

ILLINOIS POLLUTION CONTROL BOARD  
August 31, 2017

SIERRA CLUB, ENVIRONMENTAL )  
LAW & POLICY CENTER, )  
PRAIRIE RIVERS NETWORK AND )  
CITIZENS AGAINST RUINING )  
THE ENVIRONMENT, ) No. PCB 13-15  
)  
Complainants, )  
)  
vs )  
)  
MIDWEST GENERATION, LLC, )  
)  
Respondent. )

REPORT OF THE PROCEEDINGS had at the hearing on a motion of the above-entitled cause before the Honorable BRADLEY HALLORAN, Hearing Officer of said Court, Room 9-040, The Thompson Center, Chicago, Illinois, on the 1st day of February, 2018, at the hour of 9:00 a.m.

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1	I N D E X	
2	THE WITNESS: FREDERICK VEENBAAS	
3		PAGE
4	Cross-Examination by Ms. Dubin.....	7
5	Redirect Examination by Ms. Gale.....	65
6	Recross-Examination by Ms. Dubin.....	72
7		
8	THE WITNESS: RICHARD GNAT	
9		PAGE
10	Direct Examination by Ms. Gale.....	82
11	Cross-Examination by Mr. Wannier.....	180
12	Redirect Examination by Ms. Gale.....	209
13	Recross-Examination by Mr. Wannier.....	211
14		
15	THE WITNESS: JOHN SEYMOUR	
16		PAGE
17	Direct Examination by Ms. Nijman.....	213
18		
19		
20		
21		
22		
23		
24		

1	E X H I B I T S	
2		
3		Marked for
4		Identification
5	Complainants' Exhibit No. 720 .....	38
6	Complainants' Exhibit No. 721 .....	44
7	Complainants' Exhibit No. 722 .....	46
8	Complainants' Exhibit No. 264 .....	61
9	Respondent's Exhibit No. 809-812.....	88
10	Respondent's Exhibit No.'s 800-802 .....	115
11	Respondent's Exhibit No. 803 .....	117
12	Respondent's Exhibit No. 804 .....	119
13	Respondent's Exhibit No. 805 .....	121
14	Respondent's Exhibit No. 813 .....	130
15	Respondent's Exhibit No. 810 .....	134
16	Respondent's Exhibit No. 900 .....	215
17	Respondent's Exhibit No. 902 .....	219
18	Respondent's Exhibit No. 903 .....	232
19	Respondent's Exhibit No. 904 .....	233
20	Respondent's Exhibit No. 905 .....	234
21	Respondent's Exhibit No. 906 .....	235
22		
23		
24		

1 HEARING OFFICER HALLORAN: Good  
2 morning, everyone. My name is Brad Halloran. I'm  
3 a Hearing Officer with the Illinois Pollution  
4 Control Board. I'm also assigned to this matter  
5 entitled Sierra Club, Environmental Law & Policy  
6 Center, Prairie Rivers Network and Citizens  
7 Against Ruining the Environment, complainants,  
8 versus Midwest Generation, LLC, respondent. It's  
9 docketed as PCB 13-15. It's a citizen enforcement  
10 water.

11 Today is February 1st, 2018.  
12 This hearing is continued on record from yesterday  
13 January 31st, 2018. I do want to note for the  
14 record we have attorney advisor Jason James in the  
15 room as well as Alisa Liu from our technical unit.

16 With that said, I know we had  
17 Mr. Veenbaas still on the stand under direct by  
18 Midwest Ms. Gale. May we proceed?

19 MS. GALE: Yes, and I rested. We  
20 had no further questions last night.

21 HEARING OFFICER HALLORAN: Okay. I  
22 didn't know if that was just for then or --

23 MS. GALE: I'm sorry. Yes.

24 HEARING OFFICER HALLORAN: Thank

1 you, Ms. Gale. Could you swear in Mr. Veenbaas  
2 again, please.

3 WHEREUPON:

4 FREDERICK VEENBAAS

5 called as a witness herein, having been first duly  
6 sworn, deposeth and saith as follows:

7 HEARING OFFICER HALLORAN: Thank  
8 you. Ms. Dubin?

9 C R O S S E X A M I N A T I O N

10 BY MS. DUBIN

11 Q. Thank you for being here,  
12 Mr. Veenbaas. Now, I just want to jump into  
13 terminology.

14 My first question is, can the  
15 term slag be used interchangeably with the term  
16 ash?

17 A. No, slag was generally -- slag was a  
18 bi-product of a cyclone boiler generally whereas  
19 bottom ash was generally the term from a  
20 pulverized coal boiler.

21 Q. Have you --

22 A. They can be used interchangeably.  
23 Some people do do it that way, but that's how it  
24 is supposed to be used.

1 Q. And you've used the term  
2 interchangeably with ash in the past, correct?

3 A. I generally use bottom ash for  
4 bottom ash.

5 Q. But at times you have?

6 A. Potentially, yes.

7 Q. And my next question, are you  
8 familiar with the term cap as in capping a pond?

9 A. Yes.

10 Q. And capping a pond means that cover  
11 is placed over the top of the pond, correct?

12 A. That's my understanding, yes.

13 Q. And when a cover is placed over the  
14 top of a pond, it is not open to the sky, correct?

15 A. That is true, yes.

16 Q. And does capping a pond make the  
17 pond impervious to rainwater that would enter the  
18 pond vertically from above?

19 A. Most likely, yes.

20 Q. And, finally, if a pond is capped,  
21 that means it's not open to the sky?

22 A. Yes. But, again, I want to make  
23 sure we understand. When you cap a pond, you  
24 render the pond useless because you're putting a



1 cap over it. So water flow can't go through it.  
2 So you don't cap things that are in service.

3 Q. So I wanted to discuss a few of the  
4 ash areas. So, first off, if you don't mind  
5 taking a look at Complainants' Exhibit 19-D. It  
6 should be the top one right there and I put a Post  
7 It note where I'd like you to take a look. The  
8 Bates page is MWG 45813 and that is a site plan of  
9 the Waukegan station.

10 A. MWG 13-15?

11 Q. Yeah, and then 45813. Do you see a  
12 site plan there?

13 A. 813. Yes, I do.

14 Q. Now, if you look at about the  
15 bottom -- oh, gosh. I'll direct you towards a  
16 better page. I apologize.

17 A. This is 13 like you mentioned.

18 Q. There should be a better site plan.  
19 I would take a look at the -- this is the page.

20 A. Page 14.

21 Q. Yes, this should be easier for you.

22 A. Okay.

23 Q. So, for the record, that's 45814.

24 A. Okay.

1 Q. Now, if you take a look at the  
2 bottom left corner of that site plan, do you see  
3 an area called the slag/fly ash storage area?

4 A. Yes.

5 Q. And there is -- there has been ash  
6 located in this area, correct?

7 A. I've seen pictures where ash is  
8 located there. They're from like the 1960's.

9 Q. And ash hasn't been removed from  
10 this area, correct?

11 A. I cannot say that. I don't know.

12 Q. You've not seen any evidence that  
13 ash has been removed from this area?

14 A. No. Right now it's a grassy field.  
15 We actually land helicopters on it.

16 Q. I'm sorry. So have you seen  
17 evidence that ash has been removed?

18 A. No.

19 Q. And this area is unlined, correct?

20 A. I don't know. It's -- it's an old  
21 field. I have no sense of what is there.

22 HEARING OFFICER HALLORAN: Sir, can  
23 you keep your voice up, please?

24 THE WITNESS: Sure.

1 HEARING OFFICER HALLORAN: Thanks.

2 BY MS. DUBIN:

3 Q. Have you seen any evidence that this  
4 area is lined?

5 A. No.

6 Q. And is this area capped?

7 A. It's a field with grass on it.  
8 That's all I can speak to.

9 Q. And is -- is it impervious to  
10 rainwater or is grass impervious to rainwater that  
11 comes vertically from above?

12 A. No. I mean, it's soil. I would  
13 assume the grass can only grow when the water hits  
14 the ground and allows the roots to grow. So I  
15 don't know if it's impervious. I can't tell you.

16 Q. Now, I'd like to ask a few questions  
17 about the Will County ponds.

18 A. Sure.

19 Q. Now, there used to be four active  
20 electric generating units at Will County, correct?

21 A. That's correct.

22 Q. And what were these units named?

23 A. They were named unit one, unit two,  
24 unit three and unit four.

1 Q. And what ponds or areas accepted ash  
2 from unit one?

3 A. The ponds were designated by one  
4 north, one south. Those are the two ponds that  
5 received ash from unit one.

6 Q. And what ponds received ash from  
7 unit two?

8 A. Again, one north and one south were  
9 the two ponds that received ash from unit two.

10 Q. Are there other areas that received  
11 ash from unit two?

12 A. Let me back up a bit.

13 Q. Sure.

14 A. The ponds we received it -- there  
15 was a retention pad that received the ash, where  
16 the ash fell out and was managed there and the  
17 fines from the -- that process went to the two  
18 ponds. So you saw ash, but it was ash in a very  
19 fine particulate mode. The actual bulk of the  
20 slag, of the bottom ash, was -- actually resided  
21 on the pad next to it.

22 Q. And what ponds -- I'm sorry. Did I  
23 ask you about unit three?

24 A. No, you didn't yet.

1 Q. What ponds accepted ash from unit  
2 three?

3 A. Unit three the ponds, excuse me,  
4 ponds two south and three south received ash  
5 from -- bottom ash from unit three.

6 Q. Are there any other areas that  
7 received ash from unit three?

8 A. No.

9 Q. And, finally, unit four, which ponds  
10 receive ash from unit four?

11 A. Unit four -- the ash from unit four  
12 went to ponds two south and three south. This is  
13 bottom ash by the way, not fly ash.

14 Q. Now, I'd like you please to take a  
15 look at 19-D, which should be in front of you or I  
16 apologize. We're going to skip ahead. No need to  
17 take a look at 19-D.

18 I wanted to ask, are you  
19 familiar with the practice of using a pond as a  
20 flow-thru?

21 A. Yes.

22 Q. And what does that mean?

23 A. I don't know if you're referring to  
24 pond one north at Will County, is that where we're

1 going?

2 Q. Yes.

3 A. After they retired units one and two  
4 at Will County, they left pond one north in  
5 service as a flow-thru to provide flow back to the  
6 wet well of the ash recycle system.

7 Q. Does a -- does a flow-thru prevent  
8 ash from freezing?

9 A. It prevents the water from freezing,  
10 yes.

11 Q. Why would you want to prevent the  
12 water from freezing?

13 A. If you're using it as a flow-thru  
14 device, you want to be able to have water flow  
15 through it, but if there is no movement of it,  
16 then it would freeze.

17 Q. And just to be sure, so where would  
18 the water flow through -- flow to from pond one  
19 north?

20 A. The water would flow from the pad or  
21 the piping going to the pad where the slag used to  
22 reside and it would go into a trench, the inlet of  
23 the pond on the east side of the pond and would  
24 flow to the west side of the pond.

1           Q.       So the pad -- by the pad, you mean  
2 the retention --

3           A.       The retention pad, yes.

4           Q.       And you said it flows to a trough,  
5 is that correct?

6           A.       There is a trough on the exit side  
7 of the pad where the water from the pad could be  
8 directed to either one north or one south. The  
9 whole time I was at Will County it went to one  
10 north.

11          Q.       So just to get the chain of events  
12 correct, and correct me if I'm wrong, so it flows  
13 from the pad to the trough to one north?

14          A.       Right.

15          Q.       And then after one north, where does  
16 it go?

17          A.       It goes on the outlet trough,  
18 concrete structure, and then it flows to the  
19 basement of the ash recycling building, which we  
20 commonly call the wet well, and there it provides  
21 suction for ash recycle pumps and they pump the  
22 water back into the building and for reuse as  
23 ashless water.

24          Q.       And is that outlet trough lined?

1 A. No.

2 Q. Are you -- now, you said that pond  
3 one north is retired, correct?

4 A. Yes.

5 Q. And is one north capped?

6 A. I haven't been at Will County in a  
7 couple of years. So I can't tell you that.

8 Q. Based off of your experience when  
9 you left Will County, was one north capped?

10 A. No, it was not.

11 Q. And do you know when they -- have  
12 they ceased to use one north as a flow-thru?

13 A. I'm not sure, no. I haven't been  
14 there.

15 Q. And when you left, were they still  
16 using it as a flow-thru?

17 A. I believe so.

18 Q. I'd like to discuss very quickly  
19 there was a time when pond one north overflowed,  
20 correct?

21 A. Yes.

22 Q. And the overflow went towards the  
23 Des Plaines -- Des Plaines River? Gosh. I never  
24 know now to pronounce that.



1 A. Des Plaines.

2 Q. Des Plaines. That's what I thought.

3 Okay. The overflow went to the Des Plaines River?

4 A. The pond leaked on the northside of  
5 the pond and went down to the sewage plant area  
6 where it pooled and a small amount went from the  
7 pooling area around the sewage treatment plant and  
8 then down towards the river.

9 Q. By leaked, what do you mean?

10 A. The pond level was high and it went  
11 over the berm of the pond and went downward  
12 towards the sewage treatment plant.

13 Q. Now, this was an unpermitted  
14 discharge, correct?

15 A. Yes, it was.

16 Q. I'd like to jump to one south. You  
17 mentioned that one south is retired, correct?

18 A. It's not being used. It was never  
19 used when I was there.

20 Q. Okay.

21 A. I don't know if I can use the word  
22 retired. I just know it wasn't used.

23 Q. And, to your knowledge, I guess  
24 based off of your time when you left Will County,

1 was anything in the pond at that time?

2 A. The pond, I assume, was full of  
3 fines from the unit one and unit two slag system.

4 Q. And are you aware of whether it  
5 still contains fines?

6 A. I'm not aware either way. I have  
7 not been there in a few years.

8 Q. And I just want to jump back to one  
9 north to make sure I covered that same question.

10 A. Sure.

11 Q. When you left Will County, was  
12 one -- did one north have any ash in it?

13 A. Yes, it did.

14 Q. And are you aware of whether it  
15 continues to have ash in it?

16 A. I'm not aware.

17 Q. And back to one south. To your  
18 knowledge when you left Will County, is one south  
19 capped?

20 A. It was not capped.

21 Q. And, to your knowledge, is it capped  
22 now?

23 A. I have no knowledge of that.

24 Q. I'd like to briefly discuss a couple

1 of ponds if you don't mind pulling out Exhibit  
2 18-D, which is the phase two site assessment for  
3 Will County. If you don't mind jumping, please,  
4 to Bates 5739. That should be a site plan,  
5 correct?

6 A. Okay. Yes.

7 Q. Now, I'd like you to take a look in  
8 the bottom left corner of the plant. You'll see  
9 something -- two ponds that are kind of sort of  
10 oddly shaped called pond one and pond two, do you  
11 see those?

12 A. Yes.

13 MS. GALE: I would object to the  
14 extent this is outside my direct. Outside the  
15 scope of the direct.

16 HEARING OFFICER HALLORAN: I'll  
17 allow latitude. Thank you. You may proceed.

18 MS. DUBIN: Thank you.

19 BY MS. DUBIN:

20 Q. Now, pond one and pond two, are you  
21 familiar with those ponds?

22 A. Yes.

23 Q. And what do you call those ponds?

24 A. We call them settling ponds or

1 actually when I was there they were called SO2  
2 ponds.

3 Q. And have they ever been referred to  
4 as spent slurry ponds, to your knowledge?

5 A. Not to my knowledge.

6 Q. Now, what did the -- did these ponds  
7 store any content when you were at Will?

8 A. Not when I was there, no.

9 Q. Did they store flue gas bi-product  
10 when you were there?

11 A. I'm unaware of that.

12 Q. Would you mind passing me -- yeah.  
13 So I'm going to hand you -- did you take a  
14 deposition in this matter?

15 A. Yeah.

16 Q. I'm going to hand you -- I'm going  
17 to hand you your deposition.

18 Now, you were deposed in this  
19 matter on February 20th, 2015, correct?

20 A. Yes.

21 Q. And you were sworn in to this  
22 deposition, correct?

23 A. Mm-hmm. What page am I looking for?

24 Q. If you don't mind turning to page 26

1 and then line 12 to 14. And actually you can jump  
2 to question 7 -- or line 7.

3 Q. I want to make use of a map,  
4 sir, just to make sure we are all talking about  
5 the same thing here. Do you see on that map where  
6 it refers to pond one and pond two at the bottom?

7 A. Yes.

8 Q. Are those the ponds that you  
9 were stating before were used for flue gas  
10 bi-product?

11 A. Yes.

12 A. Mm-hmm.

13 Q. Does this refresh your recollection?

14 A. Your question was, was I aware of  
15 any product in the ponds. I'm not aware of that.  
16 I'm aware of the use of the ponds historically,  
17 but I'm not aware of any material in the ponds. I  
18 think there's a distinction there.

19 Q. Mm-hmm. All right. I'd like to  
20 jump to --

21 A. We're done with that exhibit?

22 Q. Yes, sir. Now, when these ponds --  
23 now, you had a suspicion that there was an  
24 underground leak between those ponds, correct?

1           A.       Yes, I had a suspicion that the  
2 ponds never dried out, they just retained water  
3 and since we did not use the ponds, they were not  
4 part of any process in the plant, we found it to  
5 be curious that the pond levels kind of  
6 maintain -- they just didn't go down over time.

7           Q.       And have you seen any evidence of  
8 the flue gas bi-product being removed from the  
9 ponds?

10          A.       No.

11          Q.       So you didn't conduct any  
12 investigation to determine if there was a leak  
13 between the two ponds, correct?

14          A.       No. No.

15          Q.       And, to your knowledge, are these  
16 ponds capped?

17          A.       I have no knowledge of that. I have  
18 not been there in a couple of years. I haven't  
19 seen them.

20          Q.       And when you were at Will County,  
21 were those ponds capped?

22          A.       They were not.

23          Q.       And when you were at Will County,  
24 were those ponds lined?

1           A.        I'm not aware of a lining.

2           Q.        So you've seen no evidence of a  
3 liner for --

4           A.        No.

5           Q.        -- those ponds, correct?

6           A.        I'm not aware of a liner.

7           Q.        Now, you discussed the ponds at  
8 Waukegan yesterday, the east and west ash ponds?

9           A.        Yes.

10          Q.        Now, the bottom of the ponds you  
11 mentioned have -- I'm just asking to make sure  
12 that I'm not misstating your testimony.

13                    The bottoms of the ponds at  
14 Waukegan have a cushion layer, correct?

15          A.        That's my understanding, yes.

16          Q.        And for -- for now when I say the  
17 ponds at Waukegan, I'm only referring to the east  
18 and west ponds just for this sort of line of  
19 questioning.

20          A.        I understand.

21          Q.        So the bottom of the ponds at  
22 Waukegan you mentioned have a warning layer,  
23 correct?

24          A.        That's my understanding, yes.

1 Q. There is no geotextile installed  
2 between these layers, correct?

3 A. I'm not sure.

4 Q. Now, the -- the warning layer is  
5 made of sand, is that correct?

6 A. No, the warning layer is made of  
7 limestone, a white limestone.

8 Q. And then the -- the caution layer  
9 then is made of sand?

10 A. Yes, that's my understanding.

11 Q. And is it possible for the limestone  
12 layer to migrate through the sand layer?

13 MS. GALE: Objection. Calls for  
14 speculation.

15 HEARING OFFICER HALLORAN: He can  
16 answer if he's able.

17 BY THE WITNESS:

18 A. I don't have any sense of that at  
19 all.

20 BY MS. DUBIN:

21 Q. Now, there is HDPE liner installed  
22 on the bottom of the pond, correct?

23 A. The bottom and the sides of the  
24 pond, yes.



1 Q. And there -- is there anything else  
2 installed on the sides of the pond?

3 A. We have posts that are installed  
4 that denote the incline of the pond bank going  
5 upwards.

6 Q. And is there anything else?

7 A. No. That's all I can think of.

8 Q. So is there a cushion layer  
9 installed on the side of the ponds?

10 A. I'm not sure.

11 Q. And a warning layer?

12 A. I'm not sure.

13 Q. Now, has ash ever been in direct  
14 contact with the liner on the sides?

15 A. Yes.

16 Q. Now, I'd like to turn a little bit  
17 to inspections. You mentioned yesterday that part  
18 of your responsibilities are folks would report  
19 up -- if operators saw inspections, they would  
20 report up and -- or if they saw liner tears during  
21 inspections, they would report up and that report  
22 would reach you, correct?

23 A. Yes.

24 Q. And you also said that as part of

1 your CCA duties you were to report holes or tears  
2 in the liner below the water line, correct?

3 A. Yes.

4 Q. Now, when folks reported up to you,  
5 that's -- you consider that sort of a formal  
6 protocol?

7 A. Not really. It's -- they're  
8 supposed to, but in order to get the -- I don't  
9 make the repairs. Somebody else is responsible  
10 for the repairs. So they would generally go to  
11 both of us. I would be informed of a situation,  
12 but I would not be responsible for the repairs.

13 Q. Now, do you remember any damage in  
14 the -- to the east pond in 2013?

15 A. Maybe. Yes. Maybe. Was this in my  
16 deposition?

17 Q. It was.

18 A. Yes, there were some tears at that  
19 time.

20 Q. And do you know how many tears?

21 A. I'm not going to speculate. There  
22 were a couple, I think, yes.

23 Q. And do you know what part of the  
24 pond those tears --

1           A.       Generally, the tears occur above the  
2 water line on the sides of the pond. So that's  
3 probably as I remember where they might have been.

4           Q.       I'd like to turn please to  
5 Complainants' Exhibit 103. That should be the  
6 next exhibit on your table. If you don't mind  
7 taking a look at this e-mail, it's already been  
8 introduced into evidence. Whenever you're ready.

9           A.       One moment.

10          Q.       I'm sorry?

11          A.       I'll be with you in a moment.

12          Q.       Sure.

13          A.       Okay. I'm ready.

14          Q.       I just want to get a little bit of  
15 background on the incident discussed here.

16                    So in the bottom e-mail, it is  
17 sent from Wayne Alilla?

18          A.       Yes.

19          Q.       And where -- does he work at the  
20 Waukegan plant?

21          A.       At the time he did, yes.

22          Q.       Now, he mentions he is writing to  
23 Christopher Lux. "Chris, in a safety meeting with  
24 Todd, we discussed some possible rips in the east

1 ash pond and two rips in the west ash pond liner,"  
2 do you see where it says that?

3 A. Yes.

4 Q. Now, the rips -- one of the rips in  
5 the west ash pond was about five feet long,  
6 correct? And I'll mention it doesn't say that in  
7 the e-mail.

8 A. Possibly.

9 Q. And you mentioned in your deposition  
10 if you don't mind turning to page 87 of your  
11 deposition just to clarify since I know that was  
12 closer in time to what we're discussing now.

13 Lines 12 to 16. It says

14 Q. Let's go to the two rips in  
15 the west ash pond. Can you tell me a little bit  
16 more about those?

17 A. It is my understanding that  
18 there are two rips. One is about five feet long  
19 and the other one is two feet long.

20 MS. GALE: Can he please -- can the  
21 entire answer be read into the record?

22 HEARING OFFICER HALLORAN: Yes,  
23 sustained. Granted.

24

1 BY MS. DUBIN:

2 Q. "They're again visual and above the  
3 water line, although the pond right now is out of  
4 service. So there is no ash contact in this  
5 area."

6 Now, yesterday, you mentioned  
7 that it takes one to two weeks to fix liners, is  
8 that correct, or on average?

9 A. On average, it depends on the time  
10 of the year. If the weather is really cold -- I  
11 think the process is temperature dependent and it  
12 may take longer in those times of the year.

13 Q. Why is it -- what do you mean by  
14 temperature dependent?

15 MS. GALE: Objection to foundation.

16 HEARING OFFICER HALLORAN: Ms.  
17 Dubin?

18 BY MS. DUBIN:

19 Q. So you just mentioned to repair  
20 liner tears it's temperature dependent --

21 A. Mm-hmm.

22 Q. -- so what do you mean by  
23 temperature dependent?

24 A. The process by which the plastic is

1 repaired requires a certain temperature, some high  
2 temperatures and in the cold weather it's very  
3 difficult to achieve those temperatures and, thus,  
4 difficult to effect a repair.

