. That's a	⁶ I understand your question so I give you the answer to
7	process in which you have sleeves inside a liner, you	⁷ the correct question that you intend, not what
8	drop a ball. When the ball seats in its designated	⁸ I understood it to mean.
9	location, it slides open a sleeve and opens a port	⁹ Q. Right. For purposes of this deposition today,
10	through which you fracture the formation.	¹⁰ if I use the phrase "ball-activated sleeve fracturing,"
11	Q. It's possible to do open-hole ball-drop	¹¹ can we agree that that means a type of fracturing where
12	fracturing using packers to isolate the zones. Would	¹² you use ball-activated sleeves and packers to provide
13	you agree with that?	¹³ zonal isolation?
14	A. Yes.	¹⁴ MR. GARRETT: Same objection.
15	Q. And would it be okay if today, just so we have	¹⁵ A. Okay. But as we go okay. Let's proceed
16	a shorthand name to talk about that particular type of	¹⁶ until we get to a point where I need clarification, and
17	fracturing, to call that open-hole ball-drop fracturing?	¹⁷ then I will ask for it.
18	A. Okay. But open-hole ball-drop fracturing has	¹⁸ Q. Sure. Absolutely.
19	got multiple systems attached to it. I usually call	¹⁹ When did you first learn about
20	those ball-activated sliding sleeves.	²⁰ ball-activated sleeve fracturing?
21	Q. Let me ask you this. Just so we have	²¹ A. I can't remember.
22	something there's a catchy name for plug-and-perf	22 Q. Do you know if it was before 2001?
23	fracturing, and most people know what that is. I'd like	²³ A. Possibly.
24	to have a shorthand name that we can use for the rest of	²⁴ Q. And was it possible it was after 2001?
25	the day to talk about the type of fracturing technique	A. I was aware of open-hole fracturing by sliding
	Page 11	Page 13
1	Page 11	Page 13
1 2	Page 11 where you use ball-activated sleeves and packers to provide isolation?	Page 13 Image Image <thimage< th=""> Image Image</thimage<>
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5 (Pages 14 to 17)

	Page 14	Page 16
1	decision-making process. If you are prepared for a	¹ they actually have changed the way oil-and-gas
2	dissertation, then we can go ahead; but I have	² reservoirs are produced. A particular aspect of this
3	recommended it. Correct. Yes, I have. And when I make	³ was application of some of the automated systems, remote
4	that recommendation, it is because a number of	⁴ sensing, remote control, all of which was for the
5	parameters that are involved in that decision-making	⁵ purpose of controlling the flow stream out of an
6	have been satisfied.	⁶ oil-and-gas well. The main emphasis in those
7	Q. What would you say are the main fracturing	7 applications is to control the flow of excessive water.
8	techniques that you consider when talking to a client	⁸ These types of completions are generally very expensive
9	about what type of fracturing technique to use on a	⁹ and they are deployed in prolific reservoirs where
10	well?	¹⁰ you're expecting flow rates in excess of several
11	MR. GARRETT: Objection. 611(b).	¹¹ thousand barrels of oil per day. The article is
12	A. Techniques are generally divided into open-hole	¹² specifically written for that particular application.
13	liner completions and cemented liner completions. You	¹³ Q. Is there some examples of formations or an
14	start from that point; and then for each, you branch off	¹⁴ explanation in here along the lines of what you just
15	into available systems.	¹⁵ told me?
16	Q. And what parameters do you consider when	¹⁶ A. I provide examples of this application, for
17	deciding between open-hole versus cemented liners?	¹⁷ example. I give in the paper I show an example of a
18	MR. GARRETT: Same objection.	¹⁸ system like that because it was used in Saudi Arabia, as
19	A. Borehole stability, well stability, and	¹⁹ an example. When you publish an article, the cases that
20	properties of the formation. There are too many	²⁰ you refer in the article generally are somewhat limited
21	parameters involved in that decision. Making that	²¹ to what the company either has published before or gives
22	decision sometimes takes one, two, sometimes even	²² you permission to publish, to include in the article,
23	three days to look at all of the parameters that are	²³ because of copyrights. So the example which is in this
24	involved and then arrive at what system is a good	²⁴ paper is from Saudi Arabian reservoir, the full system.
25	compromise for that environment.	²⁵ The example of the full system is from a Saudi Arabian
		I
	Page 15	Page 17
1	Page 15 Q. I just handed you an exhibit marked	Page 17 ¹ reservoir, and it is shown on page 199 and it says
1 2	Page 15 Q. I just handed you an exhibit marked Exhibit 2002. Could you tell me what this is?	Page 17 reservoir, and it is shown on page 199 and it says typical well completion in Shaybah Field. And Shaybah
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