5 Q. So what temperature is needed?

6 A. I'm not sure.

7 Q. And why -- why are higher  
8 temperatures necessary?

9 A. As I stated before, the process by  
10 which the repairs are made requires a high  
11 temperature and it's hard to do that when the  
12 temperatures are -- the ambient temperatures are  
13 really cold.

14 Q. And how long are you aware of any --  
15 what is the longest length of time in your  
16 experience at Waukegan you've seen a tear go  
17 unrepaired?

18 A. First you have to understand I'm not  
19 responsible for making the repairs. Chris Lux  
20 does that. So I cannot really speak  
21 authoritatively to that question.

22 Q. Liner tears are reported to you?

23 A. Yes, they are and we have a policy  
24 of repairing them as quickly as we can as soon as

1 possible.

2 Q. Now, when you were deposed in this  
3 matter, you mentioned that -- you were deposed in  
4 this matter February 20th, 2015, correct?

5 A. Yes.

6 Q. Do you remember there being liner  
7 tears at Waukegan at the time of your deposition?

8 A. What page are you on?

9 Q. We will head to page 79. Let me  
10 make sure that's where the discussion starts.  
11 Seventy-nine line 11. "Currently we have a couple  
12 small holes, maybe less than -- less three inches  
13 in diameter that exists in the east pond," does  
14 that refresh your recollection?

15 A. Yes.

16 Q. Now, was it your understanding that  
17 this was caused by a pump?

18 A. It was possibly caused by a pump. I  
19 don't know if it was categorically determined to  
20 be the case.

21 Q. Were you aware of any -- did anybody  
22 take -- undertake an investigation to figure out  
23 exactly what caused it?

24 A. I'm not aware of that.

1 Q. And there are no protocols when  
2 placing a pump to avoid liner damage, are there?

3 A. Generally we don't place pumps --  
4 well, we try to place pumps on the horizontal part  
5 of the pond. That's where the dewatering is  
6 needed, but I'm not aware of any protocol.

7 Q. What do you mean by the horizontal  
8 part of the pond?

9 A. That would be the base -- the floor  
10 of the pond.

11 Q. And you mentioned that dewatering is  
12 needed, why is it needed?

13 A. The bottom ash retains moisture.  
14 When you drain the pond and you start excavating  
15 the pond, you -- the moisture comes out of the ash  
16 and you have to continually dewater it to make  
17 sure that you can deliver a dry product from the  
18 excavator into the truck.

19 Q. And is this at both ponds in  
20 Waukegan?

21 A. Yes.

22 Q. So you mentioned -- do you remember  
23 when these holes were fixed?

24 A. I don't remember. I assume roughly



1 the same time as the other ones. We probably  
2 bring the vendor out at the same time, but I don't  
3 have a -- since I'm not responsible for the  
4 repairs, it's hard for me to answer that question.

5 Q. Now, feel free to read your  
6 deposition to verify, but at the time of your  
7 deposition you thought that it might not be until  
8 the middle of March at the earliest, is that  
9 correct?

10 A. Yes.

11 Q. Now --

12 MS. GALE: Objection. Misstates  
13 testimony in his deposition.

14 MS. DUBIN: Let me take a look.

15 HEARING OFFICER HALLORAN: Sustained  
16 for now.

17 MS. DUBIN: You're right. I  
18 apologize.

19 BY MS. DUBIN:

20 Q. If you jump to page 80 lines 11 and  
21 12 and I guess for context we'll start at 9.

22 Q. Do you know those have not  
23 yet been prepared, is that correct?

24 A. No, we are having --

1 probably looking at repairing them in the middle  
2 of March.

3 So --

4 MS. GALE: Keep reading.

5 BY MS. DUBIN:

6 Q. "The issue is we have to be above a  
7 certain temperature to perform the repairs. The  
8 chemicals that they use for this kind of repair  
9 only work above a certain temperature."

10 A. Which I just stated.

11 Q. Yeah. So there was vegetation  
12 growing on these holes, is that correct?

13 MS. GALE: Objection. Vague.

14 HEARING OFFICER HALLORAN:

15 Sustained.

16 BY MS. DUBIN:

17 Q. It might be easiest just to jump to  
18 your deposition to kind of hear your statement.  
19 So page 79 and I'll read the entire -- the entire  
20 response question starting at line 14.

21 Q. Where in the east pond are  
22 these located?

23 A. I was told they exist. I  
24 have never seen them. I was also told they are

1 above the water line. Again, I've been told they  
2 have vegetation growing on them.

3 Is that correct?

4 A. That's what the deposition says,  
5 yes.

6 Q. And how does vegetation grow on a  
7 liner tear?

8 MS. GALE: Objection. Foundation.

9 HEARING OFFICER HALLORAN: Ms.  
10 Dubin? No. He can answer if he's able.

11 BY THE WITNESS:

12 A. It's possible there is material  
13 underneath the liner that would support a growth.  
14 We have vegetation that grows on the ash, too,  
15 around the -- on the sides as well. I want to  
16 remind you also that I was told about these  
17 things. I never visually saw them.

18 BY MS. DUBIN:

19 Q. If you don't mind looking at  
20 Complainants' Exhibit 105. It's already been  
21 introduced into evidence and it should be right in  
22 front of you. I can make sure.

23 A. I have it.

24 Q. I'll give you a moment to review it.

1 Whenever you're ready, but no rush.

2 A. I'm ready.

3 Q. I'd like you to take a look at the  
4 second e-mail down on the first page and it's an  
5 e-mail sent from Christopher Lux on Monday, March  
6 6th, 2015, do you see that?

7 A. Yes.

8 Q. And were you one of the people that  
9 he sent this to?

10 A. Yes.

11 Q. Now, this e-mail states that Hayes  
12 and CAAW will begin -- do you pronounce it CAAW or  
13 C-A-A-W? If you don't know, no problem. I just  
14 want to make sure.

15 A. I don't know.

16 Q. Sure. "So Hayes and CAAW will begin  
17 ash pond liner repairs this Friday pending a  
18 precipitation event. If the repairs are not  
19 completed on Friday, a short day of repair may be  
20 needed on Saturday."

21 Now, are these -- I just wanted  
22 to see might this refresh your recollection about  
23 whether or not the repairs -- or the tears that we  
24 discussed during your deposition are the ones

1 being referred to here?

2 A. It's possible. I don't see an  
3 itemized listing of the different things they're  
4 repairing. So it's hard for me to speak  
5 specifically to that, but this is definitely a  
6 time when they would have done it.

7 Q. We'll set that exhibit aside. You  
8 also said yesterday that it's been about three to  
9 four years since you were aware of a liner tear  
10 occurring?

11 MS. GALE: Objection.  
12 Mischaracterizes the testimony.

13 HEARING OFFICER HALLORAN: Could you  
14 read the question back, Mr. Brickey, please.

15 (Whereupon, the record was read  
16 as requested.)

17 HEARING OFFICER HALLORAN: Ms.  
18 Dubin?

19 BY MS. DUBIN:

20 Q. Do you know when the most recent  
21 liner tear occurred?

22 A. I don't. I think what I was trying  
23 to convey yesterday was it's been a couple of  
24 years since I've heard of any tears. Obviously

1 there were tears we referred to in the deposition,  
2 but in 2017 and part of '16 I don't remember  
3 hearing about any repairs or tears.

4 Q. Between now and your deposition, can  
5 you remember any tears occurring?

6 A. Possibly. It's possible, yes.

7 Q. I'd like to place in front of you  
8 Complainants' Exhibit -- Complainants' Exhibit  
9 720.

10 (Document marked as  
11 Complainants' Exhibit No. 720  
12 for identification.)

13 MS. DUBIN: Now, Ms. Gale and I came  
14 to an agreement about how the exhibit would be  
15 organized just because it was a Midwest Gen  
16 produced exhibit and we wanted to make sure it was  
17 being characterized in a manner that they were  
18 comfortable with as far as how it was put  
19 together.

20 HEARING OFFICER HALLORAN: Thank  
21 you, Ms. Dubin.

22 BY MS. DUBIN:

23 Q. Now, I'd like you to first -- I'll  
24 give you a moment to review it.

1 MS. GALE: Can we go off the record,  
2 please?

3 HEARING OFFICER HALLORAN: Sure.

4 (Whereupon, a break was taken  
5 after which the following  
6 proceedings were had.)

7 HEARING OFFICER HALLORAN: We're  
8 back on the record. The parties have come to an  
9 agreement regarding Complainants' Exhibit 720 and  
10 I guess you'll mark it later, but we're just going  
11 to be talking about Bates stamp 60892, correct?

12 MS. GALE: And keep going, do you  
13 want to identify them all for the record?

14 MS. DUBIN: Sure. So did you  
15 mention 60892?

16 MS. GALE: I want to take that out.

17 MS. DUBIN: So we're going to be  
18 discussing 60899, 60900, 60901 and 60902.

19 HEARING OFFICER HALLORAN: Okay.

20 BY MS. DUBIN:

21 Q. If you don't mind reviewing this and  
22 let me know when you're ready.

23 A. All right. I'm ready.

24 Q. Thank you. So what are the

1 documents that I've placed in front of you?

2 A. These documents are a completed copy  
3 of what we call a CCR ash inspection.

4 Q. And would you mind turning to the  
5 second page in this packet, which is 60 -- 60900  
6 and would you mind, please, jumping to the bottom  
7 of the page in the rectangle?

8 A. Uh-huh.

9 Q. Is that your name where it states  
10 operator name?

11 A. Yes.

12 Q. And this is dated October 28th,  
13 2015, is that correct?

14 A. Yes.

15 Q. Did you fill out this -- this  
16 inspection form?

17 A. Yes.

18 Q. If you don't mind, please, looking  
19 at number 16 on this page that says "Visible  
20 damage to the pond liners." The box under -- for  
21 the east ash pond the box for yes is checked,  
22 correct?

23 A. That's correct.

24 Q. And would you mind, please, if you



1 remember, describing what this damage was?

2 A. I'm having a hard time recalling,  
3 but I think it was a rip or a tear.

4 Q. And number 17, it says "If you did  
5 check a box in 16, describe in detail (pond  
6 specific location, size, et cetera)," would you  
7 mind reading what it says in box 17?

8 A. "A corner of northeast some damage.  
9 No water in the pond."

10 Q. And do you remember -- does this box  
11 include the size of the tear?

12 A. No.

13 Q. Do you remember the size of the  
14 tear?

15 A. I don't remember.

16 Q. I'd like to now jump --

17 A. I just say there was no water in the  
18 ponds. There was no issue with any contact. So  
19 it was a pond waiting to be cleaned.

20 Q. I'd like to jump to the next page,  
21 please. You've already reviewed this one as well?

22 A. This is 01?

23 Q. Yes, 60901 and 60902.

24 A. Okay.

1 Q. Go ahead. So I'd like you to jump  
2 to the very back of the packet 60902.

3 Do you see at the bottom of the  
4 page what the date of this is?

5 A. I see a date. It's -- is it  
6 11/1/15?

7 Q. That's my understanding of the date.

8 A. It's not totally clear.

9 Q. Now, would you mind looking in box  
10 16 underneath east ash pond, there is a box  
11 checked yes, do you see that?

12 A. I do see that.

13 Q. Now, do you believe that this is --  
14 is it your understanding that this tear is the  
15 same tear that was discussed on October 28th?

16 A. It should be. It could be. Let's  
17 put it that way.

18 Q. And --

19 A. Again, in an out-of-service ash pond  
20 with no water.

21 Q. And are you able to -- so the  
22 following box, box 17, what does that box say if  
23 you're able to read it?

24 A. It looks like east basin northeast

1 corner on return to pump house.

2 Q. And does it state the size of that  
3 tear?

4 A. No.

5 Q. And so this was, I guess, within  
6 under three years, correct?

7 A. Uh-huh.

8 Q. If you don't --

9 MS. DUBIN: Complainants move to  
10 enter exhibit -- Complainants' Exhibit 720.

11 HEARING OFFICER HALLORAN: Ms. Gale?

12 MS. GALE: No objection.

13 HEARING OFFICER HALLORAN: Thank  
14 you, Ms. Gale. Complainants' Exhibit 620 is  
15 admitted.

16 MS. DUBIN: It's actually 720, sir.

17 HEARING OFFICER HALLORAN: I'm  
18 sorry. 720.

19 MS. DUBIN: No problem.

20 BY MS. DUBIN:

21 Q. We're now placing in front of you  
22 Complainants' Exhibit 721.

23

24

1 (Document marked as  
2 Complainants' Exhibit No. 721  
3 for identification.)

4 MS. DUBIN: Again, Ms. Gale, and I  
5 communicated about this exhibit as well.

6 BY MS. DUBIN:

7 Q. So I'll give you a moment to review  
8 this.

9 A. Okay. Go ahead.

10 Q. This is another inspection  
11 checklist, is that correct?

12 A. Yes.

13 Q. Now, would you mind please jumping  
14 to the second page Bates number -- for the record,  
15 Complainants' Exhibit 721 is Bates number 60942  
16 and 60943 and would you mind taking a look at the  
17 60943 and if you don't mind looking at the bottom  
18 this is dated December 23rd, 2015, is that  
19 correct?

20 A. That's correct.

21 Q. Now, are you -- this is within the  
22 last three years, correct?

23 A. Yes.

24 Q. Now, if you look at line 16, there

1 is a box that is checked yes under east ash pond  
2 and just for the record it looks like there is a  
3 no that is scribbled out and then a yes with an X  
4 mark. If you don't mind looking at box 17, it  
5 says "If yes --

6 MS. GALE: Objection. He hasn't had  
7 a chance to answer the question.

8 MS. DUBIN: Sure.

9 BY THE WITNESS:

10 A. I guess it could be checked yes. I  
11 think it's undetermined I suppose, but, yeah, it's  
12 possible it's checked yes. It could be checked  
13 no. Let's say this, there's two checks on the  
14 page. I'm not sure which is the proper one.

15 BY MS. DUBIN:

16 Q. In line 17, it says "If yes,  
17 describe in detail." And do you see that area  
18 scribbled out?

19 A. Yes.

20 Q. Is there any -- do you see any  
21 explanation on this checklist of which box is  
22 checked because it appears unclear?

23 A. I think it's undetermined what this  
24 page is really saying with all the scribble out.

1 I'm not sure we're going to -- I'm just not sure  
2 what this thing really states at some point.

3 Q. Do you remember any liner tear at  
4 this time or during this time December 23rd, 2015?

5 A. I do not. I don't know when the  
6 tear was effected from the previous October,  
7 November one. So I can't speak to this.

8 Q. Okay.

9 MS. DUBIN: Complainants move to  
10 enter Complainants' Exhibit 721.

11 HEARING OFFICER HALLORAN: Ms. Gale?

12 MS. GALE: No objection.

13 HEARING OFFICER HALLORAN: Thank  
14 you. Complainants' Exhibit 721 is admitted.

15 MS. DUBIN: Now, I'd like to place  
16 in front of you Complainants' Exhibit 722.

17 HEARING OFFICER HALLORAN: Thank  
18 you.

19 (Document marked as  
20 Complainants' Exhibit No. 722  
21 for identification.)

22 BY MS. DUBIN:

23 Q. I'll give you a moment to review it.  
24 Just let me know when you're ready.

1           A.       I'm ready.

2           Q.       So what is this document?

3           A.       This is a computer printout of an  
4 ash pond inspection -- an incomplete ash pond  
5 inspection I might add that was performed on June  
6 18th of '16.

7           Q.       And do you see the second line from  
8 the bottom, it says "East ash pond visible  
9 liner -- visible damage to the pond liner" and  
10 then yes, correct?

11          A.       Yes, I see that.  Again, this is --  
12 there should be 30 items, at least 30 items on  
13 this page, 29 or 30, 31 items on there and this is  
14 an incomplete inspection.

15          Q.       Do you know why the document is  
16 incomplete?

17          A.       I do not know why.  I mean, I can  
18 speculate which I don't like to do, but it's  
19 possible the operator was called into the plant  
20 and had to stop the inspection or it's possible  
21 the computer that she was working with didn't  
22 work.  I can't -- I don't know.  But those are two  
23 likely explanations.

24          Q.       We can -- and do you remember any

1 liner tear at the time of this inspection?

2 A. No, I do not.

3 MS. DUBIN: We can set aside  
4 Complainants' Exhibit 722. I'll withdraw it.

5 HEARING OFFICER HALLORAN: Thank  
6 you.

7 BY MS. DUBIN:

8 Q. Now, part of your job concerns  
9 meeting environmental regulations at Waukegan,  
10 correct.

11 A. Yes.

12 Q. I'd like you, please, to take a look  
13 at Complainants' Exhibit 106, is that in front of  
14 you?

15 A. Yes, it is.

16 Q. I'll give you a moment to review it  
17 and, for the record, this is an exhibit that has  
18 already been entered into evidence.

19 A. Give me a moment.

20 Q. Yeah. Absolutely.

21 A. I'm ready.

22 Q. Now, I'd like you to -- did your  
23 name appear on any of these e-mails?

24 A. Yes.



1 Q. So your name appears on the top  
2 e-mail, correct?

3 A. Yes, it does.

4 Q. Friday, September 12th, 2014?

5 A. Yes.

6 Q. For the record, this is Bates page  
7 4458 that we're looking at. Do you remember the  
8 incident being described in this e-mail?

9 A. I do.

10 Q. And there were about six piles of  
11 coal ash -- there were six piles stacked here,  
12 correct?

13 A. It said several piles in the e-mail.

14 Q. Do you remember how many piles?

15 A. I don't.

16 Q. In your deposition -- I guess what  
17 is -- I guess --

18 A. I think six and several are pretty  
19 close.

20 Q. Do you remember how big in diameter  
21 they were?

22 A. Probably five, six feet.

23 Q. For the sake of time, we'll just  
24 kind of keep plugging along.



1 on the ground?

2 A. Right. So if you go back to the  
3 e-mail at that time, we were in a large  
4 environmental -- rerouting ductwork on unit seven  
5 to relocate the precipitator from hot to cold.  
6 And as a result of doing this, we were cleaning  
7 out a lot of ductwork to do that and we had  
8 contracted the entire job to Hayes Mechanical and,  
9 in turn, they subcontracted work to Veolia to do  
10 cleaning, to clean the areas which they were  
11 working on which was this ductwork and apparently  
12 they did not relay the message or the direction to  
13 their subcontractor about our policy of not  
14 dumping fly ash on the ground. So this is a  
15 response to that issue that they did not respond  
16 well to.

17 Q. Thank you.

18 A. I need to say also that the ash was  
19 removed very quickly after the discovery and put  
20 in the boxes, which was the policy and is the  
21 policy right now.

22 Q. And do you remember how long it was  
23 there prior to discovery?

24 A. I can't speak to that. I can't

1 really speak to it. A couple of days maybe. I  
2 don't know.

3 Q. We'll jump now to dredging. You  
4 mentioned dredging yesterday. Now, to your  
5 knowledge, are the practices at Will and Waukegan  
6 identical or have they been in the past?

7 A. I believe so. We use the same type  
8 of equipment in both places and by the same  
9 contractor.

10 Q. And --

11 A. By the way, that contractor  
12 sometimes subcontracts his work, but generally  
13 it's the same process.

14 Q. And you would describe that as heavy  
15 equipment, is that correct?

16 A. I don't know what heavy means. It  
17 was a front end loader and some trucks all with  
18 rubber tires.

19 Q. And are these dump trucks?

20 A. Yes. Most likely they would be  
21 dumping type trucks, yes.

22 Q. How large are these dump trucks?

23 A. Oh, boy. I possibly said this in a  
24 deposition. Three or four cubic yards maybe. I

1 don't know. In that range.

2 Q. And you said that there is a ramp  
3 installed and used for dredging, is that correct?

4 A. Yes.

5 Q. And what exactly is it -- what goes  
6 down the ramp?

7 A. Trucks.

8 Q. The dump trucks?

9 A. And also the front end loader.  
10 That's how you access the pond.

11 Q. And I just want to clarify from  
12 yesterday. So you mentioned getting one-third and  
13 I want to mention what that one-third is. Do the  
14 trucks go down the entire length of the ramp?

15 MS. GALE: Objection to vague.

16 HEARING OFFICER HALLORAN: Yeah,  
17 sustained. Rephrase. Thank you.

18 MS. DUBIN: Sure.

19 BY MS. DUBIN:

20 Q. Do the trucks -- dump trucks -- the  
21 ramp leads you to the bottom of the pond, is that  
22 correct?

23 A. That's correct.

24 Q. Do the dump trucks reach the bottom

1 of the pond?

2 A. Yes.

3 Q. And do they get about a third of the  
4 way into the pond?

5 A. Right, they try to meet up at some  
6 point with the front end loader, which has a  
7 bucket. So they can load the truck back into the  
8 trailer or into the compartment of the truck.

9 Q. Just to make sure it's clear. So  
10 you mean one-third of the way along the bottom of  
11 the pond?

12 A. Yes.

13 Q. Now, you need to pump water out  
14 during ash removal, correct?

15 A. Yes.

16 Q. And during the course of removal,  
17 you've used pumps to dewater, correct?

18 A. Yes.

19 Q. And you've used pumps in various  
20 areas to dewater, is that correct?

21 A. Yes.

22 Q. And when you mentioned -- by various  
23 areas, how does the water kind of get to  
24 various -- various areas? And I can clarify.

1 These -- does the water when it -- seep from one  
2 area of the pond to another area of the pond?

3 MS. GALE: Vague. Objection.

4 Vague.

5 HEARING OFFICER HALLORAN: Rephrase.

6 MS. DUBIN: Sure.

7 BY MS. DUBIN:

8 Q. Is the -- when you use the pumps to  
9 dewater, do you dewater the entire pond?

10 A. No, you -- no, you don't.

11 Q. And so when you mentioned that you  
12 dewater various areas, that means you kind of --  
13 you would dewater one point and then a different  
14 point?

15 A. Right. When you disturb the ash in  
16 the pond, you tend to get water coming out of that  
17 area. So that's why you have to move a pump and  
18 dewater the area.

19 Q. And a lot of the time after you pump  
20 water out of the ash, the water will continue to  
21 fill in, correct?

22 MS. GALE: Objection. Vague.

23 HEARING OFFICER HALLORAN: I think  
24 you can rephrase that, Ms. Dubin. Thank you.

1 BY MS. DUBIN:

2 Q. So after you've pumped water out of  
3 an area, does the water reappear?

4 A. Generally not. It's usually trapped  
5 by the ash itself. So when that area is pumped  
6 down and loaded into trucks and you go to the next  
7 area, it will -- and you disturb that area, then  
8 you will see water again. It's trapped within the  
9 ash or around the ash I should say.

10 Q. Now, I'd like to discuss drainage  
11 systems with respect to the relined ponds.

12 Are you familiar with the  
13 practice of installing a drainage system beneath  
14 pond liners?

15 A. I understand that could take place,  
16 yes.

17 Q. And a drainage system contains  
18 riprap, correct?

19 MS. GALE: Objection. Foundation.

20 HEARING OFFICER HALLORAN: I'm  
21 sorry, Ms. Gale?

22 MS. GALE: I'm sorry. Withdrawn.

23 BY THE WITNESS:

24 A. I -- I'm not an expert on underdrain



1 systems. I guess they could, but I really don't  
2 know.

3 MS. DUBIN: And could we go off the  
4 record for just 30 seconds?

5 HEARING OFFICER HALLORAN: Sure.

6 (Whereupon, a break was taken  
7 after which the following  
8 proceedings were had.)

9 HEARING OFFICER HALLORAN: We're  
10 back on the record.

11 MS. DUBIN: We're almost finished.

12 HEARING OFFICER HALLORAN: Thank  
13 you.

14 BY THE WITNESS:

15 A. May I qualify my answer? My job as  
16 it's been and continues to be is as an observer of  
17 ash ponds, not a direct participant in the design  
18 and relining, even cleaning. I just see these  
19 things happening because I drive by, but I'm not  
20 involved in the design or the construction or the  
21 installation of liners or underdrain systems.

22 BY MS. DUBIN:

23 Q. So you've -- so is there a drain  
24 system in the east ash pond at Waukegan?

1           A.        I'm not sure.

2           Q.        And is there a drain system beneath  
3 the liner in the west ash pond?

4           A.        I'm not sure.

5           Q.        And during your time at Will County,  
6 was there a drain system located beneath pond 3S?

7           A.        I don't think so.

8           Q.        And during your time at Will  
9 County -- and are you aware of any drain system  
10 being there now?

11          A.        I'm not sure of that.

12          Q.        And was there a drain system  
13 installed beneath the liner at pond 2S at Will  
14 County?

15          A.        Probably not.

16          Q.        Okay. Just two more questions about  
17 exhibits. The first one is Exhibit --  
18 Respondent's Exhibit 605. I have a brief question  
19 about that.

20          A.        605 right here.

21                    MS. GALE: Yeah, it's right here.

22                    MS. DUBIN: Perfect. Sorry about  
23 that.

24

1 BY MS. DUBIN:

2 Q. And are you familiar with this  
3 document?

4 A. May I look at it?

5 Q. Yeah, absolutely.

6 A. It's possible I have it. I don't  
7 really remember this.

8 Q. If you don't mind taking a look at  
9 page 23620.

10 A. Yes.

11 Q. You'll see a table there.

12 A. Mm-hmm.

13 Q. Would you mind taking a look at the  
14 bottom line of the table.

15 A. Sure. I see the bottom line.

16 Q. Your name appears on the bottom line  
17 of the table?

18 A. Yes.

19 Q. And so you were involved in this  
20 memo, correct?

21 MS. GALE: Objection.

22 Mischaracterizes the document.

23 HEARING OFFICER HALLORAN: Rephrase.

24

1 BY MS. DUBIN:

2 Q. What was your involvement in this  
3 project?

4 A. Just as a contact. I was the  
5 licensed wastewater operator in Will County and  
6 the ponds are part of -- licensed part of the  
7 system. So I was a subject matter expert in their  
8 use.

9 Q. And so they spoke with you -- they  
10 got information from you when writing this memo?

11 A. Who is they?

12 Q. The authors of the memo.

13 A. I don't remember talking to them.

14 Q. Do you know why you were listed on  
15 the -- in this memo?

16 A. As I stated before, I was the  
17 licensed wastewater operator, the NPDES permit  
18 operator, there and I, as such, was a subject  
19 matter expert in their use.

20 Q. And I'd like to now just turn to one  
21 more exhibit and this is Complainants' Exhibit  
22 264.

23 HEARING OFFICER HALLORAN:

24 Complainants' exhibit?

1 MS. DUBIN: Complainants' Exhibit  
2 264. This is our last exhibit, just a couple more  
3 questions.

4 HEARING OFFICER HALLORAN: No,  
5 that's fine. I just didn't hear it.

6 (Document marked as  
7 Complainants' Exhibit No. 264  
8 for identification.)

9 BY THE WITNESS:

10 A. Yes.

11 BY MS. DUBIN:

12 Q. So I'd like you please to take a  
13 look at page 14527.

14 A. All right.

15 Q. Now, to the left of the -- now, this  
16 is a drawing -- or representation of Waukegan, is  
17 that correct?

18 A. Yes.

19 Q. And the area with the hashmarks, is  
20 it your understanding that those are the east and  
21 west ash ponds at Waukegan?

22 A. They look to be that way, yes.

23 Q. Now, if you go to the left of those  
24 ponds, you'll see a circle drawn in this figure,

1 do you see that?

2 A. Is it like a handwritten circle?

3 Q. Yes, it's handwritten.

4 A. Sure. I see that.

5 Q. Do you know what this circle was  
6 meant to signify?

7 A. No.

8 Q. Is it your understanding that this  
9 is a circle that is in the area of the -- where  
10 you've seen the former slag/fly ash storage area  
11 at Waukegan?

12 A. Can you restate that?

13 Q. Sure. Would you mind -- where  
14 generally is the -- on this map is the former  
15 slag/fly ash storage area?

16 A. Again, from a historical basis, that  
17 area to the west of the west basin was used as a  
18 slag retention area.

19 MS. DUBIN: Mind if I have just  
20 30 -- go off the record for 30 seconds and then  
21 I'll be finished.

22 HEARING OFFICER HALLORAN: Okay.

23 Thank you.

24 MS. DUBIN: Thank you.

1 HEARING OFFICER HALLORAN: Off the  
2 record.

3 (Whereupon, a break was taken  
4 after which the following  
5 proceedings were had.)

6 HEARING OFFICER HALLORAN: We're  
7 back on the record.

8 BY MS. DUBIN:

9 Q. Now, if you don't mind looking at  
10 page 14528. Do you see a circle around the east  
11 and west ash pond and a little bit beyond those  
12 drawn?

13 A. Yes, I see that circle.

14 Q. Do you know if this circle is meant  
15 to signify the extent of the ash pond in 1961?

16 MS. GALE: Objection. Foundation.

17 MS. DUBIN: Sure.

18 HEARING OFFICER HALLORAN: Go ahead.  
19 Sustained.

20 BY MS. DUBIN:

21 Q. If you don't mind taking a look at  
22 the bottom right-hand corner at the title of this,  
23 it says 1961 aerial photo, correct?

24 A. Yes.

1           Q.       So is it your understanding that the  
2 circle drawn here is meant to signify where ash is  
3 located onsite?

4           MS. GALE:   Same objection.  
5 Foundation.

6           HEARING OFFICER HALLORAN:   He can  
7 answer if he is able.

8 BY THE WITNESS:

9           A.       I guess it's possible. I don't know  
10 what their intents were. I can't -- I don't know  
11 what they thought, but it's possible. It's  
12 interesting to see the Boiler manufacturer and the  
13 Tannery there, too, isn't it.

14           MS. DUBIN:   No further questions.

15           HEARING OFFICER HALLORAN:   Thank  
16 you.

17           MS. DUBIN:   Thank you for your time.

18           HEARING OFFICER HALLORAN:   Thank  
19 you. Do you need a moment, Ms. Gale?

20           MS. GALE:   Just a moment.

21           HEARING OFFICER HALLORAN:   Sure.  
22 Let's go off the record.

23

24



1 (Whereupon, a break was taken  
2 after which the following  
3 proceedings were had.)

4 HEARING OFFICER HALLORAN: We're  
5 back on the record, Ms. Gale.

6 R E D I R E C T E X A M I N A T I O N  
7 BY MS. GALE

8 Q. Mr. Veenbaas, you're almost  
9 finished. Ms. Dubin asked you a few questions  
10 about the flow-thru at pond 1N, do you recall  
11 that?

12 A. Yes.

13 Q. Now, that flow-thru, is that allowed  
14 by the NPDES permit?

15 A. Yes, it was still part of the path  
16 and it was submitted in the permit, yes.

17 Q. And you mentioned an outlet trough  
18 and what was that outlet trough made of?

19 A. Concrete.

20 Q. So it's all concrete?

21 A. Yes.

22 Q. So that's a liner?

23 A. Yes. Maybe yes.

24 Q. And then you discussed the overflow

1 from pond 1N, do you recall that?

2 A. Yes.

3 Q. Did the station notify the agency?

4 A. Yes, we did. We had to write a  
5 letter of noncompliance for an unpermitted  
6 discharge.

7 Q. To your recollection, any response  
8 from the agency?

9 A. No.

10 Q. To your recollection, any violation  
11 notice in front of the agency?

12 A. None.

13 Q. I want to go to the SO2 ponds that  
14 were discussed, do you recall that conversation?

15 A. Yes.

16 Q. I think you said they were not used  
17 when you were there, do you remember that?

18 A. Yes.

19 Q. And Ms. Dubin pointed out some pages  
20 of your deposition. I believe she pointed out  
21 pages 26 and 27. I want you to go back to page  
22 20. And can you please read to yourself on page  
23 20 starting at line 18 all the way down to line --  
24 page 21 line 12.

1 A. All right.

2 Q. All right. So does that refresh  
3 your recollection?

4 A. Yes.

5 Q. Were those flue gas scrubber ponds  
6 ever used?

7 A. I can't say. I mean, they were not  
8 used when I was there.

9 Q. They were not used when you were  
10 there. And did you see any material in those that  
11 looked like flue gas scrubber bi-product?

12 A. I don't even know what that looks  
13 like, but, no, I didn't see any material in there.

14 Q. And so just -- and I think you said  
15 in your deposition on line 5 through line 8.

16 Q. So by 1999, they were no  
17 longer in use?

18 A. Well, before that even, yes.

19 Q. You don't know when they  
20 stopped being used?

21 A. No.

22 So they were -- they were --  
23 they weren't used before you arrived at Will  
24 County, were they?

1 A. Not that I know of, no.

2 Q. Okay.

3 A. Basically what they were, they  
4 were -- they stocked them with fish and people  
5 used to fish in them. That's how I know they were  
6 closed, but they had really nice bass in them.

7 Q. So could they more likely be  
8 natural?

9 A. It's possible, yes.

10 Q. So if they were natural, would there  
11 be a reason to line them?

12 A. Probably not.

13 MS. DUBIN: Objection.

14 HEARING OFFICER HALLORAN: Ms.  
15 Dubin?

16 MS. DUBIN: That's okay. He already  
17 answered.

18 BY MS. GALE:

19 Q. I now want to flip to the discussion  
20 you had on page 79 of your deposition. Ms. Dubin  
21 asked you lines 14 through 18 and I'm just going  
22 to read into the record lines 19 and 20 to  
23 continue it. "Over the water lines, above the  
24 water lines," is that your recollection?

1 A. Yes.

2 Q. So was that -- were those areas in  
3 contact with any water?

4 A. No, they were not contacted with  
5 water. They were above the water line.

6 Q. And just to confirm we were talking  
7 about a couple of small holes that were discussed  
8 in the deposition that were less than three  
9 inches?

10 A. Yes.

11 Q. Mr. Veenbaas, when you say you are  
12 not aware of something, you're not aware either  
13 way, correct?

14 A. Right.

15 Q. So you simply have no knowledge when  
16 you say that?

17 A. Yes.

18 Q. And the tears Ms. Dubin asked you  
19 about in the exhibits introduced today, were they  
20 all repaired?

21 A. Yes. As far as I know they were,  
22 yes.

23 Q. Were they all above the water line?

24 A. Yes, they were all above the water

1 line.

2 Q. And they were all above ash?

3 A. Yes, they were.

4 Q. So where were they again? Remind  
5 us.

6 A. They were above the water line,  
7 above the ash line.

8 Q. Towards the top of the pond?

9 A. Towards the top near the road, that  
10 circle on the ponds.

11 Q. If they were near the road, why  
12 would a tear occur up at the top?

13 A. It's a possibility of a snow plow  
14 hitting them. Possibility of a truck or something  
15 running wide on the road and damaging them that  
16 way. It's speculation.

17 Q. Sure. When a pond is out of  
18 service, is there less concern about a tear  
19 because it's not being in use?

20 A. Yes, if you don't have any water  
21 involved and there is no contact with water.

22 Q. You were asked about a couple  
23 inspection sheets that were introduced here.

24 At Waukegan, how often do you

1 ask those inspections -- the CCR inspections to  
2 occur?

3 A. We like to have them done three  
4 times a week. The minimum is one. That's by law,  
5 but we try to do more than that just to make sure  
6 we have a good sense of what is going on with the  
7 ponds.

8 Q. And estimating since the CCR rules  
9 started requiring inspections, about how many  
10 sheets of inspections do you have in your  
11 operating record?

12 A. I would say several hundred, I  
13 guess.

14 Q. Several hundred?

15 A. Yeah.

16 Q. Close to thousands?

17 A. Maybe, yes.

18 Q. And I believe you were asked a  
19 couple of questions about dredging.

20 Just to clarify when you  
21 observed the contractor dredging, do they stay  
22 away from the sides?

23 A. Yes. Again, as I stated in my  
24 testimony, we have pylons or poles that denote

1 where the incline going upwards from the bottom of  
2 the pond is and the contractors stay away from the  
3 sides because they know where that pole -- where  
4 the incline starts.

5 MS. GALE: Nothing further.

6 HEARING OFFICER HALLORAN: Thank  
7 you, Ms. Gale. Ms. Dubin?

8 MS. DUBIN: I do have just a couple  
9 of follow-up questions.

10 R E C R O S S E X A M I N A T I O N

11 BY MS. DUBIN

12 Q. First, you mentioned troughs being  
13 lined with concrete. Can fluid permeate through  
14 the concrete?

15 MS. GALE: Objection. Foundation.

16 HEARING OFFICER HALLORAN: Ms.  
17 Dubin?

18 BY MS. DUBIN:

19 Q. Is there any fluid that flows  
20 through the concrete?

21 MS. GALE: Same objection.

22 HEARING OFFICER HALLORAN:

23 Overruled. You may answer if you're able.

24



1 BY THE WITNESS:

2 A. If you're saying were there cracks  
3 in the concrete, no, there were not.

4 BY MS. DUBIN:

5 Q. Is concrete permeable?

6 MS. GALE: Objection. Foundation.

7 HEARING OFFICER HALLORAN: He can  
8 answer if he's able. Overruled.

9 BY THE WITNESS:

10 A. In my world, it's impermeable.

11 BY MS. DUBIN:

12 Q. And are you aware of any ash ponds  
13 being lined with concrete?

14 MS. GALE: Objection. Foundation.

15 HEARING OFFICER HALLORAN: I don't  
16 know about that. I think it's vague. Ms. Dubin?

17 BY MS. DUBIN:

18 Q. Is -- is concrete used as a material  
19 for lining ash ponds?

20 MS. GALE: Objection. Vague.

21 BY MS. DUBIN:

22 Q. To your knowledge.

23 MS. GALE: Anywhere?

24 HEARING OFFICER HALLORAN:

1 Sustained.

2 BY MS. DUBIN:

3 Q. Are you aware of any pond -- ash  
4 ponds that are lined with concrete?

5 MS. GALE: Asked and answered and  
6 vague.

7 HEARING OFFICER HALLORAN: I didn't  
8 hear the asked and answered. Can you -- if he can  
9 answer, he can answer.

10 BY THE WITNESS:

11 A. I don't know what your definitions  
12 are. I mean, if you were to look at poz-o-pac,  
13 that could be a concrete-like substance, but it's  
14 not. It's a trademark substance, but it looks  
15 like concrete, but we have used poz-o-pac in our  
16 ash ponds at Will County and other places.

17 BY MS. DUBIN:

18 Q. If we don't mind jumping back to  
19 page 21 of your deposition, this is where you  
20 discuss SO2 ponds and this is confidential. So  
21 I'm just going to have you read and not out loud  
22 and this was a page that Ms. Gale had pointed him  
23 towards earlier.

24 If you don't mind just reading

1 21 lines 13 through 23.

2 A. Okay.

3 Q. So have you seen any evidence of the  
4 contents or the bi-product that was stored in the  
5 pond of having been removed?

6 MS. GALE: Objection. Assumes facts  
7 not in evidence.

8 HEARING OFFICER HALLORAN: I'm  
9 sorry, Ms. Gale?

10 MS. GALE: Assumes facts not in  
11 evidence.

12 HEARING OFFICER HALLORAN: Ms.  
13 Dubin?

14 MS. DUBIN: I think we discussed  
15 earlier that this -- had stored content or at the  
16 very least we read it during Ms. Gale's rebuttal  
17 or rehabilitation and I just wanted to see because  
18 it's confidential I'm not sure how we can handle  
19 this just because I'm not sure if we should be  
20 reading it aloud. We could just maybe submit  
21 these pages into evidence or what is the best way  
22 to handle that?

23 HEARING OFFICER HALLORAN: Let's see  
24 if he can answer, is that okay?

1 MS. DUBIN: Yes.

2 HEARING OFFICER HALLORAN: If you  
3 can answer, Mr. Veenbaas, please do so.  
4 Overruled.

5 BY THE WITNESS:

6 A. Can you restate the question?

7 BY MS. DUBIN:

8 Q. Sure. Are you aware of content  
9 being stored in those ponds?

10 A. No. There was a process there that  
11 occurred in the '70s, but I'm not sure how far the  
12 process went or how they used it. I don't know  
13 much about that whole situation.

14 Q. So, sorry, I'm just trying to figure  
15 out how to not restate something that is  
16 confidential.

17 I guess what were those ponds  
18 installed for?

19 MS. GALE: Objection. Assumes facts  
20 not in evidence.

21 HEARING OFFICER HALLORAN:  
22 Overruled. You can answer if able.

23 BY THE WITNESS:

24 A. Again, my -- my knowledge of this

1 area is antidotal and historic. I knew that a  
2 process exists. I knew people who worked on it in  
3 the '70s, but I have no firsthand knowledge of  
4 what happened, how it happened, what the design of  
5 it was, whether the ponds were constructed or not.  
6 I just know from an antidotal point that those  
7 ponds were called the SO2 ponds. That was the  
8 jargon of the station.

9 BY MS. DUBIN:

10 Q. And from conversations with those  
11 people, did they mention that those ponds stored  
12 anything?

13 A. No, I had no conversations with  
14 anybody about these ponds relative to their work  
15 in that system.

16 Q. And I guess then based off of what  
17 you know or are aware of, what were those ponds  
18 installed to do?

19 MS. GALE: Objection. Assumes facts  
20 not in evidence.

21 HEARING OFFICER HALLORAN: He may  
22 answer if he's able.

23 BY THE WITNESS:

24 A. Again, I'm not sure. I'm not sure

1    how the process worked.  I don't even know what  
2    the bi-products were.  It didn't last very long.  
3    It only lasted about a year and they closed it  
4    down.

5    BY MS. DUBIN:

6           Q.       I feel there is sort of an impasse a  
7    little bit only because, again, this is a  
8    confidential section of your deposition transcript  
9    and it contradicts what you've testified to  
10   before.

11                   MS. NIJMAN:  Objection.  Misstates.

12                   MS. GALE:  Misstates the deposition  
13   and misstates what he said today.  I think the  
14   witness has repeatedly testified that he's only  
15   heard this from other people at the station.  He  
16   has no other knowledge about what these ponds --  
17   whether they were even completed and actually  
18   created.

19                   HEARING OFFICER HALLORAN:  That's  
20   what I've been hearing for the last five minutes.  
21   Ms. Dubin?

22                   MS. DUBIN:  Yes.  So my concern is  
23   that what he is saying now might, at least for  
24   context, be a little bit different from what he

1 has been deposed on and said in his deposition.  
2 If you look at pages -- page 20 line 22 through 21  
3 line 4 and so, again, because this is  
4 confidential, but you referred us to this page  
5 earlier. I just don't know how to handle -- I'd  
6 like to kind of just point out the fact that there  
7 is something a little bit different on here.

8 MS. GALE: And, again, we object.  
9 We disagree that there is any discrepancy between  
10 what he testified to four years ago, which was I  
11 think in the '70s there was a pilot flue program,  
12 but it was not used while I was there. I think.  
13 I don't know. That is all he said in his  
14 deposition. If she wants to read in those lines,  
15 that's okay.

16 MS. DUBIN: All right. We'll read  
17 them in. Thank you. Would you be okay with me  
18 starting at 18, the question for context?

19 MS. GALE: Sure.

20 BY MS. DUBIN:

21 Q. Okay.

22 Q. Now, I want to ask you about  
23 a few more. SPD 8 on this map down at the bottom  
24 there, what did you -- what were those -- what was

1 SPD 5? I'm sorry. I apologize.

2 SPD 5 on this map down on the  
3 bottom there, what did you -- what were those --  
4 what was SPD 5 known to you as?

5 A. There was I think in the '70s  
6 there was a pilot flue gas scrubber operation and  
7 those ponds were installed to handle the flue gas  
8 scrubber, ash or bi-product, but they were not in  
9 use while I was there.

10 Does that refresh your  
11 recollection of those areas?

12 MS. GALE: Objection. That's  
13 exactly what he has been testifying to.

14 HEARING OFFICER HALLORAN: I agree.  
15 I'm not sure -- if he can answer, fine. I'm not  
16 sure where we're going with this, Ms. Dubin.

17 BY THE WITNESS:

18 A. I don't know much more I can say. I  
19 won't say any more. I think I've already  
20 testified to it.

21 BY MS. DUBIN:

22 Q. I'll move on. Now, you mentioned  
23 that all of the ash tears were located near the  
24 road, is that correct?



1           A.       Yes.  Near the upper part of the  
2 line, yes.

3           Q.       But when we spoke earlier, there  
4 were some instances that you didn't remember,  
5 correct?

6           A.       Yes.

7           Q.       So how did you know that these were  
8 located near the road?

9           A.       I was thinking it was more of a  
10 mechanism standpoint from the tear it could have  
11 been caused by equipment or tires, but that's my  
12 main reason for saying it that way.

13          Q.       But you don't know with certainty  
14 that these --

15          A.       I can tell you with certainty they  
16 were all above the water line.

17          Q.       And --

18                   MS. DUBIN:  No further questions.

19                   HEARING OFFICER HALLORAN:  Thank  
20 you, Ms. Dubin.  Ms. Gale?

21                   MS. GALE:  Nothing further.

22                   HEARING OFFICER HALLORAN:  Thank  
23 you, Mr. Veenbaas.  It's been fun, but I think  
24 you're finished.  Let's go off the record for a

1 minute. Thanks.

2 (Whereupon, a break was taken  
3 after which the following  
4 proceedings were had.)

5 HEARING OFFICER HALLORAN: We're  
6 back on the record. We're back from lunch.  
7 Ms. Gale?

8 MS. GALE: Yes, Midwest Generation  
9 calls Rich Gnat.

10 HEARING OFFICER HALLORAN: Mr. Gnat,  
11 please raise your right hand and Mr. Brickey will  
12 swear you in.

13 WHEREUPON:

14 RICHARD GNAT  
15 called as a witness herein, having been first duly  
16 sworn, deposeth and saith as follows:

17 D I R E C T E X A M I N A T I O N

18 BY MS. GALE

19 Q. Mr. Gnat, can you just state and  
20 spell your last name?

21 A. Gnat, G-N-A-T, like that bug.

22 Q. What is your first name?

23 A. Richard.

24 Q. Mr. Gnat, who do you work for?

1           A.       KPRG & Associates.

2           Q.       What is your position?

3           A.       I'm a principal and my technical  
4 background is geology, hydrogeology.

5           Q.       What educational degrees do you  
6 have?

7           A.       I have an undergraduate in earth  
8 sciences from Northeastern Illinois University, a  
9 graduate degree in geosciences from the University  
10 of Illinois at Chicago and some postgraduate  
11 courses in hydrogeology from Eastern Michigan  
12 University.

13          Q.       And can you just generally describe  
14 to me what you do at KPRG?

15          A.       I am one of the owners of the  
16 company and our company specializes in soil and  
17 groundwater impact issues.

18          Q.       And, generally, what kind of  
19 industries or companies do you work for?

20          A.       We work primarily for the private  
21 sector. We do a little bit of work for  
22 municipalities, but primarily for the private  
23 sector, industry, the energy sector within the  
24 industry and also property transactions.

1 Q. Okay. And you said power industry,  
2 does that include Midwest Generation?

3 A. That is correct, yes.

4 Q. Including the power plants that are  
5 the subject of this matter?

6 A. Yes.

7 Q. Related to the plants at issue here,  
8 what have -- what have you done generally?

9 A. KPRG has done a number of different  
10 projects at these facilities, but primarily here  
11 we do the groundwater monitoring and reporting  
12 aspect for the ash ponds at the facilities.

13 Q. And so you're familiar with the  
14 stations that are the subject here of this matter?

15 A. Yes, I am.

16 Q. Have you ever visited them?

17 A. Yes, I have.

18 Q. Generally, how often?

19 A. It depends on the year and what  
20 projects we might be doing at a facility, but, for  
21 example, at Joliet 29, at the Joliet station, I'm  
22 there several times a year, maybe five, six, seven  
23 times a year. At other stations, I may be there  
24 once a year.

1 Q. And, generally, when did -- when did  
2 you start visiting the stations?

3 A. I believe our first work with  
4 Midwest Generation started somewhere in late 2002,  
5 earlier 2003 timeframe.

6 Q. And you were here last October, do  
7 you remember that?

8 A. Yes.

9 Q. And you established that KPRG  
10 conducts the groundwater sampling at the stations,  
11 do you recall that?

12 A. Yes.

13 Q. And regarding those groundwater  
14 sampling at the stations, when did you begin that  
15 work?

16 A. This work I believe we began towards  
17 the early part of 2012 if my recollection is  
18 correct.

19 Q. And did someone conduct the  
20 groundwater sampling before then?

21 A. Yes, they did.

22 Q. Who was that?

23 A. Patrick Engineering.

24 Q. And, to your recollection, when did

1 they start sampling?

2 A. I believe that was the fourth  
3 quarter of 2010.

4 Q. And you said quarter, so how often  
5 are samples collected since fourth quarter 2010?

6 A. On a quarterly basis.

7 Q. What does a quarterly basis mean?

8 A. Once every three months.

9 Q. So from fourth quarter 2010 through  
10 second quarter 2017, to your recollection, how  
11 many rounds of sampling have been conducted at the  
12 stations?

13 A. I believe that's 27 quarters of  
14 sampling.

15 Q. And so when KPRG collects the  
16 groundwater samples, how does KPRG collect the  
17 groundwater samples?

18 A. Well, the first thing that we do is  
19 collect a round of water levels from all the  
20 monitoring wells and then groundwater sampling is  
21 initiated. We have -- most of the wells at the  
22 facilities we have outfitted with dedicated  
23 sampling systems. So it's a low flow bladder pump  
24 type sampling. There are a couple of wells at a

1 few of the stations that don't have enough water  
2 column in the well to facilitate a pump and with  
3 those we would collect those with a bailer or a  
4 peristaltic pump.

5 Q. And once the samples are collected,  
6 what does KPRG do with them?

7 A. The samples are put directly into  
8 laboratory prepared containers depending on the  
9 sampling program, either filtered or unfiltered,  
10 and those containers are transported under chain  
11 of custody to the analytical laboratory for  
12 analysis.

13 Q. And once it's at the analytical  
14 laboratory, what does the laboratory do with those  
15 samples?

16 A. The laboratory inventories the  
17 sample, accepts them in and then performs the  
18 analyses required on the chain of custody and  
19 those reports are then provided back to KPRG and  
20 Midwest Generation.

21 Q. And how are those reports -- and by  
22 reports, you mean the results of the samples?

23 A. Correct.

24 Q. How do those reports get to KPRG?

1           A.       We get them in both a PDF file as  
2 well as an Excel file and the data is downloaded  
3 directly from the Excel file into our data sheets.  
4 So there is no manual transcription. It's a  
5 direct download from the laboratory.

6           Q.       Mr. Gnat, I want to actually direct  
7 your attention to Midwest Generation Exhibit's  
8 809, 810 and 811 and 812 generally and I'll give  
9 you a moment.

10                               (Document's marked as  
11                               Respondent's Exhibit No.'s  
12                               809-812 for identification.)

13           HEARING OFFICER HALLORAN: Ms. Gale,  
14 what was exhibits --

15           MS. GALE: Midwest Generation  
16 Exhibit's 809, 810, 811 and 812 and just for your  
17 information I won't actually be moving to admit  
18 these until much later in the direct.

19           HEARING OFFICER HALLORAN: Okay.

20 Thank you.

21 BY THE WITNESS:

22           A.       Okay.

23 BY MS. GALE:

24           Q.       Generally speaking, what are



1 Exhibit's 809 through 812?

2 A. These are summary data tables from  
3 all the groundwater -- various groundwater  
4 monitoring that we perform at the four facilities;  
5 Exhibit 809 being Joliet 29, 810 being Powerton  
6 station, 811 Waukegan station and 812 Will County  
7 station.

8 Q. And you said earlier that you  
9 download the information from the analytical  
10 company in an Excel spreadsheet, is that what  
11 these are?

12 A. That is correct, yes.

13 Q. Okay. And I believe last October we  
14 discussed some of the different categories of  
15 wells at the stations. Just to refresh all of our  
16 recollections, generally speaking, what are the  
17 different categories of wells at, for instance,  
18 Joliet -- Waukegan station?

19 A. Sure. At all four stations, we have  
20 what are called CCA monitoring wells, or  
21 Compliance Commitment Agreement monitoring wells.  
22 This is the well network that was agreed to be  
23 sampled on a quarterly basis within the context of  
24 the Compliance Commitment Agreement that was

1 entered between Midwest Generation and Illinois  
2 EPA. Then we have a series of wells, some of  
3 which may overlap with the CCA wells, some of  
4 which don't. We call those our CCR wells and  
5 those are the wells that are identified as part of  
6 the new CCR rule developed by the US EPA Coal  
7 Combustion Residual rule.

8 So we have a CCR monitoring  
9 program and then in the case of Waukegan there is  
10 a subset of wells which we call the ELUC wells,  
11 E-L-U-C, and those are monitoring wells that were  
12 installed as part of an ELUC agreement between  
13 Midwest Generation and the property to the west,  
14 which was under site investigation and was  
15 determined to be impacting groundwater beneath the  
16 Midwest Generation site.

17 Q. Okay. And you mentioned the CCR  
18 wells versus the CCA wells and last fall we  
19 discussed the difference between the analytical  
20 method in those wells, but, again, briefly what is  
21 the difference?

22 A. There are two differences. There is  
23 a slight difference in the actual parameters  
24 listed between the two -- between the CCA and the

1 CCR list, but for the most part they overlap  
2 pretty much. The main differences that under the  
3 CCA sampling we field filter the samples prior to  
4 preservation for metals analyses and that gives  
5 you dissolved metal analysis.

6 Under CCR, the federal  
7 requirement says that we are to analyze for total  
8 metals. So, therefore, the samples aren't --  
9 aren't filtered in the field. They're poured  
10 directly onto the preservative within the lab  
11 container.

12 Q. Okay. And in this dataset, I guess  
13 I should ask first, did you assist in the creation  
14 of these tables?

15 A. These tables are created by my  
16 company by folks in my office and I do QA the  
17 tables as we put them together.

18 Q. And, by that, I'm talking about  
19 Exhibit's 809, 810 and 811 and 812 Midwest  
20 Generation exhibits.

21 A. Correct.

22 Q. And in Midwest Generation Exhibit's  
23 809 through 812 comparing the CCA analysis versus  
24 CCR analysis if a well was analyzed pursuant to

1 CCR analysis, is that reflected in the data  
2 tables?

3 A. That is correct. What we have in  
4 these tables if there is a well that is both  
5 sampled for CCA and CCR all that data is  
6 summarized in the data tables and at the bottom  
7 it's the CCA analysis. You'll see that it was --  
8 there is a note that it was field filtered -- or  
9 that there is no field filtering. There are  
10 certain wells which we analyze for CCR parameters  
11 that are included here, but not part of the CCA  
12 program and that table it's specified -- at the  
13 footnote of the table, it's specified that those  
14 are not field filtered samples.

15 So all the data that we collect  
16 from the various wells from the two programs is in  
17 here and the distinction between which one is  
18 filtered versus not filtered is within the context  
19 of the field note -- footnote of the table.

20 Q. So I think I understood you  
21 correctly, if I understand you, if it is a CCA  
22 well those analyses are reflected in the exhibit,  
23 but if that well is also sampled via CCR, are  
24 those results in the exhibit?

1           A.       They're all CCA. They will all be  
2 dissolved metals results.

3           Q.       So what does that mean for each --  
4 for that individual well, how many results would  
5 there be?

6           A.       If that well was installed  
7 through -- because some wells were installed after  
8 the fourth quarter of 2010, but let's say we have  
9 a monitoring well that was installed in the fourth  
10 quarter of 2010 through second quarter of 2017 we  
11 would have 27 quarters of data for that well in  
12 this table.

13          Q.       And it wouldn't include the other  
14 data for the CCR analysis for that well, correct?

15          A.       That is correct.

16          Q.       And just to confirm when you  
17 conduct -- or excuse me. When KPRG conducts the  
18 CCA and CCR sampling, at what times do they  
19 conduct those samplings?

20          A.       The samples are done concurrently as  
21 we're sampling for one program. You know, the  
22 field crew is out there and they will have a note,  
23 okay, this is a CCR well, sampling for that, a CCA  
24 well, sampling for that. And if it's a well that

1 is for both, they will pull up a set of samples  
2 for CCA filter, a set of examples for CCR  
3 unfiltered.

4 Q. Generally speaking, last fall  
5 complainants introduced a series of various  
6 monitoring results. I believe they're on the  
7 table in front of you, do you recall that?

8 A. Yes, I do.

9 Q. And that data in -- generally  
10 speaking, is the data in those series of  
11 monitoring results reflected in these Excel  
12 spreadsheets prepared by KPRG?

13 A. Yeah, I'll just quickly check here  
14 to verify, but, yes, these exhibits here are  
15 individual reports for specific quarters or the  
16 fourth quarter annual type report from within our  
17 sampling program and these data tables here  
18 summarize all of the quarters that were done. So  
19 what you would have in these reports is a subset  
20 of the full package, which is in -- in the exhibit  
21 here.

22 Q. And you mentioned earlier that  
23 Patrick Engineering conducted the sampling before  
24 you -- Patrick Engineering conducted the sampling

1 before KPRG took over?

2 A. Yes.

3 Q. Are those groundwater monitoring  
4 results from Patrick Engineering's sampling in the  
5 spreadsheets?

6 A. Yes, they are.

7 Q. And when you began in 2012, did you  
8 review Patrick Engineering's groundwater  
9 monitoring results?

10 A. Yes, we did. When the violation  
11 notices were issued, we were brought in along with  
12 several other companies to review the current  
13 status and we identified a number of transcription  
14 errors and corrected those errors.

15 Q. And by transcription errors, what do  
16 you mean?

17 A. It appears that at that time data  
18 was being received by the engineering company and  
19 placed by -- transcribed by hand into data tables  
20 and with the volume of data coming in, it was  
21 inherent to have some transcription errors and we  
22 found quite a few of them.

23 Q. And were those errors corrected?

24 A. Yes, they were.

1           Q.       Is the correct information in these  
2       spreadsheets?

3           A.       Yes, it is.

4           Q.       Okay. So for all the stations;  
5       Joliet 29, Powerton, Waukegan and Will County, to  
6       be clear, if a person wants to go to one place for  
7       all the relevant groundwater data, where would  
8       that be?

9           A.       That would be within these data  
10      tables here. This is -- these packets include all  
11      the wells and all the sampling done for those  
12      wells.

13          Q.       And you are pointing to Midwest  
14      Generation 809, 810, 811 and 812?

15          A.       That is correct.

16          Q.       All right. Mr. Gnat, moving onto  
17      another part.

18                    Generally, when you're looking  
19      at groundwater, how do you determine its flow?

20          A.       What we normally do, like I said,  
21      the first step in a round of groundwater samples  
22      we'll go out and collect a series of water levels  
23      from the monitoring wells. Those water levels are  
24      plotted on a map along the well and we also



1 consider the surrounding area surface waterbodies  
2 and so on and we contour our groundwater flow  
3 maps. The water levels being elevations relative  
4 to mean sea level and we basically plot contours  
5 of equal elevation, equal head to create a  
6 groundwater contour map.

7 Q. And I believe you said this, but I  
8 just want to confirm.

9 Do you also consider the  
10 presence of surface water in your creation of the  
11 flow?

12 A. Yes, we do.

13 MS. GALE: Can I get the Joliet 29  
14 groundwater flow map on the screen, please.

15 BY MS. GALE:

16 Q. There is a screen in front of you  
17 for ease on eyes.

18 Mr. Gnat, can you describe for  
19 me what you see on the screen, please?

20 A. This is a groundwater contour map  
21 for the April 2017 round of groundwater sampling.  
22 On this map, we have the monitoring wells that are  
23 sampled as part of the Compliance Commitment  
24 Agreement, the CCA program, and all of the water

1 level elevations on those wells. And then the  
2 blue lines are the contour lines, the estimated  
3 lines of equal elevation, and those parallel the  
4 river and then the pink lines with the arrows are  
5 the groundwater flow lines in this flow map, which  
6 are, you know, roughly perpendicular --  
7 perpendicular to the contour lines.

8 Q. And do you see under the words  
9 intake channel and Des Plaines River there are  
10 numbers, what are those?

11 A. Correct. That's -- that's plus or  
12 minus 505. That's an approximate elevation of the  
13 Des Plaines River and the intake channel in this  
14 area. It is part of the lock and dam system. So  
15 elevations are kept fairly -- fairly consistent  
16 through that lock and dam system.

17 Q. And is that the consideration of the  
18 surface water that you were talking about?

19 A. That is correct, yes.

20 Q. And do you take similar  
21 consideration of the surface water like this at  
22 the other stations?

23 A. Correct, where ones that are on the  
24 lock and dam system like this we take that into

1 consideration, yes.

2 Q. Do you measure the surface water  
3 levels at each groundwater sampling event?

4 A. No, we do not.

5 Q. Why not?

6 A. It's not part of the program. We  
7 relatively know the placement of the surface  
8 waterbody and we can certainly complete a  
9 groundwater contour map relative to our regulated  
10 units without knowing the absolute level -- water  
11 level of that surface waterbody.

12 Q. And I believe you said up gradient  
13 well and down gradient well. Can you generally  
14 describe what you mean when you call it an up  
15 gradient well and a down gradient well?

16 A. Sure. The up gradient wells --  
17 groundwater will flow from a higher elevation to a  
18 lower elevation or a higher head to a lower head.  
19 So up gradient wells will be wells that have water  
20 levels at a higher elevation than the wells down  
21 gradient and in particular of -- let's just, for  
22 example, use our regulated units here which are  
23 being monitored. The water levels -- the highest  
24 water levels are the ones that are up gradient or

1 up flow direction of the unit and the lower water  
2 levels are down flow or down gradient.

3 Q. And, Mr. Gnat, how would you define  
4 background in groundwater?

5 A. You know, that -- it depends on what  
6 the purpose of your study is going to be you  
7 determine how you need to establish background.  
8 So, for example, the purpose of this particular  
9 monitoring well network, the purpose of this  
10 network is to determine and provide data as to  
11 whether or not the ponds may be leaking. That's  
12 what we need to monitor for.

13 So you do your up gradient well  
14 placement, especially knowing this is an old  
15 industry area, your up gradient well placement  
16 needs to be done close to the unit that you're  
17 going to be valuating so that you understand what  
18 that water quality is right before it flows past  
19 the unit that you're trying to evaluate.

20 MS. GALE: And, Mr. Hearing Officer,  
21 I just neglected to reflect that the screen that  
22 we are looking at is actually contained in Exhibit  
23 246-M at MWG 13-15\_62326.

24

1 BY MS. GALE:

2 Q. So in an industrial area, would you  
3 use background from a municipal drinking water  
4 well?

5 A. That for the purposes of what  
6 we're -- what we're sampling for here, no, I would  
7 not.

8 Q. Why not?

9 A. Municipal water wells are developed  
10 and screened in a completely different manner than  
11 a monitoring well is and those are water wells for  
12 municipal water systems.

13 Q. And in this matter with regard to  
14 these four stations that are the subject of this  
15 matter, regarding the installation of the wells,  
16 what was the purpose of the study?

17 A. These monitoring wells were  
18 installed for the purposes of monitoring whether  
19 or not the ponds may or may not be leaking.

20 Q. Okay. And the results that came  
21 from those groundwater monitoring wells, how does  
22 Midwest Generation and Illinois EPA compare the  
23 results?

24 A. The results are compared to the

1 Class 1 drinking water standards.

2 Q. And why is that?

3 A. Because the data from the monitoring  
4 wells has been somewhat -- it's hard to determine  
5 whether or not an ash pond is impacted or how it  
6 is impacted. The best level of measurement that  
7 we've been held against at that point and was the  
8 basis of the notice of violations by Illinois EPA  
9 has been the Class 1 drinking water standard.

10 Q. Mr. Gnat, you were here when  
11 Dr. Kunkel testified, correct?

12 A. Yes.

13 Q. And you're aware Dr. Kunkel created  
14 a background for the stations that are the four  
15 stations that are subject to this matter, correct?

16 A. Yes.

17 Q. Do you know how he created the  
18 background?

19 A. My understanding is Dr. Kunkel was  
20 using a median value that was part of an Illinois  
21 EPA publication and they -- that publication had  
22 some water quality median data developed for some  
23 various parameters from a series of sand and  
24 gravel municipal wells that were screened in sand

1 and gravel and on a set of municipal wells that  
2 were screened in dolomite bedrock.

3 Q. The median value, what is your  
4 understanding of the background from that document  
5 related to the background, just median -- is there  
6 another consideration of that value?

7 A. The median is -- first, to  
8 understand what a median value is. You would take  
9 all the data in your background dataset, order it  
10 from highest to lowest and take the absolutely  
11 center value of that dataset. That's your median.  
12 But to really understand what that means you also  
13 have to understand what is the average of that  
14 dataset and what is the range of that dataset from  
15 which that that median was developed and all of  
16 that then puts the median into a context of some  
17 sort.

18 Q. And the community water supply wells  
19 that Dr. Kunkel relied upon, that's a statewide  
20 median?

21 A. Correct, it was generated from sand  
22 and gravel aquifer wells across a good part of the  
23 state, but certainly there are whole parts of the  
24 state that didn't have any data within that

1 dataset.

2 Q. Mr. Gnat, can you open up  
3 Complainants' Exhibit 405, which should be in the  
4 binder entitled Kunkel exhibits. I'm pointing you  
5 to Figure 4, which is on page 7 Complainants'  
6 Exhibit 405.

7 A. Yes.

8 Q. And can you just tell us what that  
9 title is?

10 A. Sure. Figure 4 is titled Inorganic  
11 Water Quality Data Within Illinois Sand and Gravel  
12 Aquifers and the right-hand side of that figure is  
13 a map of the State of Illinois with a series of  
14 black dots which identify the community or  
15 municipal water supply wells from which data was  
16 used for this study.

17 Q. Okay. And those black dots, can you  
18 generally describe where they are?

19 A. Sure. They're located and centered  
20 around various river valleys. They're --  
21 primarily the southern part of the state is poorly  
22 represented, but let's just look at relative to  
23 our plant sites. Up in the very far northeast  
24 corner where the Waukegan station would be, it



1 looks like there might be one, maybe two samples  
2 from that location. There is absolutely no data  
3 from Cook County, Will County or DuPage County,  
4 which -- and our Joliet station and Will County  
5 station are from Will County. You know, those are  
6 the three most populated, most heavily  
7 industrialized areas in the state. There is  
8 absolutely no samples from those areas and then  
9 from where the Powerton station is that -- that  
10 part of the state is fairly well-represented with  
11 samples it appears.

12 Q. You can put that away. Thank you.  
13 You mentioned a range of values in considering a  
14 background.

15 So when Dr. Kunkel stated he  
16 would see values above the median background, does  
17 it necessarily mean it's above the range?

18 A. No, it does not.

19 Q. Can you give an example of that?

20 A. Sure. The median I believe that was  
21 being used for sand and gravel aquifers was 0.12  
22 mg/L for boron. If something has 0.36 mg/L for  
23 boron, it can be easily said, boy, that's three  
24 times the median background. Well, that's

1 correct. However, that -- all it is is above the  
2 median, but that background dataset had values  
3 ranging up to 0.7 in and of itself. So to say  
4 that that was above background, I think is a  
5 little bit incorrect. It's above the median for  
6 the background.

7 Q. So today for these sites, what would  
8 be a better comparison for the groundwater results  
9 coming in?

10 A. The comparison that we have been  
11 using and that Illinois EPA has been using has  
12 been the Class 1 drinking water standard.

13 Q. I just want to talk generally about  
14 GMZ's and ELUC's. We had mentioned earlier, and I  
15 think you just mentioned, that Illinois EPA issued  
16 violation notices to Midwest Generation based upon  
17 the groundwater monitoring results, do you recall  
18 that testimony?

19 A. Yes.

20 Q. And in response Midwest Generation  
21 entered into CCA's and agreed to take certain  
22 actions, were you involved with those actions?

23 A. Yes. In some of them, yes.

24 Q. What was -- how were you involved?

1           A.       Midwest Generation requested KPRG's  
2 assistance in, you know, first reviewing some of  
3 the data so that was already generated, the basis  
4 of the violations of notice, their notices of  
5 violation, and then we were also requested to  
6 assist in the development of the submittal  
7 packages for Groundwater Management Zones and for  
8 ELUC's, Environmental Land Use Controls.

9           Q.       And what is a Groundwater Management  
10 Zone?

11          A.       Groundwater Management Zone is an  
12 institutional tool as part of a remediation that  
13 is usually associated with an active remediation  
14 and that tool designates an area of groundwater  
15 that has been effected and within that designated  
16 area the Class 1 groundwater standard no longer  
17 becomes applicable.

18          Q.       And yet once the GMZ is established,  
19 do you still compare the results of the Class 1  
20 standard?

21          A.       Sure. The Class 1 standard is used  
22 as -- as the form of measure for comparison  
23 purposes and ideally once all the values go below  
24 the Class 1 standard we can apply for removal of

1 the Groundwater Management Zone designation.

2 Q. And you also mentioned an  
3 Environmental Land Use Control, which we call an  
4 ELUC, what is that?

5 A. That is another tool in the  
6 remediation box and institutional control tool  
7 which in this case it identifies that the  
8 designated parcel of land within the ELUC will  
9 have certain use restrictions and in our case the  
10 use restriction was not to allow the placement of  
11 any drinking water or potable water wells within  
12 that area. That is then -- once it's agreed upon  
13 with the DNR -- I'm sorry -- with the IEPA, it is  
14 registered directly onto the deed of the property.

15 Q. And what is the purpose of a use  
16 restriction in an ELUC?

17 A. The purpose, especially in the case  
18 of not allowing any potable water wells, is to  
19 basically remove any receptor, any risk --  
20 receptor risk associated with that.

21 Q. Okay. We're going to move onto  
22 station by station. I first want to talk about  
23 the Joliet 29 wells.

24 MS. GALE: Can we get the Joliet 29

1 map up? Thank you.

2 BY MS. GALE:

3 Q. At Joliet 29, how many wells are  
4 there?

5 A. There are 11 monitoring wells.

6 Q. And are they reflected on this map  
7 which is the map figure from exhibit --  
8 Complainants' Exhibit 246-M?

9 A. Yes, they are.

10 Q. What are the up gradient monitoring  
11 wells?

12 A. In this case, the up gradient  
13 monitoring wells are MW-08, MW-10, excuse me, and  
14 MW-11.

15 Q. And what are the down gradient  
16 monitoring wells?

17 A. Down gradient monitoring wells would  
18 be MW-01, 02, 03, 04, 05, 06, 07 and 09.

19 Q. And in looking at the figure, what  
20 is the flow of groundwater at Joliet 29?

21 A. The flow is in a southerly  
22 direction.

23 Q. Towards what?

24 A. Towards the intake channel or the

1 Des Plaines River.

2 Q. Last fall we discussed a number of  
3 groundwater monitoring reports and, in particular,  
4 as it relates to Joliet 29 they were exhibit --  
5 excuse me -- Complainants' Exhibit 25-E, second  
6 quarter 2011 report; Complainants' Exhibit 243-M,  
7 the third quarter 2013 report; Complainants'  
8 Exhibit 244-M, the fourth quarter 2015 report;  
9 Complainants' Exhibit 245-M, the fourth quarter  
10 2016 report; and Complainants' Exhibit 246-M, the  
11 second quarter 2017 report, do you recall that  
12 testimony?

13 A. Yes.

14 Q. And what is the timeframe of the  
15 groundwater monitoring results in these reports?

16 A. The overall timeframe on the  
17 groundwater monitoring is from the fourth quarter  
18 of 2010 through the second quarter of 2017 within  
19 these tables and within the reports that were  
20 issued.

21 Q. Okay. And turning to Midwest  
22 Generation Exhibit 809. Are the groundwater  
23 monitoring results reflected in the exhibits I  
24 just listed in -- with Midwest Gen Exhibit 809?

1           A.       Yes, they are.

2                   MS. GALE:  Mr. Hearing Officer, we  
3 move to admit Midwest Gen 809.

4                   MR. WANNIER:  No objection.

5                   HEARING OFFICER HALLORAN:  Thank  
6 you.  Respondent's Exhibit 809 is admitted.  No  
7 objection.

8 BY MS. GALE:

9           Q.       Mr. Gnat, if you recall your  
10 testimony from last fall, what is adjacent to the  
11 north of the ash ponds?

12           A.       At Joliet 29?

13           Q.       I'm sorry.  At Joliet 29, yes.

14           A.       Yes, that's Channahon Road.  I think  
15 that's US 6.  Highway US 6.

16           Q.       And can you remind us in the winter  
17 in Chicago what is spread on roads?

18           A.       Salt.  Road salt.

19           Q.       And, again, to your recollection,  
20 what have you generally observed related to  
21 salt -- or I take that back.  Strike that.  What  
22 is a constituent of salt?

23           A.       Chloride is one of the main  
24 constituents of salt.

1 Q. To your recollection, what have you  
2 generally observed related to chlorides in the  
3 Joliet 29 groundwater samples?

4 A. Chloride is part of our groundwater  
5 monitoring list and I believe over the number of  
6 quarters that we've sampled that we have seen some  
7 temporal variation in chloride suggesting that the  
8 chloride we're seeing may be associated with the  
9 spreading of road salt.

10 Q. Okay. Great. Earlier you said you  
11 assisted Midwest Generation in preparing the GMZ  
12 applications, was that true for Joliet 29?

13 A. Yes.

14 Q. And was the GMZ established?

15 A. Yes, it was.

16 Q. After the GMZ was established, has  
17 Illinois EPA ever contacted you regarding any  
18 concern with the GMZ?

19 A. No, they have not.

20 Q. Okay. Mr. Gnat, in October, you  
21 told us that you inspected the northeast area at  
22 Joliet 29, do you recall that testimony?

23 A. Yes, I do.

24 Q. And you identified -- you identified



1 various inspection reports from the northeast  
2 area, do you recall that testimony?

3 A. Yes.

4 Q. And, in particular, those exhibits  
5 were Complainants' Exhibit's 248, 249, 250 and  
6 251, is that correct?

7 A. I don't remember the exhibit numbers  
8 offhand.

9 MS. GALE: Mr. Hearing Officer, I  
10 know these were split up in groupings, but were we  
11 still using N for those exhibits?

12 HEARING OFFICER HALLORAN: I  
13 believe -- we can go off the record.

14 (Whereupon, a break was taken  
15 after which the following  
16 proceedings were had.)

17 HEARING OFFICER HALLORAN: Back on  
18 the record.

19 MS. GALE: To correct what I just  
20 said, those were exhibits 248-N, 249-N, 250-N and  
21 251-N and they should be on your table and I will  
22 help you find them.

23 MR. WANNIER: Your Honor, to clarify  
24 the record in case there is any confusion, we

1 don't remember if we called it -- if we used the N  
2 after the group exhibit was removed and so we are  
3 happy to represent that 248 should be equivalent  
4 to 248-N, et cetera.

5 MS. GALE: I just want to make it  
6 easy for everybody.

7 MR. WANNIER: Yeah.

8 HEARING OFFICER HALLORAN: All  
9 right. Thank you. We may revisit this later, but  
10 you may proceed.

11 MS. GALE: Okay.

12 BY MS. GALE:

13 Q. Do you remember seeing those?

14 A. Yes, I do.

15 Q. Were you shown all the reports  
16 related to your inspections?

17 A. No, I was not.

18 MS. GALE: Mr. Hearing Officer,  
19 similar to what Ms. Franzetti did, I have checked  
20 with counsel, I would like to treat Midwest  
21 Generation Exhibit's 800, 801 and 802 together  
22 with your permission and my understanding there is  
23 no objection from complainants.

24

1 (Documents marked as  
2 Respondent's Exhibit No.'s  
3 800-802 for identification.)

4 MR. WANNIER: That's correct.

5 HEARING OFFICER HALLORAN: 800, 801  
6 and 802?

7 MS. GALE: Mm-hmm.

8 HEARING OFFICER HALLORAN: That's  
9 fine. Thank you, yeah.

10 BY MS. GALE:

11 Q. In October, you discussed your  
12 inspections from 2009, 2010 and 2011. Here, can  
13 you just tell us what Midwest Generation Exhibit's  
14 800, 801 and 802 are?

15 A. Sure. Exhibit 800 is the follow-up  
16 documentation for the exhibit that was presented  
17 earlier and this is the erosion repair  
18 documentation KPRG report dated September 26th,  
19 2009, documenting the repair of any of the erosion  
20 features noted in our inspection report from 2009.

21 Exhibit 801 is a KPRG letter  
22 dated September 16th, 2010, to Midwest Generation  
23 documenting the erosion repairs performed that  
24 year as a follow-up to the inspection that was

1 presented back in October of last year. So that  
2 documents that all of those items were properly  
3 addressed.

4 Exhibit 802 is a letter from  
5 KPRG to Midwest Generation dated September 22nd,  
6 2011, also erosion repair documentation providing  
7 the specific documentation addressing the items  
8 that were identified in our inspection report for  
9 that year, which were the ones that were discussed  
10 in October. And then 803 --

11 Q. Wait.

12 A. Sorry.

13 Q. 800 to 802.

14 A. Sorry. I was on a roll.

15 Q. You were on a roll. Who prepared  
16 these reports 800, 801 and 802?

17 A. KPRG did.

18 Q. If you look at the second page,  
19 whose signature is on -- who signed the reports?

20 A. That is my signature.

21 MS. GALE: Mr. Hearing Officer, we  
22 move to admit Midwest Generation Exhibit's 800,  
23 801 and 802.

24 HEARING OFFICER HALLORAN:

1 Mr. Wannier?

2 MR. WANNIER: Your Honor, can we go  
3 off the record just briefly?

4 HEARING OFFICER HALLORAN: Sure.

5 (Whereupon, a break was taken  
6 after which the following  
7 proceedings were had.)

8 HEARING OFFICER HALLORAN: We're  
9 back on the record. Any objection, Mr. Wannier,  
10 to 800, 801, 802 of Midwest?

11 MR. WANNIER: No objection relying  
12 on opposing counsel's representation that this was  
13 not attempted to be introduced back in October,  
14 which we believe.

15 HEARING OFFICER HALLORAN: Okay.  
16 Thank you. Admitted. Thank you.

17 (Document marked as Respondent's  
18 Exhibit No. 803 for  
19 identification.)

20 BY MS. GALE:

21 Q. Mr. Gnat, can you turn to Midwest  
22 Generation's Exhibit 803?

23 A. Okay.

24 Q. What is this?

1           A.       This is a letter from KPRG to  
2 Midwest Generation dated September 26th, 2012, and  
3 it is a -- our inspection summary and erosion  
4 runoff -- erosion repair for that year as well.

5           Q.       And turning to the second page,  
6 which is Bates numbered MWG 13-15\_19475 at the  
7 bottom of the page, what is your observation of  
8 the prior repairs?

9           A.       What we stated there is all other  
10 areas along the cover that have undergone repair  
11 over the last four years appear to be in good  
12 condition with no additional detrimental erosion  
13 effects being displayed at this time.

14          Q.       So what does that mean to you?

15          A.       That the repairs that were performed  
16 were done correctly and are holding up well.

17                   MS. GALE: Mr. Hearing Officer, we  
18 move to admit Midwest Generation Exhibit 803.

19                   HEARING OFFICER HALLORAN: Mr.  
20 Wannier?

21                   MR. WANNIER: No objection based on  
22 the same representation.

23                   HEARING OFFICER HALLORAN: Thank  
24 you. Respondent's Exhibit 803 is admitted.

1 BY MS. GALE:

2 Q. Mr. Gnat, can you please turn to  
3 Midwest Generation Exhibit 804.

4 For the record, that's MWG  
5 13-15\_19483.

6 (Document marked as Respondent's  
7 Exhibit No. 804 for  
8 identification.)

9 BY THE WITNESS:

10 A. Yes.

11 BY MS. GALE:

12 Q. What is this?

13 A. This is a 2013 inspection summary  
14 letter from KPRG & Associates to Midwest  
15 Generation dated August 21st, 2013.

16 Q. And that's your signature at the  
17 bottom?

18 A. Yes, it is.

19 Q. What -- according to this report,  
20 what did you see on August -- excuse me. In your  
21 inspection in 2013?

22 A. In this report, we did not identify  
23 any areas on the cover that we felt needed any  
24 redressing or any repair from erosion or rilling

1 over the course of the year.

2 Q. And if you look in the second  
3 paragraph, third sentence "All areas of previous  
4 repair were also closely inspected and the repairs  
5 have held up well and do not require any  
6 redressing," is that what you also did? You also  
7 looked at the old repairs?

8 A. That is correct, yes.

9 Q. And so what was your conclusions  
10 about the old repair?

11 A. That they're holding up quite fine  
12 and they did not need to be repaired or redressed.

13 MS. GALE: Mr. Hearing Officer, we  
14 move to admit Midwest Generation Exhibit 804.

15 MR. WANNIER: Again, no objection  
16 based on that representation.

17 HEARING OFFICER HALLORAN: Thank  
18 you, Mr. Wannier. Respondent's Exhibit 804 is  
19 admitted.

20 MS. GALE: Thank you.

21 BY MS. GALE:

22 Q. Mr. Gnat, can you please turn to  
23 Midwest Generation Exhibit 805. That's MWG  
24 13-15\_44147.



1 (Document marked as Respondent's  
2 Exhibit No. 805 for  
3 identification.)

4 BY THE WITNESS:

5 A. Okay.

6 BY MS. GALE:

7 Q. What is this?

8 A. This is a letter from KPRG to  
9 Midwest Generation dated August 28th, 2014. It  
10 was the 2014 inspection summary letter.

11 Q. And what were your conclusions in  
12 this letter?

13 A. Similar as to the ones for 2013  
14 where we did not notify any new areas of rilling  
15 or any erosional features that needed any repair  
16 and that the inspection of the repairs from the  
17 previous years also indicated that those are --  
18 areas are fine and did not need to be redressed.

19 Q. And who signed this letter?

20 A. I did.

21 MS. GALE: Mr. Hearing Officer, we  
22 move to admit Midwest Generation Exhibit 805.

23 HEARING OFFICER HALLORAN: Mr.  
24 Wannier?

1 MR. WANNIER: Again, no objection  
2 based on that representation.

3 HEARING OFFICER HALLORAN: So noted.  
4 Respondent's Exhibit 805 is admitted.

5 BY MS. GALE:

6 Q. Mr. Gnat, did you conduct an  
7 inspection in 2015 of the northeast area at Joliet  
8 29?

9 A. Yes, I did.

10 Q. What did you see generally?

11 A. In 2015, I believe it was still in  
12 good condition and I do not recall having to do  
13 any repairs.

14 Q. And in 2016, did you conduct an  
15 inspection?

16 A. Yes -- yes, I did and I believe in  
17 2016 it was in good condition. It had one area  
18 that I said I needed to go back in spring and make  
19 sure that it -- it was still the way it looked  
20 after the snow melt in the spring. I went back in  
21 the spring and the area hadn't changed any.

22 Q. For the past eight years of  
23 conducting your inspections of the northeast area  
24 and Joliet 29, has Midwest Generation ever

1 disagreed with your conclusions?

2 A. No, they have not.

3 Q. Has Midwest Generation ever rejected  
4 one of your recommendations to repair?

5 A. No, they did not.

6 Q. Okay. And in your years that -- in  
7 the years that repairs were required, what was the  
8 cause of the erosion?

9 A. That was surface water runoff from  
10 the cap and surface water running. It's graded to  
11 be draining towards the river and surface water  
12 erosion.

13 Q. Where does that surface water come  
14 from?

15 A. Rainwater, snow melt.

16 Q. Was it water from the river?

17 A. No, it was not.

18 Q. And when you were out at the Joliet  
19 29 station, have you ever seen any indication of  
20 river water flooding over the northeast area?

21 A. No.

22 Q. Do you recall Dr. Kunkel's testimony  
23 about your reports and inspections of that  
24 northeast area?

1           A.       Yes, I do remember parts of his  
2 testimony.

3           Q.       What is your understanding of what  
4 he said?

5           A.       My understanding is that he had  
6 indicated that some of the erosion features that  
7 we're talking about were caused by flooding from  
8 the Des Plaines River.

9           Q.       Is there any basis in your reports  
10 prepared by KPRG to make that conclusions?

11          A.       No.

12          Q.       Do you recall Dr. Kunkel's testimony  
13 that there is contamination in the Joliet 29 wells  
14 as a result of the alleged ash in the northeast  
15 area of the site?

16          A.       I believe he made a statement  
17 similar to that, yes.

18          Q.       To your knowledge, is there any  
19 evidence that groundwater from the northeast area  
20 is flowing towards the Joliet 29 groundwater  
21 monitoring wells?

22          A.       No.

23          Q.       Regarding the Des Plaines River, I  
24 think you mentioned earlier there is a lock and

1 dam system in the Des Plaines River?

2 A. Yes.

3 Q. What is your familiarity with the  
4 lock and dam system?

5 A. It's a system of locks and dams that  
6 locks in place for navigational purposes and dams  
7 installed, for amongst other reasons, for the  
8 flood control in the area and controlling water  
9 level fluctuations.

10 Q. So what does that result in?

11 A. That results in fairly stable -- or  
12 fairly stable pools of water within a stretch of  
13 river that is between two sets of locks and dams.  
14 So that water level is fairly controlled so that  
15 when you do have large precipitation events, they  
16 try and minimize as much as possible as to what  
17 that fluctuation is going to be to try to help  
18 control flooding in the area.

19 Q. And, to your knowledge, since  
20 sampling began in 2010, has there been a huge  
21 flood event in the Des Plaines River, a large  
22 flood event?

23 A. Not to my knowledge.

24 Q. Again, you were here when Dr. Kunkel

1 testified, did you hear testimony regarding large  
2 flow discharge on the Des Plaines, do you recall  
3 that testimony?

4 A. I -- I recall he talked about an  
5 increase in discharge.

6 Q. And do you recall he testified there  
7 would be large fluctuations in the groundwater and  
8 the groundwater would rise and fall particularly  
9 in between sampling events?

10 A. Yes.

11 Q. Given the control of the lock and  
12 dam system on the river, would there be large  
13 sways in the groundwater that he -- in the  
14 groundwater that he described?

15 A. That -- the whole purpose of that  
16 system is to try and control those larger, fast  
17 increases in water levels within river bodies,  
18 within surface waterbodies so, you know, to the  
19 extent that the lock and dam systems purpose is to  
20 try to control that quick rise in water level to  
21 minimize flooding effects.

22 Q. And given the number of rounds of  
23 groundwater sampling, which have been 27 I believe  
24 you said, what have you seen in relation to the

1 groundwater levels at Joliet 29?

2 A. Sure. Over 27 rounds, one of the  
3 things that I think was being described was if you  
4 have increased rise in the water level in the  
5 river, that will push water out into the bank of  
6 the stream and mix in with the groundwater. The  
7 question is what is the degree of that that  
8 happens. I mean, it's a well-known phenomena, but  
9 what is the degree of that stuff happening? You  
10 would see that is what is called a reversal of  
11 groundwater flow. Over 27 quarters of sampling,  
12 27 rounds of groundwater measurements, we have not  
13 documented a reversal of groundwater flow beneath  
14 the ash ponds at Joliet station. The flow quarter  
15 to quarter is consistent from the north to the  
16 south towards the Des Plaines River, not the other  
17 way.

18 Q. Excellent. We are done with Joliet  
19 29. We're going to move onto Powerton.

20 MS. GALE: Can I get the silty clay  
21 contour Powerton map up. For the record,  
22 Mr. Hearing Officer, these maps were part of a  
23 demonstrative that we filed earlier in the week  
24 and the reason why I say this is because the

1 exhibits that have been entered have various  
2 groundwater contouring, but that oftentimes -- I  
3 guess -- sometimes did not take into consideration  
4 all of the -- all the wells present because there  
5 are so many different types of wells. So our  
6 demonstrative that we filed earlier this week does  
7 take into consideration all the wells.

8 HEARING OFFICER HALLORAN: Mr.  
9 Wannier?

10 MR. WANNIER: I'm sorry. So are  
11 you --

12 MS. GALE: It doesn't have an  
13 exhibit number attached to it.

14 MR. WANNIER: This does not have an  
15 exhibit number?

16 HEARING OFFICER HALLORAN: Let's go  
17 off the record.

18 (Whereupon, a break was taken  
19 after which the following  
20 proceedings were had.)

21 HEARING OFFICER HALLORAN: We're  
22 back on the record. Thank you.

23 BY MS. GALE:

24 Q. Mr. Gnat, on the screen in front of



1 you, what do you see?

2 A. This is a groundwater contour map of  
3 the silt and clay unit at the Powerton station.

4 Q. Okay. First of all, how many wells  
5 are there at the Powerton station?

6 A. Between the CCA network and the  
7 provisional CCR wells, we have 19 wells within the  
8 area here.

9 Q. Okay. So you said that this is the  
10 silty clay contour map. Well, I'll ask it this  
11 way.

12 What is the groundwater flow at  
13 Powerton?

14 A. The Powerton station was determined  
15 to be a little bit more complicated. We ended up  
16 having two actual flow units or two groundwater  
17 flow units, but they're directly hydraulically  
18 connected to each other. The first one is a silty  
19 clay unit which is not a continuous unit which  
20 means it's not found throughout the whole study  
21 area here. So it was discontinuous and that --  
22 that has one set of water levels and we have some  
23 wells screened within that unit and then there is  
24 a larger sandy gravel unit beneath that which is

1 continuous beneath the site.

2 Q. And continuing with Midwest  
3 Generation demonstrative Exhibit 813, what are the  
4 wells in the silty clay unit?

5 (Document marked as Respondent's  
6 Exhibit No. 813 for  
7 identification.)

8 BY THE WITNESS:

9 A. The monitoring wells on this map  
10 that have a water level attached to them are the  
11 ones that are screened in the silty clay unit and  
12 those would be monitoring well's 8, monitoring  
13 well 6, 15, 14 and 12, I believe.

14 BY MS. GALE:

15 Q. Mr. Gnat, do you recall when it was  
16 discovered that there were two groundwater units?

17 A. Yes, after the notices of violation  
18 were issued, KPRG and several other companies were  
19 brought in to be -- to take a second look at all  
20 the information. Patrick Engineering was having a  
21 hard time understanding the flow system here  
22 because they were trying to develop groundwater  
23 flow maps using water levels from all of their  
24 monitoring wells.

1                   When we started looking at the  
2 construction drawings and the boring logs for the  
3 monitoring wells, we determined that a subset of  
4 those wells was actually screened in this  
5 discontinuous silty clay unit. So if we isolated,  
6 excuse me, the water levels from those wells and  
7 looked at that as one unit and isolated those from  
8 all the other wells which are screened down in  
9 that sandy gravel unit, that -- that it became a  
10 little more apparent and a little bit easier to  
11 understand that we actually had within that silty  
12 clay unit we had water at a higher elevation and  
13 it was flowing in a westerly direction and if you  
14 just looked at the water levels within the  
15 underlying sandy gravel unit, those water levels  
16 were a little bit lower than what we saw in that  
17 silt and the groundwater was flowing in a  
18 northerly direction with some northwesterly,  
19 northeasterly components as the further you go  
20 north.

21           Q.       I believe you said Patrick was  
22 having some trouble understanding. Do you recall  
23 what their initial observations were?

24           A.       They -- I believe their initial

1 observations were they could not make a good  
2 determination of what was going on with the  
3 groundwater flow system. I really do not remember  
4 what their actual observations were.

5 Q. That's fine.

6 MS. GALE: Can we bring up the sand  
7 unit and actually, Mr. Hearing Officer, I was  
8 wrong. These maps are part of Complainants'  
9 260-0, as in opossum. They're figure -- and  
10 they're on Midwest Gen 13-15\_62538 and 62539.

11 HEARING OFFICER HALLORAN: So we're  
12 withdrawing?

13 MS. GALE: Yeah, we're withdrawing  
14 813.

15 HEARING OFFICER HALLORAN: Thank  
16 you.

17 MS. GALE: And 62540.

18 BY MS. GALE:

19 Q. Mr. Gnat, I'm showing you the  
20 gravelly sand unit at Powerton which is located at  
21 MWG 13-15\_62540 and Complainants' Exhibit 260-0,  
22 as in open, what is your -- what is the -- what is  
23 the groundwater flow here?

24 A. This is a map for May 2017 for the

1 gravelly sand unit as opposed to that silty clay  
2 unit we just looked at and in this particular map  
3 you can see that groundwater flow is in a  
4 northerly direction, but there is some component  
5 of divergence there. Flow --

6 Q. What do you mean -- sorry. Go  
7 ahead.

8 A. Flow to the north, some flow to the  
9 west, a little bit of flow to the northeast.

10 Q. And at Powerton, what are the up  
11 gradient monitoring wells?

12 A. The up gradient monitoring wells,  
13 and that depends on the unit, you know, but the  
14 overall up gradient monitoring wells are MW-16 and  
15 MW-9, MW-18 and then, for example, you know, some  
16 wells would be down gradient of say, for example,  
17 the ash bypass basin, MW-11 is down gradient of  
18 that, but it's certainly up gradient still of the  
19 ash surge basin. So some of the wells do double  
20 duty, so to speak.

21 Q. Last fall, again, we discussed a  
22 number of groundwater monitoring reports regarding  
23 Powerton, do you recall that testimony?

24 A. Yes.

1           Q.       And those exhibits were  
2   Complainants' Exhibit 24.5-E, the second  
3   quarter -- the amended second quarter 2012 report;  
4   Complainants; Exhibit 256-O, as in open, the  
5   second quarter of 2013 report; Complainants'  
6   Exhibit 257-O, the second quarter 2015 report;  
7   Complainants' Exhibit 258-O, the fourth quarter  
8   2016 report; Complainants' Exhibit 259-O, first  
9   quarter 2017 report; and Complainants' Exhibit  
10   260-O, the second quarter 2017 report. Do you  
11   recall that testimony?

12           A.       Yes.

13           Q.       And do you recall the timeframe of  
14   the groundwater monitoring results in those  
15   reports?

16           A.       The timeframe the groundwater  
17   monitoring has been from fourth quarter of 2010  
18   through the second quarter of 2017.

19           Q.       And turning to Midwest Generation  
20   Exhibit 810, Powerton Excel spreadsheets  
21   groundwater monitoring results.

22                               (Document marked as Respondent's  
23                               Exhibit No. 810 for  
24                               identification.)

1 BY MS. GALE:

2 Q. Are the groundwater monitoring  
3 results from the ones I just listed in Midwest  
4 Generation Exhibit 810?

5 A. Yes. Yes, they are.

6 Q. Okay. You said there were some new  
7 CCR wells at Powerton, what are those?

8 A. Well's MW-17, MW-18 and MW-19 were  
9 installed to support the new CCR rules.

10 Q. And if you turn to page 33 of  
11 Midwest Generation Exhibit 810 through 35 --

12 A. Okay.

13 Q. -- what do you see there?

14 A. This is the groundwater data  
15 generated upon the installation of those  
16 monitoring wells.

17 Q. So what is the timeframe for them?

18 A. That timeframe is -- for well 17,  
19 November 2015 through the second quarter of 2017,  
20 the same for MW-18 and I believe MW-19 was  
21 installed a little bit later. Yeah, MW-19 from  
22 November 2016 through the second quarter of 2017.

23 Q. So the groundwater results from  
24 Powerton for all of the wells, are they contained

1 in Midwest Generation Exhibit 810?

2 A. Yes, they are.

3 MS. GALE: Midwest Generation moves  
4 for the admission of Midwest Generation Exhibit  
5 810.

6 HEARING OFFICER HALLORAN: Mr.  
7 Wannier?

8 MR. WANNIER: No objection.

9 HEARING OFFICER HALLORAN:  
10 Respondent's Exhibit 810 is admitted.

11 BY MS. GALE:

12 Q. Mr. Gnat, were you here when Mark  
13 Kelly testified?

14 A. Yes, I was.

15 Q. And did you hear his testimony  
16 regarding using deicing materials at Powerton?

17 A. Yes, I remember this.

18 Q. And we discussed earlier the  
19 chlorides at Joliet 29 could be due to salt from  
20 Route 9, can you describe whether that's occurring  
21 at Powerton?

22 A. That is certainly, you know, again  
23 finding chloride in a number of the wells and it  
24 appears to have some seasonal or temporal



1 variation to it that usually in our neck of the  
2 woods closely corresponds to the use of road salt  
3 during winter -- winter months.

4 Q. And do you recall his discussion  
5 about the east yard basin --

6 A. Yes, I do.

7 Q. -- which it was discussed in Midwest  
8 Generation Exhibit 711?

9 A. Yes, I do.

10 Q. Does that help in your conclusion  
11 you just stated about chlorides at Powerton?

12 A. Yes. I mean, that's consistent.  
13 Chloride was detected within the east yard runoff  
14 basin and that collects runoff from that whole  
15 area including all the roadways and so on which as  
16 Mr. Kelly indicated those are pretty heavily  
17 salted during the winter months.

18 Q. Mr. Gnat, can you please turn back  
19 to Midwest Generation Exhibit 810 and look at  
20 monitoring well 16, which is on page -- starts on  
21 page 31 -- starts on page 31 and goes through 32,  
22 page 32.

23 A. Okay.

24 Q. Looking at the results for nitrates,

1 what do you recognize?

2 A. Nitrates are being detected at this  
3 location at concentrations above the Class 1  
4 drinking water standard.

5 Q. To your knowledge, what are nitrates  
6 typically from?

7 A. From -- especially in our area, from  
8 fertilizer use.

9 Q. And by our area, what do you mean?

10 A. Illinois. Midwest.

11 Q. And --

12 A. Agriculture farming areas.

13 Q. In particular Pekin, does that also  
14 apply?

15 A. The Pekin area is within an  
16 agricultural community, sure.

17 Q. Let's look at the result of boron in  
18 MW-16.

19 A. Okay.

20 Q. What do you see there?

21 A. Boron in this well has quite a range  
22 of concentrations starting out, the non-detect to  
23 0.13 and so and then we actually have  
24 concentrations in this location going up hit a

1 high of one part per billion or 1.0 mg/L -- not  
2 parts per billion. Parts per million. In  
3 November 2015 and then a little back down again.

4 Q. Just to confirm, I believe you said  
5 earlier monitoring well 16 is up gradient?

6 A. Yes, monitoring well 16 was  
7 installed as an up gradient monitoring well at the  
8 request of Illinois EPA.

9 Q. So seeing boron at 1.0 mg/L, what  
10 does that mean?

11 A. To me, this shows that we do have  
12 some boron entering the property or entering the  
13 area at a level that gets up to one part per  
14 million boron.

15 Q. You can close that. Thank you. So  
16 Powerton as part of the response to CCA, did --  
17 what did you assist in establishing at Powerton?

18 A. We assisted in establishing the  
19 Groundwater Management Zone, the ELUC, or  
20 Environmental Land Use Control, and we also  
21 installed that additional up gradient monitoring  
22 well that IEPA requested.

23 Q. And was the GMZ established at  
24 Powerton?

1           A.       Yes, it was.

2           Q.       And after the GMZ was established,  
3 has Illinois EPA ever indicated any issues with  
4 the GMZ at Powerton?

5           A.       No, they have not.

6           Q.       And you said that you assisted in  
7 establishing the ELUC at Powerton, was it  
8 established?

9           A.       Yes, it was.

10          Q.       And upon establishment of the ELUC,  
11 what does that mean?

12          A.       That once approved by Illinois EPA,  
13 the ELUC is placed on the deed and that restricts  
14 the possibility of installing a potable water well  
15 within the area designated.

16          Q.       And, again, what is the purpose of  
17 the restriction?

18          A.       The purpose is to remove any  
19 potential receptor.

20                   MS. GALE: Mr. Hearing Officer,  
21 we're at a good breaking point. I don't know if  
22 you want to take the opportunity for lunch.

23                   HEARING OFFICER HALLORAN: How do  
24 you feel about that, Mr. Wannier?

1                   MR. WANNIER: We're fine. I guess  
2 that will allow us to start earlier in the  
3 afternoon.

4                   HEARING OFFICER HALLORAN: We can be  
5 back here at 1:10.

6                   MR. WANNIER: Sure.

7                   HEARING OFFICER HALLORAN: Off the  
8 record. Have a good lunch.

9                                   (Whereupon, a break was taken  
10                                   after which the following  
11                                   proceedings were had.)

12                   HEARING OFFICER HALLORAN: We're  
13 back. It's about 1:15. We just came back from  
14 lunch. Mr. Gnat is still on the stand and  
15 Ms. Gale is continuing her direct.

16                   MS. GALE: Can I get on the screen  
17 going back to Powerton actually the groundwater  
18 sand unit which is in Complainants' Exhibit 260-0  
19 on Midwest Gen 13-15\_62540.

20 BY MS. GALE:

21                   Q.       Mr. Gnat, are you familiar with the  
22 term mounding?

23                   A.       Yes, I am.

24                   Q.       What is it?

1           A.       Mounding is an area of additional  
2 recharge to an aquifer, which then when you look  
3 at it can show divergent flow going in various  
4 directions away from that area.

5           Q.       Have you ever reported seeing  
6 mounding at Powerton?

7           A.       Well, on this figure here, what  
8 we're seeing is an area if you follow the contour  
9 447 kind of loops up and around to the east of  
10 where the ash surge basin is and that's an area  
11 which shows some divergent groundwater flow from  
12 there going to the east, to the north and the  
13 west. So that is certainly an area where you see  
14 that type of a divergent flow pattern.

15          Q.       Have you investigated why that is  
16 occurring?

17          A.       Yes, we -- the way we interpret this  
18 is it's a function of that silty ash -- I'm sorry.  
19 That silty clay unit that sits above the sand and  
20 gravel and that unit is discontinuous as I had  
21 said before. So it's not -- it doesn't occur over  
22 the whole area. It's in a small, more isolated  
23 part of the study area and that particular feature  
24 goes right along side the east side of where that

1 silty clay unit pitches out. So any of the  
2 monitoring wells if you remember that we had water  
3 levels from the silty clay unit and we had the  
4 groundwater flow going to the west, those were all  
5 wells that were along the eastern -- western side  
6 there of the ash surge basin and tucking up a  
7 little bit along the southside of that ash surge  
8 basin.

9 All the monitoring wells to the  
10 east of that are -- didn't see that unit. So what  
11 we have is that is the defining edge of that silty  
12 clay unit. So we have -- rather than water  
13 precipitation, water that infiltrates down through  
14 the ground getting caught up within that silty  
15 clay unit giving us higher water levels, it's  
16 actually recharging down into that underlying sand  
17 and gravel unit. So right -- that's basically  
18 marking that eastern edge of the silty clay giving  
19 extra recharge then down to the underlying sand  
20 and gravel and that's where you see the -- the  
21 divergent flow there.

22 Q. So is there mounding occurring in  
23 this diagram?

24 A. Due to the pitch out of that silty

1 clay unit.

2 Q. So the mounding is caused by the  
3 silty clay unit?

4 A. Correct.

5 Q. Thank you. All right. Moving onto  
6 Waukegan. Actually, we are going to --

7 MS. GALE: Can we put the Waukegan  
8 groundwater map up. Mr. Hearing Officer, I'm  
9 handing out Midwest Generation Exhibit 813, which  
10 is the same map you see on the screen there.

11 MR. WANNIER: Just to be clear, this  
12 is replacing what had been previously marked, but  
13 was withdrawn as 813, right?

14 MS. GALE: Yes.

15 MR. WANNIER: Okay.

16 BY MS. GALE:

17 Q. Mr. Gnat, what do you see on Midwest  
18 Generation Exhibit 813?

19 A. This exhibit shows a groundwater  
20 contour map dated May 5th, 2017, developed by  
21 KPRG.

22 Q. And how many wells are at Waukegan?

23 A. Between all the different wells  
24 there are 16 monitoring wells there.



1 Q. And what are the CCA wells?

2 A. The CCA wells, the ones that are  
3 monitored in accordance with the Compliance  
4 Commitment Agreement, are monitoring well's 1  
5 through 4, 5, 6 and 7.

6 Q. Okay. Mr. Gnat, last fall again we  
7 all saw various monitoring reports that relate to  
8 Waukegan CCA's and those were Exhibit's 29-E,  
9 third quarter 2012 report; 267-P, the second  
10 quarter 2013 report; Complainants' Exhibit 268-P,  
11 the second quarter 2015 report; Complainants'  
12 Exhibit 269-P, the fourth quarter 2016 report; and  
13 Complainants' Exhibit 270-P, the second quarter  
14 2017 report, do you recall that testimony?

15 A. Yes.

16 Q. And, again, what is the timeframe of  
17 those groundwater monitoring results?

18 A. Yes, through the fourth quarter of  
19 2010 through the second quarter of 2017.

20 Q. And are the results from the  
21 exhibits I just listed contained within Midwest  
22 Generation Exhibit 812, the Waukegan Excel  
23 spreadsheet?

24 A. Exhibit 811, I believe.

1 Q. I'm sorry. 811. Thank you.

2 A. Yes, they are.

3 Q. Can you take a look and just, for  
4 example, at monitoring well one on the first  
5 quarter 2017, has there been a change in the  
6 analysis?

7 MR. WANNIER: Objection. Vague.

8 HEARING OFFICER HALLORAN: Can you  
9 rephrase maybe.

10 BY MS. GALE:

11 Q. Monitoring well -- okay. The first  
12 quarter 2017, to your knowledge, what changes in  
13 analysis occurred at the Waukegan station?

14 A. The Waukegan station ash ponds  
15 underwent some additional modifications that the  
16 Illinois EPA issued a construction permit for and  
17 within that construction permit were some specific  
18 groundwater monitoring requirements which were  
19 similar, but a little bit different, again, from  
20 the CCA requirements and so we talked with  
21 Illinois EPA and they said to shift over to the  
22 requirements within the construction permit and so  
23 that monitoring started the first quarter of 2017  
24 and, again, the main difference there being that

1 we were analyzing for total metals. So the  
2 samples were not being field filtered.

3 Q. And are those results reflected in  
4 Midwest Gen Exhibit 811?

5 A. Yes.

6 Q. And at Waukegan, I think you  
7 mentioned earlier that you sampled the ELUC wells,  
8 correct?

9 A. Correct.

10 Q. What are those?

11 A. The ELUC wells I believe are well's  
12 10, 11, 14 and 15.

13 Q. And we haven't --

14 A. And 12.

15 Q. And 12. Thank you. Aren't there  
16 also monitoring well's 8 and 9 that are sampled?

17 A. Yes.

18 Q. And, again, last fall we looked at  
19 monitoring results from those wells. Those were  
20 Complainants' Exhibit 216-I through 220-I and then  
21 Complainants' Exhibit 229-K through 235.5-K, do  
22 you recall that testimony?

23 A. Yes, I do.

24 Q. And are the results from monitoring

1 well's 8, 9 and ELUC Tannery wells contained  
2 within Midwest Gen Exhibit 811?

3 A. Yes, they are.

4 MS. GALE: Mr. Hearing Officer, we  
5 move to admit Midwest Generation Exhibit 811.

6 MR. WANNIER: No objection.

7 HEARING OFFICER HALLORAN: Thank  
8 you. Respondent's Exhibit 811 is admitted.

9 BY MS. GALE:

10 Q. Mr. Gnat, we've listed monitoring  
11 well's 1 through 12 and 14 through 16. What  
12 happened to monitoring well 13?

13 A. Monitoring well 13 wasn't installed  
14 for the initial ELUC there. It's either been  
15 destroyed or buried. Nobody can find it.

16 Q. And what is the new CCR well at  
17 Waukegan?

18 A. MW-16.

19 Q. And are the results for MW-16 also  
20 in Midwest Gen Exhibit 811?

21 A. I believe so, yes. Yes, they are.

22 Q. The ELUC wells -- Mr. Gnat, why are  
23 they called the ELUC wells?

24 A. Those wells were installed by the

1 consultant that was doing the work on the Tannery  
2 site investigation immediately west of the Midwest  
3 Gen property and as part of their investigation  
4 they determined that there was migration of  
5 various metals onto the Midwest Gen property and  
6 as part of their remediation they wanted to  
7 implement an institutional control of an ELUC that  
8 extends onto the Midwest Gen property and those  
9 monitoring wells were installed as part of that  
10 ELUC.

11 Q. Who installed the ELUC monitoring  
12 wells?

13 A. The consultant for the Tannery site.  
14 I don't remember who that was.

15 Q. Not you?

16 A. No.

17 Q. And you said there was historic  
18 contamination. To your knowledge, what is that  
19 historic contamination?

20 A. There are various metals that are  
21 coming onto the Midwest Gen property above  
22 standard which I believe includes arsenic, barium,  
23 I don't quite remember the full suite of  
24 parameters that were included there.

1           Q.       Does KPRG have boring logs for the  
2 ELUC wells?

3           A.       No, we do not.

4           Q.       Mr. Gnat, without boring logs, is  
5 there a method by which a consultant can determine  
6 the subsurface of the ELUC area -- the ELUC wells?

7                   MR. WANNIER:  Objection.  Calls for  
8 an expert opinion.  This is not a testifying  
9 expert.

10                   HEARING OFFICER HALLORAN:  
11 Overruled.  He may answer if he's able.

12 BY THE WITNESS:

13           A.       If there are borings in the  
14 immediate area that are sufficient and go deep  
15 enough, you can make some interpretations off of  
16 those borings.

17 BY MS. GALE:

18           Q.       And how would you go about doing  
19 that?

20           A.       Well, you would obtain whatever  
21 information you can as to where those borings are  
22 located and review the boring logs and try and  
23 determine is that area sufficiently covered  
24 relative to the well that you're looking at.

1 Q. And what sort of factors are you  
2 looking at to determine whether it's sufficiently  
3 covered?

4 A. How close or what the proximity of  
5 that boring is to the specific well boring or  
6 borings and then also how -- how deep are those  
7 borings versus the monitoring well.

8 Q. Mr. Gnat, do you recall the  
9 testimony last fall by Dr. Kunkel on relying upon  
10 the ENSR phase two boring logs to conclude on the  
11 subsurface of the ELUC wells?

12 A. Yes.

13 Q. Do you recall Dr. Kunkel stated that  
14 he relied upon boring logs in the ENSR phase two  
15 to determine the contents of the ELUC wells?

16 A. Yes.

17 Q. Can you please pull out Exhibit  
18 19-D, which should be on your pile. I'll assist  
19 you.

20 Please go to Figure 5, which is  
21 at MWG 13-15\_45817. What are we looking at here?

22 A. That is an ENSR site plan map that  
23 shows various boring locations.

24 Q. It's called the soil boring

1 monitoring well site plan?

2 A. Yes.

3 Q. What is the scale of this site plan?

4 A. There is no scale.

5 Q. What does that mean?

6 A. That means that the locations are  
7 all relative and there is really no way to tell  
8 what the actual distances are one point to another  
9 on this map.

10 Q. To your knowledge from visiting the  
11 Waukegan station, approximately how big is it?

12 A. I believe it's a couple hundred  
13 acres.

14 Q. And this map is on an 8 x 11 sheet  
15 of paper. When comparing a map of a station such  
16 as Waukegan on an 8 x 11 sheet of paper that is a  
17 couple hundred acres, what would the distance on  
18 the map approximately be?

19 A. You know, there is no scale here.  
20 It is hard to tell. You know, half an inch could  
21 be a hundred feet. I don't know.

22 Q. So how can a person compare the  
23 location of boring logs from a site plan that is  
24 not to scale?



1           A.       It would be hard to do.  There is a  
2 lot of guesswork at that point.

3           Q.       Would you recommend it -- Strike  
4 that.

5                        Have you reviewed the boring  
6 logs in Exhibit 19-D?

7           A.       Yes, I have.

8           Q.       Based upon your review of the boring  
9 logs, what is your observation of how the ELUC  
10 wells are screened?

11          A.       I can't make a determination on how  
12 they're screened and the reason is because the  
13 boring logs that would be in the vicinity of those  
14 wells when I reviewed those boring logs they are  
15 four foot deep boring logs and so I can't make any  
16 interpretation on anything deeper than four feet.

17          Q.       And are the ELUC wells deeper than  
18 four feet?

19          A.       Yes, they are.

20          Q.       And, to your recollection, and we  
21 can certainly turn to the boring logs if we need a  
22 reminder, what is contained within the boring logs  
23 near the ENSR wells?

24          A.       If I remember correctly, the -- they

1 are four foot boring logs and they show various  
2 either silty sands or sands and then some coal as  
3 well and I think there was up to two feet of coal  
4 layer here or there and there were certainly no  
5 ash that was logged in those monitoring wells.

6 Q. Thank you.

7 A. I'm sorry. Not monitoring wells.  
8 Borings.

9 Q. Thank you. You can put that away.  
10 Mr. Gnat, again looking at the map which is  
11 Midwest Gen Exhibit 813, what are the up gradient  
12 monitoring wells at Waukegan?

13 A. Up gradient being of the ash ponds?

14 Q. Yes, thank you.

15 A. Well's 5, 6, 8, 9, 10, 12, 11, 14  
16 and 15.

17 Q. And what are the down gradient  
18 monitoring wells?

19 A. Excuse me. Down gradient monitoring  
20 wells would be well's 1 through 4, 7 being  
21 slightly side gradient and well 16.

22 Q. Looking at the figure in Midwest Gen  
23 Exhibit 813, what is the groundwater flow?

24 A. Groundwater flow beneath the ash

1 pond area is to the east, southeast.

2 Q. Further west, how does that  
3 groundwater flow?

4 A. There is some divergence. There is  
5 some groundwater flow component that goes to the  
6 north, northwest towards the intake channel of  
7 Lake Michigan there into the plant or that might  
8 be the outfall and so there is some groundwater  
9 flow going in that direction as well.

10 Q. Mr. Gnat, we handed out this exhibit  
11 because it's not contained in the exhibits  
12 described previously, in particular the ones  
13 related to the CCA wells.

14 Can you explain why -- how this  
15 exhibit, Midwest Exhibit 813, is different from  
16 the maps that are in the previously entered  
17 exhibits?

18 A. Well, when we were initially doing  
19 the CCA monitoring and that being focused on the  
20 ash pond area, we basically were just highlighting  
21 the wells associated with that CCA monitoring and  
22 drawing the groundwater flow map with those wells.  
23 Taking a step back and taking the information --  
24 water level information from all of the monitoring

1 wells in the area that are outside of the CCA  
2 monitoring as well and putting that onto that map,  
3 that's how this map was generated to include all  
4 of that water level data.

5 Q. Right. So this map includes all the  
6 water level data from all the wells?

7 A. Correct.

8 Q. And looking at your flow, is it  
9 possible for some of the water from the western  
10 edge of the property to get to the eastern edge of  
11 the property? The groundwater. Excuse me.

12 A. Yes.

13 Q. Can you explain how, please?

14 A. Sure. The -- the groundwater  
15 flow -- the blue lines on this map are the lines  
16 of -- the groundwater contour lines are lines of  
17 equal elevation are ahead of the groundwater in  
18 the aquifer. The yellow lines are the flow lines  
19 and that flow path of groundwater is generally you  
20 would view it as periradicular to the blue contour  
21 lines. So if you follow the middle yellow arrow  
22 there which takes you from the eastern portion of  
23 the site where you've got well's 14 and 10, ELUC  
24 well's 14 and 10, there is clearly a flow path

1 that takes water from that part of the site and  
2 moves it beneath the ash pond area.

3 Q. Okay. You can put that down.  
4 Mr. Gnat, we've been talking about the CCA  
5 process.

6 What did you assist in  
7 establishing at Waukegan as part of the Waukegan  
8 CCA?

9 A. The ELUC, Environmental Land Use  
10 Control.

11 Q. And, again, upon establishment of  
12 the ELUC, what does that mean?

13 A. That any -- that area has got now a  
14 land use restriction on it, it's on the deed and  
15 it restricts the ability of the installation of a  
16 potable water well on that part of the property  
17 removing any potential receptor.

18 Q. Sorry. Once again back to Midwest  
19 Generation Exhibit 813. Did KPRG create this map?

20 A. Yes, we did.

21 MS. GALE: Mr. Hearing Officer, we  
22 move to admit Midwest Generation Exhibit 813.

23 HEARING OFFICER HALLORAN: Mr.  
24 Wannier?

1 MR. WANNIER: No objection.

2 HEARING OFFICER HALLORAN: Thank  
3 you. Respondent's Exhibit 813 is admitted.

4 BY MS. GALE:

5 Q. Mr. Gnat, can you please turn to  
6 Exhibit 806 in your binder?

7 A. Okay.

8 Q. What is this?

9 A. This is a document prepared by KPRG  
10 & Associates dated July 22nd, 2004, to Midwest  
11 Generation. It's a soil pile sampling summary.

12 Q. And who signed it on page 12812?

13 A. I did.

14 Q. Did you assist in the preparation?

15 A. Yes, I did.

16 Q. Can you turn to page Midwest Gen MWG  
17 13-15\_12811. The bottom of the page, what -- what  
18 is this regarding?

19 A. We were requested -- we were  
20 requested to collect some ash samples from around  
21 the pond area, one being from some ash that was  
22 staged just north of the pond as it was I guess  
23 being excavated and some from the bottom ash  
24 within the pond.

1 Q. And you took the samples, did you  
2 analyze the samples?

3 A. Yes, we analyzed the samples for the  
4 ASTM neutral leach parameters to make a  
5 determination as to whether or not that material  
6 can be beneficially reused and we also analyzed  
7 the samples for Wisconsin Protocol B disposal  
8 parameters in case it could not be reused and  
9 would have to be disposed of in a landfill.

10 Q. I believe you said -- how did KPRG  
11 analyze the samples? What was the sampling  
12 analysis?

13 A. Well, for the determination of  
14 whether or not it could be beneficially reused,  
15 there is an ASTM standard, neutral leachate test,  
16 NLT, the exact number of the standard eludes me  
17 right now. So we used that analysis for that  
18 portion and in Wisconsin the Protocol B is a list  
19 of parameters that you analyze for the part of  
20 landfill disposal permits. So it includes TCL --  
21 TCLP analysis, PCB analysis and so on just to  
22 document for the landfill that they can accept it  
23 as a nonhazardous waste.

24 Q. And the neutral leachate -- ASTM

1 neutral leach standard, to your knowledge -- why  
2 did KPRG choose that analysis to determine whether  
3 it could be used as coal combustion bi-product?

4 A. That is the analytical protocol that  
5 is specified in the State of Illinois statutes and  
6 IEPA to make that determination.

7 Q. Can you please turn to the next page  
8 MWG 13-15\_12812.

9 A. Yes.

10 Q. The first full paragraph there, what  
11 were the results of the neutral leach parameter  
12 test? Excuse me.

13 A. It states here that the results  
14 indicated that the neutral leach test results did  
15 not display any significant metals leachability.

16 MS. GALE: Mr. Hearing Officer, we  
17 move to admit Midwest Gen Exhibit 806.

18 HEARING OFFICER HALLORAN: Mr.  
19 Wannier?

20 MR. WANNIER: Your Honor, we --  
21 would it be possible to ask just a couple  
22 clarifying questions about the redacted portions  
23 of this exhibit?

24 HEARING OFFICER HALLORAN: Ms. Gale?



1 MS. GALE: Well, my recollection is  
2 that this was not objected to in our original  
3 exchange of exhibits with Mr. Gnat.

4 MR. WANNIER: We just want to make  
5 sure that none of the redacted portions have to do  
6 with the sites that are at issue here.

7 HEARING OFFICER HALLORAN: Let's go  
8 off the record a minute.

9 (Whereupon, a break was taken  
10 after which the following  
11 proceedings were had.)

12 HEARING OFFICER HALLORAN: We're  
13 back on the record.

14 MR. WANNIER: No objection to  
15 admission.

16 HEARING OFFICER HALLORAN: Thank  
17 you, Mr. Wannier. Respondent's Exhibit 806 is  
18 admitted.

19 BY MS. GALE:

20 Q. Thank you. Mr. Gnat, just from my  
21 recollection, have you visited the Waukegan  
22 station?

23 A. Yes, I have.

24 Q. And are you familiar with the

1 neighbors of the Waukegan station?

2 A. Yes, I am.

3 Q. Can you please turn to Midwest Gen  
4 Exhibit 807.

5 A. Okay.

6 Q. What is this?

7 A. This is a map prepared by KPRG using  
8 a 1974 aerial photograph that identifies some of  
9 the surrounding properties around the Midwest Gen  
10 Waukegan station.

11 Q. And when was this prepared?

12 A. January of 2013.

13 Q. And looking at Midwest Gen 807, can  
14 you please describe the immediate neighbor to the  
15 Waukegan station?

16 A. To the north is the former Johns  
17 Manville site. That's the Superfund site. To the  
18 west is the Tannery site that we've been referring  
19 to. That's the former Greiss-Pfleger Tannery.  
20 Also to the west there of the ash pond is the  
21 former General Boiler property. Those two were  
22 Illinois EPA sites.

23 Then you have a little bit  
24 further to the south the former North Shore Gas

1 North Plant, MGP. MGP being manufactured gas  
2 plant. I believe that's a Superfund site and then  
3 you've got to the south you have the North Shore  
4 Sanitary District property. I believe they're  
5 under a different name now. I think they changed  
6 their name. And then south of there is the former  
7 Johnson Motor Site, also known as Johnson Marine.  
8 That's another Superfund site.

9 MS. GALE: Mr. Hearing Officer, we  
10 move to admit Midwest Gen Exhibit 807.

11 HEARING OFFICER HALLORAN: Mr.  
12 Wannier?

13 MR. WANNIER: No objections.

14 HEARING OFFICER HALLORAN: Thank  
15 you. Respondent's Exhibit 807 is admitted.

16 MS. GALE: Can we put on the screen  
17 the groundwater flow map from Exhibit 281-Q for  
18 Will County.

19 BY MS. GALE:

20 Q. Mr. Gnat, do you recognize that on  
21 the screen?

22 A. Yes, I do.

23 Q. What is that?

24 A. That is a groundwater contour map

1 for the May 2017 event drawn by KPRG and the date  
2 is June 2017.

3 Q. And, for the record, that is in  
4 Complainants' Exhibit 281-Q and the map is located  
5 at MWG 13-15\_62473.

6 Mr. Gnat, at Will County, how  
7 many wells are there?

8 A. There are a total of 12 monitoring  
9 wells at Will County.

10 Q. And at Will County, what are the up  
11 gradient wells?

12 A. The up gradient wells are well's 1  
13 through 6.

14 Q. And what are the down gradient  
15 wells?

16 A. Well's 7 through 12 and well's 11  
17 and 12 are not on this figure.

18 Q. They are not on this figure.  
19 Mm-hmm. We'll get to that. Looking at this  
20 figure, what is the flow of groundwater?

21 A. The flow of groundwater is to the  
22 west.

23 Q. Okay. Mr. Gnat, what are the CCA  
24 wells at Will County?

1           A.       The CCA wells are the ones that are  
2 on this map well's 1 through 10.

3           Q.       Last fall, again, we discussed a  
4 number of groundwater reports for Will County.  
5 Those were Exhibit's 30-E, the second quarter 2012  
6 report; Complainants' Exhibit 278-Q, second  
7 quarter 2013 report; Complainants' Exhibit 279-Q,  
8 the second quarter 2015 report; Complainants'  
9 Exhibit 280-Q, the second -- excuse me -- the  
10 fourth quarter 2016 report and Complainants'  
11 Exhibit 281-Q, the second quarter 2017 report. Do  
12 you recall testifying about those reports?

13          A.       Yes, I do.

14          Q.       Can you please flip in your book to  
15 Midwest Gen Exhibit 812.

16          A.       Okay.

17          Q.       Are the groundwater monitoring  
18 results from the exhibits I just named contained  
19 within an Excel spreadsheet that is Midwest Gen  
20 Exhibit 812?

21          A.       Yes, they are.

22          Q.       And I think you said there are two  
23 new CCR wells, what are those?

24          A.       Well's 11 and 12.

1 Q. And if you flip to page 21 of 21,  
2 are the results for monitoring well's 11 and 12  
3 contained within Midwest Gen Exhibit 812?

4 A. Yes, they are.

5 MS. GALE: Mr. Hearing Officer, we  
6 move to admit Midwest Gen 812.

7 MR. WANNIER: No objections.

8 HEARING OFFICER HALLORAN: Thank  
9 you. Respondent's Exhibit 812 is admitted.

10 BY MS. GALE:

11 Q. So, Mr. Gnat, after we have gone  
12 through Exhibit's -- Midwest Gen Exhibit's 809,  
13 810, 811 and 812, if I wanted one place to go for  
14 all the groundwater data relevant to this case,  
15 where would that be?

16 A. That should be contained in these  
17 data tables.

18 Q. Thank you. At -- in response to the  
19 CCA's which we've been discussing, what did you  
20 assist in establishing at Will County?

21 A. I assisted in establishing the  
22 Groundwater Management Zone and the Environmental  
23 Land Use Control.

24 Q. Okay. And just remind ourselves,

1 upon the establishment of a Groundwater Management  
2 Zone at Will County, what does that mean?

3 A. That's an institutional control as  
4 part of a more active remedy and that allows for  
5 groundwater quality to -- Class 1 standards do not  
6 apply.

7 Q. And after the GMZ was established at  
8 Will County, has Illinois EPA ever contacted you  
9 with regards to any concern with regard to the  
10 GMZ?

11 A. No.

12 Q. You said you assisted in  
13 establishing the ELUC at Will County, was that  
14 established?

15 A. Yes, it was.

16 Q. And, again, upon establishment of  
17 the ELUC, what does that mean?

18 A. That ELUC restricted the  
19 installation of any groundwater or any water --  
20 potable water well within the area defined by the  
21 ELUC removing any human receptor.

22 Q. Mr. Gnat, on your table there if you  
23 can find Exhibit -- Complainants' Exhibit 284.

24 And Complainants' Exhibit 284 starts at MWG

1 13-15\_49565. This is CCB determination support  
2 document that KPRG prepared, do you recognize  
3 talking about this last fall?

4 A. Yes, I do.

5 Q. And in this analysis -- excuse me.  
6 What were you analyzing in Complainants' Exhibit  
7 284 or what was KPRG analyzing?

8 A. We were requested to collect some --  
9 some bottom ash samples and we -- to determine  
10 whether or not they could be used for beneficial  
11 reuse. So we analyzed for the, excuse me, ASTM  
12 D3987-85 which is the neutral leach testing method  
13 specified in the Illinois statutes.

14 Q. Okay. And turning to the results  
15 page which is on page MWG 13-15\_49568.

16 A. Okay.

17 Q. What were the results of the  
18 analysis?

19 A. That we had several conclusions  
20 here. One, that the ash deposits were consistent  
21 and homogenous. The data showed no outliers and  
22 based on our statistical analysis and the data  
23 itself that the material meets the requirements  
24 for beneficial reuse.



1 Q. Mr. Gnat, we've talked a few times  
2 about this ASTM 3987 analysis and I believe you  
3 said it's because it's the analysis required by an  
4 Illinois statute termed CCB?

5 A. Yes.

6 Q. And, in fact, we know which one that  
7 is. If you turn to the first page of  
8 Complainants' Exhibit 284, in the second paragraph  
9 can you tell us what is -- what that statute  
10 number is?

11 A. The statute is 415 ILCS 5/3.135.

12 Q. Great. Mr. Gnat, can you please  
13 flip to Midwest Gen Exhibit 808 in your binder.

14 A. Okay.

15 Q. What is this?

16 A. This is the actual ASTM standard for  
17 the method specified in the code that we just  
18 talked about.

19 Q. And by actual, what do you mean?

20 A. This is the ASTM publication that  
21 defines the method.

22 Q. So it is the complete document, is  
23 that what you mean?

24 A. Yes.

1 Q. And where can you get this standard  
2 or where could I get -- where -- did KPRG acquire  
3 this standard?

4 A. Yes. For the most part, you have to  
5 pay ASTM for the standard, but I believe I  
6 actually pulled this one off the Internet.

7 Q. So it's publicly available?

8 A. Yes.

9 Q. And what is this test used for?

10 A. Well, this test is the method that  
11 is specified in Illinois determination of whether  
12 or not coal ash can be used for beneficial reuse  
13 and if it can be classified as a coal combustion  
14 bi-product for beneficial reuse.

15 Q. Is it used on any other materials  
16 other than coal -- coal ash?

17 A. It may be. That's what I use it  
18 for.

19 Q. Is it used to determine hazardous  
20 waste?

21 A. No. No. This is not the method for  
22 determining hazardous waste.

23 Q. And looking at the top the D3987-85  
24 (reapproved) 2004, do you know what those numbers

1 mean?

2 A. Yeah, I believe -- ASTM has its own  
3 numbering system for its different standards. D I  
4 believe is for materials, 3987 is the number  
5 assigned to the method and '85 is the year in  
6 which it was written and in this case it was  
7 reapproved in 2004 with no changes to that '85 --  
8 to the '85 version.

9 Q. To your knowledge, was -- did -- was  
10 it -- what happened in 2012 for the ASTM standard?

11 A. The ASTM standard -- modified  
12 standard was issued -- I believe ASTM D3987-12 was  
13 issued. So there was a slight modification in  
14 that standard relative to the procedure.

15 Q. So as this was adopted in '85,  
16 reapproved in 2004 and then up until it was  
17 reissued in 2012, from 1985 through 2011, how many  
18 changes to the sections of this method would there  
19 have been?

20 A. None.

21 Q. Can you please look in Section 4,  
22 the significance in use section on the first page  
23 of Midwest Gen Exhibit 808.

24 A. Yes.

1 Q. What is that?

2 A. That is called significance and use.

3 Q. And what is contained within that  
4 entire section?

5 A. This is a section that's in most of  
6 ASTM's standards and it's a list of limitations  
7 and just kind of gives some notice as to what the  
8 uses of the test may or may not be and it's just  
9 that. It's for guidance. It's for the person  
10 that is going to use the standard to understand  
11 some of the potential limitations.

12 Q. And what do these limitations mean  
13 as to the usefulness of the sampling analysis?

14 A. That you need to consider these  
15 limitations in your interpretations and your use  
16 of the standard.

17 Q. Does it mean it's not useful?

18 A. No.

19 Q. Why not? Why is it not useful?

20 A. I mean, it is useful.

21 Q. Okay.

22 A. I'm sorry. I must have  
23 misunderstood the question. It is useful for  
24 anybody to understand what the potential, you

1 know, risks are, limitations are to the test. So  
2 that as you're applying your interpretations  
3 you -- you are applying them correctly and so  
4 that's where that section comes in. It's  
5 qualifying out -- ASTM is qualifying out what the  
6 basis of the test is.

7 Q. You mentioned earlier that the  
8 standard changed in 2012, do you know the  
9 difference between the 3987-85, which was  
10 reapproved in 2004, and the new 3987-12?

11 A. Yes, I believe the only difference  
12 there was in the analytical procedure where the  
13 new test specified a modified temperature window I  
14 believe in which that analysis needs to be  
15 performed in the lab.

16 Q. And I see in some of these samples  
17 analyzed, in particular in Exhibit 284, it was --  
18 used the '85.

19 Did you investigate whether the  
20 analysis conducted after 2012 complied with the  
21 new 2012 revision?

22 A. Yes, I called the lab up and talked  
23 with the lab. We went over the change in method  
24 there and the lab went through its data and

1 determined that it was using the correct  
2 temperature range and so it met the requirements  
3 of the new standard or the modified standard as  
4 well.

5 Q. What does that mean, would the  
6 results have been any different?

7 A. No, the results meet the -- meet the  
8 standard requirements, the modified standard  
9 requirements.

10 Q. Mr. Gnat, do you recall that  
11 Dr. Kunkel had a discussion -- discussed the ASTM  
12 standard in his testimony?

13 A. Yes, I do.

14 Q. And do you recall that he relied  
15 upon two abstracts that were identified in his  
16 testimony as Complainants' Exhibit 409 and 410?

17 A. Yes, I do.

18 Q. Do abstracts contain all of the  
19 information related to a sampling standard  
20 analysis?

21 A. No. No. They're just what they  
22 say. They're an abstract, certain portions of it  
23 pulled out.

24 Q. So what is an abstract -- what is

1 your understanding of an abstract?

2 A. It -- it pulls out certain portions  
3 of the document to highlight what is in the  
4 document, but it is not a complete copy of the  
5 document.

6 Q. Mr. Gnat, can you open the Kunkel  
7 binder again and we'll turn to Complainants' 409.  
8 What is that?

9 A. This is an abstract it appears here  
10 of the ASTM standard that we've been talking about  
11 and this is the '85 with the 2014 re-approval.

12 Q. And so that's not the complete  
13 version of the standard, is it?

14 A. No. No. It's just a small synopsis  
15 of Section 2 and Section 1 scope and Section 2 and  
16 then some key words.

17 Q. And does the -- what you're looking  
18 at in Complainants' Exhibit 409 contain the  
19 limitations that are in Section 4 of Midwest Gen  
20 Exhibit 808?

21 A. No. No. Those are not included at  
22 all.

23 Q. Do you recall -- do you recall  
24 testimony that the 2012 ASTM procedure for the

1 shake test had some caveats in it that weren't in  
2 the previous version?

3 A. Yes.

4 Q. Was that correct?

5 A. No, I believe the abstract that was  
6 being referred to -- I'm sorry -- that's Exhibit  
7 410. That is the abstract for this test method  
8 that was -- where the test method was revised in  
9 2012 and that abstract includes -- that was pulled  
10 off the Internet includes the significant use  
11 limitations that I just talked about or that we  
12 talked about that were in Section 4 of the older  
13 version of the ASTM standards.

14 So the difference between the  
15 two abstracts was that the one pulled for the 2004  
16 version didn't include in that abstract this  
17 significance and use limitation section and in  
18 2012 they decided to include it in the abstract  
19 online.

20 Q. And just because it wasn't in the  
21 abstract for the 2004 version, does that mean it  
22 wasn't in the complete version?

23 A. No, it was clearly in the complete  
24 version we were looking at originally and when I



1 compared the verbiage between this and what was in  
2 the older complete version, it's the exact same  
3 verbiage word for word.

4 Q. And looking at Midwest Gen Exhibit  
5 808, even with these limitations, who relies upon  
6 this standard to conduct analysis?

7 A. This is the standard that is  
8 specified by the State of Illinois and US EPA to  
9 use for the determination of whether or not a coal  
10 combustion waste can be used or classified as a  
11 coal combustion bi-product for beneficial reuse.

12 MS. GALE: Mr. Hearing Officer, we  
13 move to admit Midwest Gen Exhibit 808.

14 HEARING OFFICER HALLORAN: Mr.  
15 Wannier?

16 MR. WANNIER: No objections.

17 HEARING OFFICER HALLORAN: Okay.  
18 Thank you. Respondent's Exhibit 808 is admitted.

19 BY MS. GALE:

20 Q. Mr. Gnat, back to talking about the  
21 Will County station.

22 To your recollection, did you  
23 conduct or did KPRG conduct a phase one and phase  
24 two neighboring property at Will County?

1           A.       Yes, we did.

2                   MS. GALE:   Can we bring up the map  
3 of -- Will County map?

4 BY MS. GALE:

5           Q.       This is a map of Will County and it  
6 is part of Complainants' Exhibit 667.

7                   MS. NIJMAN:   Respondent's.

8                   MS. GALE:   I'm sorry.   Midwest Gen  
9 667.

10 BY MS. GALE:

11           Q.       Where did -- where was the phase one  
12 and phase two of the neighboring property  
13 conducted looking at this map?

14           A.       It was -- if you look towards the  
15 northside of the Will County station property,  
16 you've got the Des Plaines River to the west and  
17 then you'll see part of an island there in the Des  
18 Plaines River.   That's the property on that  
19 island.

20           Q.       And, to your recollection, what did  
21 KPRG find out about the property?

22           A.       That was -- it's an industrial use  
23 property.   It was a former 55-gallon drum  
24 recycling activity and our phase two work found

1 various groundwater and soil contamination on that  
2 property associated with the old use of the  
3 property and contaminants included volatile  
4 organic compounds, metals, various polyaromatic  
5 hydrocarbons and PCB's.

6 Q. Finally, Mr. Gnat, based upon your  
7 years of working with Midwest Gen, how would you  
8 describe Midwest Generation's attitude and  
9 treatment as it relates to environmental  
10 compliance?

11 A. Midwest Generation for us has been a  
12 great client to work with. They're very  
13 knowledgeable and they're very proactive when it  
14 comes to environmental compliance and trying to  
15 comply with all the regulations.

16 MS. GALE: Can I have a moment,  
17 please? No further questions.

18 HEARING OFFICER HALLORAN: Thank  
19 you. Mr. Wannier, do you want a moment to collect  
20 your thoughts?

21 MR. WANNIER: That would be great.

22 HEARING OFFICER HALLORAN: We're off  
23 the record.

24

1 (Whereupon, a break was taken  
2 after which the following  
3 proceedings were had.)

4 HEARING OFFICER HALLORAN: We're  
5 back on the record. Mr. Wannier is about to cross  
6 Mr. Gnat.

7 C R O S S E X A M I N A T I O N  
8 BY MR. WANNIER

9 Q. Okay. Good afternoon.

10 A. Good afternoon.

11 Q. So I'm going to start by going sort  
12 of back through some of the questions that you  
13 were asked just this afternoon and this morning.

14 I think the first question is  
15 Exhibit's 809 through 812 you were asked several  
16 questions about those tables of groundwater data.

17 A. Yes.

18 Q. And I guess my question is I know  
19 that you -- they include both CCR and CCA data and  
20 that's indicated in the bottom of the sheets.

21 My question is, if the same well  
22 was tested both using the filtered sample and  
23 using the unfiltered sample, which of those two  
24 data points would be in the tables that you

1 assembled?

2 A. The unfiltered sample.

3 Q. Okay.

4 A. No. I'm sorry. The filtered  
5 sample.

6 Q. Okay. So the filtered sample?

7 A. Correct.

8 Q. So if there were both a filtered  
9 sample and an unfiltered sample analysis of the  
10 same monitoring well at the same time, then the  
11 un- -- than the unfiltered sample would not show  
12 up in the tables that you prepared, is that  
13 correct?

14 A. That is correct.

15 Q. Okay.

16 A. And the reason being just I believe  
17 from previous testimony of Dr. Kunkel's he saw  
18 that -- when he looked at both the filtered and  
19 unfiltered data, that he really saw no difference  
20 between it. So for duplicity purposes, we just  
21 included the filtered sample data.

22 Q. Okay. And so when did you prepare  
23 these charts in Exhibit's 809 through 812?

24 A. These are cumulative over the course

1 of all of the sampling. So as each sampling is  
2 done, the table is updated and so this is  
3 basically an endpoint at the end of the second  
4 quarter 2017 of all of our data.

5 Q. Thank you. And do you share these  
6 in the regular course of your business with  
7 Midwest Generation?

8 A. Yes, I do.

9 Q. So I guess just to clarify. As  
10 these were being prepared, you would send sort of  
11 constantly updated versions to them as part of  
12 your work for them?

13 A. With each quarter of sampling, we  
14 issue a quarterly report and that quarterly report  
15 includes that next quarter of data. Now, for  
16 purposes of, you know, as you see these tables get  
17 very long, within each quarterly report we include  
18 the new data for that quarter and the previous  
19 eight quarters. So the following one, you know,  
20 the table just kind of moves along, but at the end  
21 of the day if you just blow up one of our  
22 spreadsheets and hit the button you'll print out  
23 what you have at the back of your --

24 Q. Got it. Thank you. And you said

1 you conduct -- I believe you said you conduct  
2 quality assurance on downloads of the lab results?

3 A. Right. When -- when the --

4 Q. Sorry. Go ahead.

5 A. When the lab package comes in, I  
6 certainly look at any of the qualifiers within  
7 that lab package to get an understanding of any  
8 lab issues and the data is provided within an  
9 Excel spreadsheet which is then directly  
10 downloaded into our database. So there is no  
11 manual transcription of those numbers.

12 Q. Okay. Thank you. Can you turn back  
13 to Complainants' Exhibit 246-M.

14 A. Thank you.

15 Q. Specifically -- sorry. We don't  
16 have it yet. Do you have it in front of you?

17 A. Yes, I do.

18 Q. And if you can turn specifically to  
19 I believe it was 62326.

20 A. 62326?

21 Q. 26, yes. As you recall, this was a  
22 map of groundwater contours at Joliet 29 that you  
23 were asked questions about earlier today?

24 A. Yes.

1           Q.       Okay. Now, if you look at the  
2 intake channel, you were also asked about the plus  
3 or minus signs at the beginning of that elevation.

4           A.       Mm-hmm.

5           Q.       And I believe you indicated that  
6 indicated some uncertainty, is that correct?

7                   MS. GALE:  Objection.  
8 Mischaracterizes his testimony.

9 BY MR. WANNIER:

10           Q.       You can correct me if I'm wrong.

11                   HEARING OFFICER HALLORAN:  
12 Overruled. Go ahead. I'm sorry.

13                   THE WITNESS:  I'm sorry.

14 BY THE WITNESS:

15           A.       That is what would be called kind of  
16 an average pool level elevation based on the lock  
17 and dam system in the area there. So it's -- it's  
18 an estimated value. It could be 504.

19 BY MR. WANNIER:

20           Q.       Is there a range on that  
21 uncertainty?

22           A.       I don't know if I can quantify that.

23           Q.       Okay. And what about the one -- do  
24 you see the Des Plaines River value also given



1 there, is there a range on uncertainty on that  
2 figure value?

3 A. These are both -- so it's intake  
4 channel off the Des Plaines River. It's the --  
5 the same -- same question, same answer.

6 Q. Okay. So you couldn't quantify that  
7 uncertainty either?

8 A. Correct.

9 Q. And how did -- how did you measure  
10 the surface water elevation that you have depicted  
11 in this map? Did you measure this surface water  
12 level?

13 A. I did not measure that, no.

14 Q. Where did that come from?

15 A. Again, from just general information  
16 between topographic maps and information off of  
17 various data in the area. You know, there isn't a  
18 specific gauge station right in the area of the  
19 plant here.

20 Q. Okay. And, to your knowledge, and I  
21 understand you collected this from other sources,  
22 does this figure represent an average elevation  
23 for that portion of the Des Plaines River and  
24 channel?

1           A.       I couldn't speak to that.

2           Q.       Okay.  So you wouldn't know if it  
3 represented a maximum or an average?

4           A.       No.

5           Q.       Okay.  And we can go to them if you  
6 want to refresh your recollection, but we'll try  
7 first without.

8                        You -- we also talked, as you  
9 remember, about contour maps at Waukegan and Will  
10 County and Powerton, do you recall that?

11          A.       Yes.

12          Q.       And do you remember in the Powerton  
13 contour analysis, do you provide any surface water  
14 elevations?

15          A.       I do not believe there is a specific  
16 elevation on that map, no.

17          Q.       Okay.  And are you -- are -- do you  
18 have any knowledge about the elevation of relevant  
19 surface waters near Powerton?

20          A.       I would have to go back to the USGS  
21 topographic map and take a look at that to be able  
22 to put a better number on it.

23          Q.       Okay.  Have you -- have you looked  
24 at the USGS topographical map to determine the

1 listed surface water elevations for any areas near  
2 Powerton?

3 A. We have looked at it. I wouldn't  
4 remember -- I can't tell you what that number  
5 would be.

6 Q. Okay. Would you have used that  
7 number when determining the groundwater contours  
8 at Powerton?

9 A. Certainly knowing the surface  
10 waterbody is there, yes.

11 Q. Okay. But it's not in any chart  
12 that you provided?

13 A. No, it's not.

14 Q. Okay. Similarly, I guess the same  
15 question at Waukegan, did you provide any surface  
16 water elevation data for Lake Michigan or other  
17 surface waters near Waukegan?

18 A. No. We did not pull off a number  
19 and put it on that map, no.

20 Q. Okay. And have you -- would -- were  
21 you to try to find a surface water elevation,  
22 would you also be using the USGS surveys?

23 A. I go to the USGS survey and if we  
24 felt it became a truly critical number where we

1 would need to have something quantified, then we  
2 could go to other sources to get a more firm  
3 number.

4 Q. Okay. And what would those other  
5 sources be?

6 A. We would define what the latest  
7 elevations in the area that might have been  
8 surveyed for Lake -- in the case for Waukegan, say  
9 in Lake Michigan. You know, I'd have to take a  
10 look at what -- what is out there on what they can  
11 obtain offhand and then track -- track down a  
12 number and if it truly becomes critical, you can  
13 have it surveyed.

14 Q. Okay. And then finally at Will  
15 County, did you provide any surface water  
16 elevation data for waterbodies near Will County?

17 A. I believe on the Will County map,  
18 around some of them, we may have included a  
19 number, but I'm not completely sure.

20 Q. Okay. That's fine. I'd actually be  
21 happy to turn to that if you want. I believe my  
22 notes state that is Exhibit 281-Q and I'll wait  
23 for you to have it in front of you. And if you  
24 have it in front of you, you can turn to 62473.

1 A. Okay.

2 Q. Do you see a surface water elevation  
3 given in that map?

4 A. No, I do not.

5 Q. Okay. This, to be clear, is the  
6 groundwater contour map without which Ms. Gale was  
7 questioning you, correct?

8 A. Yes, it is.

9 Q. Actually, while we're on this map  
10 talking about Will County, no point in needlessly  
11 switching between exhibits, I believe you  
12 mentioned right at the end of your direct  
13 testimony that you could conduct the phase one and  
14 phase two on an island near the Will County site,  
15 is that correct?

16 A. Correct.

17 Q. Can you just point out for me where  
18 that is on this map?

19 A. Sure. I believe what you see in the  
20 far northwest corner of the map you see a little  
21 triangle of land sticking out.

22 Q. Is that the triangle of land that  
23 runs to the edge of the map?

24 A. Correct, it runs off the map to the

1 north, northwest.

2 Q. Okay. So that's the island that  
3 you're talking about here?

4 A. Yes.

5 Q. And that's on the -- that's  
6 separated from the Will County site by a body of  
7 surface water, right?

8 A. Yes, it is.

9 Q. So, in your mind, would they be  
10 hydrogeologically connected?

11 A. Well, hydrogeologically connected to  
12 the Des Plaines River.

13 Q. They would both be connected to the  
14 Des Plaines River is what you're saying?

15 MS. GALE: Objection. Vague.

16 HEARING OFFICER HALLORAN: Yeah, can  
17 you rephrase? It might help. Thanks.

18 BY MR. WANNIER:

19 Q. Do you believe that groundwater from  
20 the island you conducted your study on could flow  
21 to the monitoring wells at the Will County site?

22 A. No, I do not.

23 Q. Okay. Okay. You can put that  
24 exhibit away. Thank you. I believe at several of

1 the sites you mentioned the establishment of GMZ's  
2 and ELUC's and I know that you assisted in the  
3 creation of them and specifically as I recall, and  
4 you can correct me if I'm wrong, you testified  
5 that IEPA had not contacted you with any concerns  
6 about the GMZ's or ELUC's at any of the sites, is  
7 that correct?

8 A. After they had been established,  
9 correct.

10 Q. Yes, after they had been  
11 established. Just as a point of clarification,  
12 would IEPA have contacted you directly with any of  
13 those concerns?

14 A. That, I do not know. Probably not.  
15 I don't know.

16 Q. And if we can turn back to Joliet,  
17 we don't need to go to the exhibit yet. I just  
18 have a question of the inspections of that  
19 northeast ash impoundment area that we've  
20 discussed or that you talked about I should say  
21 earlier today.

22 In 2016, I believe you testified  
23 that there was one area that you went back to  
24 after your initial inspection to make sure it

1 would still look the same for the review, can you  
2 just explain that a little bit better for me what  
3 happened there?

4 A. Sure. During the fall inspection,  
5 it was right by where a fence pole is in the  
6 ground, a fence pole being the fence that isolates  
7 the active part of the plant there from -- from  
8 the area to the northeast and right around the  
9 base of that fence pole it looked like there might  
10 be some erosion developing, but it really wasn't  
11 anything. I didn't see anything significant  
12 there, but I said I probably should check it after  
13 the snow melts in the spring and went back there  
14 and it looked the same.

15 Q. Sorry.

16 A. There was no change. So --

17 Q. So there was minor erosion, did you  
18 say?

19 A. Yeah, there just appeared to be some  
20 minor erosion.

21 Q. Okay.

22 A. When I do the inspections, I'm --  
23 generally the rule of thumb, if there's a rill  
24 developing greater than four or six inches, than



1 that rill needs to be addressed and this was  
2 certainly nowhere close to that.

3 Q. Okay. And you did an inspection in  
4 fall of 2017 as well?

5 A. Yes, I did.

6 Q. Did you inspect -- is that the  
7 area -- when you said you went back, was that the  
8 timeframe that you went --

9 A. No, I went back in spring of 2017  
10 and then I did my annual inspection in the fall of  
11 2017.

12 Q. Okay. Did you find -- see any  
13 difference in that area in the 2017 fall --

14 A. In that area, no.

15 Q. -- inspection? Okay. Thank you.  
16 Now, that ash landfill area in that northeast area  
17 of the site, is that capped?

18 A. I'm not aware of any information on  
19 that.

20 Q. Have you seen any evidence of a cap  
21 at that -- in that area?

22 A. I'm not aware of any and there is a  
23 soil cover and that's all I know.

24 Q. And is soil impermeable to the rain?

1           A.       It depends on the soil.

2           Q.       Generally, as water falls from the  
3 sky, does it go into the soil in your experience?

4           A.       Again, if it's a clay soil, it's not  
5 very permeable. If it's not a clay soil, it would  
6 have a higher permeability. So it truly depends  
7 on the soil cover.

8           Q.       That's fair. Thank you. Do you  
9 know what type of soil is in the northeast  
10 landfill area?

11          A.       No, I don't.

12          Q.       Okay. And the repairs that you've  
13 discussed, you've discussed several repairs to  
14 this area over several years. When you  
15 mentioned --

16                   MS. GALE: Objection.  
17 Mischaracterizes his testimony.

18                   MR. WANNIER: I can rephrase.

19                   HEARING OFFICER HALLORAN: Thanks,  
20 Mr. Wannier.

21 BY MR. WANNIER:

22          Q.       You have discussed repairs that have  
23 been made to this northeast landfill area,  
24 correct?

1 A. Correct.

2 Q. Okay. And are those repairs  
3 generally made to the riprap soil and vegetation?

4 A. Those repairs are -- well, there is  
5 no riprap. So --

6 Q. I apologize. I misspoke. Thank  
7 you.

8 A. Those repairs are made -- if I see a  
9 rill develop that starts exceeding, you know,  
10 my -- what I'm looking for, we usually bring in a  
11 clay soil fill material and topsoil.

12 Q. Okay. Have you ever taken any  
13 borings in the northeast landfill area?

14 A. No, I have not.

15 Q. Have you conducted any leach tests  
16 for the ash buried in that area?

17 A. No, I have not.

18 Q. Have you ever tried to estimate the  
19 volume of ash that is buried in that area?

20 A. I don't know if ash is buried in  
21 that area, but, no, I have not.

22 Q. And if we can discuss briefly the  
23 southwest ash landfill on the Joliet site, are you  
24 familiar with that?

1 A. Yes, from the discussions. Yes.

2 Q. Okay. And, to your knowledge, is  
3 that southwest ash landfill area capped?

4 MS. GALE: Objection. Outside the  
5 scope.

6 HEARING OFFICER HALLORAN: I'll give  
7 him latitude. You may proceed. You can answer if  
8 you're able.

9 BY THE WITNESS:

10 A. I don't know.

11 BY MR. WANNIER:

12 Q. Are you aware of any evidence that  
13 it is?

14 A. I don't know. Not that I'm aware  
15 of.

16 Q. And have you ever taken or have you  
17 or anyone else, to your knowledge, taken borings  
18 from the southwest ash landfill?

19 A. In the southwest portion of the  
20 site --

21 Q. Yes.

22 A. -- at Joliet there, I have not taken  
23 any borings.

24 Q. And you're not aware of anyone else

1 having done so?

2 A. Not that I'm aware of.

3 Q. Okay. And have you ever conducted  
4 leach tests in that area?

5 A. No, I have not.

6 Q. Are you aware of anyone else having  
7 done so?

8 A. I haven't seen any data, no.

9 Q. And, finally, have you ever tried to  
10 estimate the volume of ash in that area?

11 HEARING OFFICER HALLORAN: Can you  
12 keep your voice up, Mr. Wannier?

13 MR. WANNIER: I'm sorry. I'm  
14 normally a loud talker. I don't know why I get  
15 quiet, but I will speak up.

16 BY THE WITNESS:

17 A. That area was defined I believe in  
18 one of those ENSR reports. I don't know if there  
19 is ash in that area or not.

20 BY MR. WANNIER:

21 Q. Okay. And are you aware of anyone  
22 else attempting to quantify the amount of ash in  
23 that area?

24 MS. GALE: Asked and answered.

1 Objection. Asked and answered.

2 MR. WANNIER: Your Honor, I asked if  
3 he had knowledge. I'm asking --

4 HEARING OFFICER HALLORAN:

5 Overruled. You can answer if you're able.

6 BY THE WITNESS:

7 A. Not that I'm aware of.

8 BY MR. WANNIER:

9 Q. Just one final question about your  
10 inspections of the northeast area.

11 Are your inspections anything  
12 other than visual?

13 A. I walked the area and it is a  
14 visual -- very much a visual physical inspection.

15 Q. It's a very visual inspection. I  
16 think I understand that.

17 Do you do anything other than  
18 the visual inspection that you've testified to?

19 A. I am -- I'm not sure what other than  
20 that would be necessary for the inspection that is  
21 required to meet the permit.

22 Q. Okay. Thank you. If we can turn  
23 quickly to the -- you testified about the ASTM  
24 testing standard and I think you said that

1 analyses done -- and I may have misheard you. So  
2 I'm going to apologize if I did. I believe you  
3 said analysis done after 2012 were consistent with  
4 the ASTM '87 standard as well as the '85 standard,  
5 is that correct?

6 A. It was -- I believe the use standard  
7 was issued in 2012.

8 Q. Okay.

9 A. The reference in the state statute  
10 is still the old reference, but certainly the  
11 analyses that are done in the analytical  
12 laboratory were consistent with the new standard.

13 Q. Okay. And just out of curiosity,  
14 have you determined whether analyses done before  
15 2012 were consistent with the '87 standard? I  
16 know it was -- predates that.

17 A. It was the 2012 standard, not the  
18 '87 standard.

19 Q. I'm sorry. The 2012 standard is  
20 what I meant.

21 A. Yes. When I discussed with the lab,  
22 they said their analyses are within that window.  
23 Basically, the -- my understanding is that the  
24 window of temperature in which the analysis are

1 done was -- was reduced a little bit in the new  
2 standard and the lab had indicated that their  
3 analysis run within that window. So my  
4 understanding is yes.

5 Q. Thank you. Now, you were asked  
6 about the background groundwater quality data that  
7 Dr. Kunkel cited, do you recall that?

8 A. Yes.

9 Q. Yes. And you suggested I believe  
10 that the statewide median might not be the best  
11 representation of background, is that correct?

12 A. For -- for our purposes, yes.

13 Q. And I guess furthermore just to  
14 confirm you said instead you would compare to the  
15 Illinois Class 1 groundwater quality standards?

16 A. That is what Illinois EPA has been  
17 using as our measuring stick.

18 Q. So do Illinois groundwater quality  
19 standards reflect background?

20 A. The groundwater quality standards my  
21 understanding are water quality standards  
22 developed for -- based on health risk purposes for  
23 consumption of groundwater.

24 Q. Okay. But they don't reflect



1 background concentrations, do they?

2 A. They might. They might not. It's a  
3 different question.

4 Q. So, okay. I understand that the  
5 standard might happen to be the same as the  
6 background standard, but as a general rule they  
7 wouldn't --

8 A. Background is not a standard.

9 Q. I'm sorry.

10 A. The Class 1 drinking water is -- is  
11 an established standard. Again, that may or may  
12 not be reflective of background in a particular  
13 area.

14 Q. Okay. You also said that after a  
15 groundwater GMZ is established you would continue  
16 to monitor data and that when the data fell below  
17 the standard, the Class 1 groundwater standard,  
18 that the GMZ might be lifted, is that right?

19 A. That is correct. The GMZ is an  
20 institutional control tool as part of the overall  
21 remedy and at the end of the day you get to a  
22 point where I believe you have the state requires  
23 two or three, maybe four quarters of data in a row  
24 where if all of your values are below the Class 1

1 standard the GMZ can be lifted.

2 Q. Okay. So does that mean that over  
3 time, water quality in a Groundwater Management  
4 Zone should be improving?

5 A. It may be improving over time,  
6 correct.

7 Q. Is that part of the purpose of the  
8 Groundwater Management Zone?

9 A. The purpose of the Groundwater  
10 Management Zone is to provide some relief from the  
11 Class 1 standard as the remediation is working its  
12 way through the system basically, yes.

13 Q. Okay. And you were also asked  
14 whether -- actually sticking to the Joliet site,  
15 you were asked about whether contamination from  
16 the northeast ash area might be moving towards  
17 monitoring wells located at the Joliet 29 site, do  
18 you remember that?

19 MS. GALE: Objection.  
20 Mischaracterizes the testimony.

21 HEARING OFFICER HALLORAN: Could you  
22 read the question back, Mr. Brickey.

23 (Whereupon, the record was read  
24 as requested.)

1 HEARING OFFICER HALLORAN: Yeah,  
2 overruled. You may answer if you're able.

3 BY THE WITNESS:

4 A. I remember the question, yes.

5 BY MR. WANNIER:

6 Q. Do you remember what your response  
7 was?

8 A. That, I do not believe so.

9 Q. Have you seen any groundwater  
10 elevation data from the area of the northeast  
11 Ashland fill?

12 A. No, I have not.

13 Q. Okay. And have you seen any  
14 groundwater quality data from that area?

15 A. No, I have not and neither --  
16 because I believe there was an indication that  
17 there was groundwater movement towards that area  
18 and that interpretation was based without any data  
19 as well.

20 Q. Understood.

21 MR. WANNIER: Your Honor, if I can  
22 just have a couple of minutes, I think we're  
23 nearing the end.

24 HEARING OFFICER HALLORAN: Yeah,

1 we've been at this for an hour and 20 minutes. Do  
2 you want to take a 15-minute break?

3 MR. WANNIER: That would be perfect.

4 HEARING OFFICER HALLORAN: Thank  
5 you.

6 (Whereupon, a break was taken  
7 after which the following  
8 proceedings were had.)

9 HEARING OFFICER HALLORAN: We're  
10 back on the record. It is approximately seven  
11 minutes to 3:00. Mr. Gnat is still on the stand  
12 and Mr. Wannier is still on cross.

13 BY MR. WANNIER:

14 Q. Okay. So just one more question  
15 about the northeast landfill area at Joliet. I  
16 think you testified that you do not think the  
17 erosion that was found -- has in the past been  
18 found in that area was caused by the river, is  
19 that right?

20 A. Correct.

21 Q. What do you think caused the erosion  
22 in that area?

23 A. That is erosion caused from surface  
24 water runoff from the cover area to the -- get my

1 directions straight here -- to the south. It's  
2 not caused by -- by the river coming up or any --  
3 there is never -- I have never seen any indication  
4 of flooding or any sedimentation or siltation or  
5 anything like that that you would see that would  
6 be the result of the river coming up and causing  
7 some type of effects. This is strictly surface  
8 water runoff causing the rills.

9 Q. In your opinion?

10 A. It is strictly surface water runoff  
11 causing the rills.

12 Q. And we discussed the Class 1  
13 groundwater standards a little bit before, do you  
14 believe those standards are derived from any  
15 ambient groundwater data?

16 A. My understanding on the Class 1  
17 drinking water standards is very much a health  
18 risk based standard. Now, everything that goes  
19 into generating that standard I can't say that I  
20 know that -- what everything that goes into  
21 generating that standard, but those are health  
22 risk consumption based is my understanding.

23 Q. Okay. And if you can turn to  
24 exhibit -- let's start with Complainants' Exhibit

1 264, which I laid out in front of you and it's  
2 actually on the page that I'm going to ask about  
3 which is Bates Midwest Gen 14528.

4 A. Yes.

5 Q. Do you -- do you recognize this map?

6 A. Yes, this is a 1961 aerial  
7 photograph of the Waukegan station area that KPRG  
8 developed dated January 14, 2013.

9 Q. Okay. Do you see the -- it's hard  
10 to know how to describe the shape, but do you see  
11 the black roughly round area or line around  
12 what -- an area marked as the present ash pond  
13 boundary?

14 A. Yes, I do.

15 Q. Do you know what that larger black  
16 line is intended to represent on this map?

17 A. No, I don't. I don't know who drew  
18 that on this map.

19 Q. Okay. Did someone at KPRG draw that  
20 on this map?

21 A. I don't know.

22 Q. Could that be the former extent of  
23 the ash impoundment area as of 1961?

24 A. I don't know.

1 Q. Okay. That's fine. Let's turn to  
2 Exhibit 813, Respondent's Exhibit 813, which is  
3 open before you in the binder.

4 A. Okay.

5 Q. And this is, of course, the -- or to  
6 confirm, this is the groundwater contour map at  
7 Waukegan that you discussed with Ms. Gale earlier  
8 today, correct?

9 A. Yes, it is.

10 Q. Okay. Now, I know that you said you  
11 weren't able to find monitoring well 13, do you  
12 remember where roughly it was intended to go?

13 A. Yes, I do.

14 Q. Can you point me to that on the map?

15 A. It would be to the east, southeast  
16 of well MW-11 there in the -- you can kind of see  
17 the rail yard area there. It was I believe within  
18 some of those -- there's kind of a long green area  
19 there between two railroad tracks. I believe it  
20 was somewhere in there.

21 Q. Okay. And you said that -- why was  
22 monitoring well 16 added?

23 A. Monitoring well 16 was added as part  
24 of compliance with the CCR regs -- regulations

1 when they came out. We decided that for CCR  
2 compliance purposes adding a well where we have  
3 MW-16 is what we needed to do.

4 Q. Okay. And what was the original  
5 intent of monitoring well 13, if you recall? What  
6 was the purpose of that well?

7 MS. GALE: Objection. Foundation.

8 HEARING OFFICER HALLORAN: Can you  
9 elaborate a little more?

10 MR. WANNIER: Sure.

11 BY MR. WANNIER:

12 Q. Were you familiar with the Waukegan  
13 site when monitoring well 13 was first installed?

14 A. I think I can clarify this.  
15 Monitoring well's 11 on here that we have MW-11,  
16 14, 10, 12 and 15 are all wells that were  
17 installed that we refer to in our reports in the  
18 data as ELUC wells.

19 So ELUC 10, ELUC 12, 13. So  
20 well 13 was installed as part of the ELUC wells by  
21 the consultants that was working for the  
22 responsible party for the Tannery site to the  
23 west. So that was one of the original ELUC wells  
24 if you want to call them those.



1 Q. Yeah.

2 A. Not anything that KPRG installed.

3 Q. Right. And you testified to that  
4 earlier. So I guess my next question is, are you  
5 familiar with the process by which the Tannery  
6 site consultant sited those wells?

7 A. No, I'm not.

8 Q. Okay. That's fine. Thank you.

9 MR. WANNIER: No further questions.

10 HEARING OFFICER HALLORAN: Thank  
11 you, Mr. Wannier. Ms. Gale?

12 MS. GALE: Very briefly.

13 R E D I R E C T E X A M I N A T I O N  
14 BY MS. GALE

15 Q. Mr. Gnat, I'm going to help you pull  
16 out Complainants' Exhibit 278-Q.

17 Can you please turn to Figure 2,  
18 which is at MWG 13-15\_6675.

19 A. Yes.

20 Q. And this is a contour map from June  
21 2013?

22 A. Yes, it is.

23 Q. And at what station?

24 A. Will County station.

1 Q. And looking at -- well, it's not  
2 labeled. What is the waterbody to the west of the  
3 ash ponds?

4 A. That is the Des Plaines River.

5 Q. And what is the number contained in  
6 the Des Plaines River?

7 A. Plus or minus 579. That's the  
8 approximate elevation and that's why when I was  
9 asked I said I remember sometimes we had that on  
10 the map for Will County, sometimes we didn't. The  
11 particular example that I was asked to look at  
12 before did not include the number. This one does.

13 Q. Thank you. You can put that away.  
14 Mr. Gnat, you were asked about at Joliet 29 the  
15 southwest area and I believe you said you were  
16 aware of it from the discussions, do you mean the  
17 discussions that you've heard here during this  
18 hearing?

19 A. That is correct, yes.

20 Q. And before this hearing, had you  
21 ever heard of the southwest area being full of  
22 ash?

23 A. No, I have not.

24 Q. Have you ever been over there?

1           A.       I might have walked over it, but not  
2 knowing.

3           Q.       Not knowing?

4           A.       Right.

5           Q.       Mr. Gnat, can a soil cover be a cap?

6           A.       Yes, it can.

7                   MS. GALE: Nothing further.

8                   HEARING OFFICER HALLORAN: Thank  
9 you, Ms. Gale. Any re-cross, Mr. Wannier?

10                   MR. WANNIER: Yeah, just very, very  
11 briefly. First of all, thank you to opposing  
12 counsel for finding that.

13           R E C R O S S           E X A M I N A T I O N

14                                   BY MR. WANNIER

15           Q.       If you can turn back to 278-Q  
16 page -- Midwest -- Bates 6675. Midwest Gen 6675.

17                                   Just to confirm the 579 figure,  
18 did that come to your knowledge from the US  
19 Geological Survey?

20           A.       I believe that was off of a USGS  
21 map, correct.

22           Q.       There is, again, this plus or minus.  
23 Are you able to quantify the uncertainty on this  
24 figure?

1           A.       No, I cannot.

2           Q.       And have you made any independent  
3 efforts to determine the surface water elevation  
4 here?

5           A.       In these particular instances, we  
6 didn't feel we had to really quantify that number  
7 to be able to have an understanding of what -- of  
8 the groundwater flow beneath the ponds here.

9           Q.       Okay. So just to confirm. You  
10 didn't do your own analysis of that surface water  
11 elevation?

12          A.       We didn't feel it was needed, no.

13                   MR. WANNIER: Thank you. No further  
14 questions.

15                   HEARING OFFICER HALLORAN: Thank  
16 you, Mr. Wannier. Ms. Gale, anything?

17                   MS. GALE: No.

18                   HEARING OFFICER HALLORAN: Thank  
19 you. Mr. Gnat, thank you and it's been a blast as  
20 it has been with Mr. Veenbaas, et al.

21                   THE WITNESS: Thank you very much.

22                   HEARING OFFICER HALLORAN: We can go  
23 off the record for a minute.

24

1 (Whereupon, a break was taken  
2 after which the following  
3 proceedings were had.)

4 HEARING OFFICER HALLORAN: All  
5 right. We're back on the record. We have Midwest  
6 Gen's next witness. Ms. Nijman?

7 MS. NIJMAN: Yes, our next witness  
8 we are calling is John Seymour.

9 HEARING OFFICER HALLORAN:  
10 Mr. Seymour, good afternoon. If you can raise  
11 your right hand, Mr. Brickey will swear you in.

12 WHEREUPON:

13 JOHN SEYMOUR  
14 called as a witness herein, having been first duly  
15 sworn, deposeth and saith as follows:

16 D I R E C T E X A M I N A T I O N

17 BY MS. NIJMAN

18 Q. Would you state your name again for  
19 the record, sir.

20 A. John Seymour.

21 Q. And where are you employed?

22 A. Geosyntec Consultants in Chicago.

23 Q. What is your role there?

24 A. I'm a senior principal. I practice

1 in geotechnical engineering and remediation  
2 practices.

3 Q. Remediation?

4 A. Practices.

5 Q. Practices. Have you been retained  
6 by Midwest Generation for this matter?

7 A. Yes, I have.

8 Q. And for what purpose were you  
9 retained?

10 A. To provide my opinion on the  
11 conditions at four power plant sites and an  
12 opinion on the opposing expert's expert testimony  
13 and reports.

14 Q. If you -- you have a binder in front  
15 of you.

16 A. No, I don't.

17 Q. You have a million binders in front  
18 of you.

19 A. Thank you.

20 Q. If you turn to exhibit -- what has  
21 been marked as Exhibit 900.

22 A. Yes.

23 Q. What is that document?

24 A. That's my resume.

1 (Document marked as Respondent's  
2 Exhibit No. 900 for  
3 identification.)

4 BY MS. NIJMAN:

5 Q. And is that the resume that was  
6 previously attached to your expert report in this  
7 case?

8 A. It appears to be, yes.

9 Q. Is your employment history and your  
10 education on that resume still correct?

11 A. It is the same.

12 Q. You have a Master of Science in  
13 Geotechnical Engineering from University of  
14 Michigan?

15 A. Yes.

16 Q. And you have a Bachelor of Science  
17 in Civil Engineering from Michigan Technical  
18 University?

19 A. Yes.

20 Q. I'd like to flip quickly to get a  
21 description on the next document, what has been  
22 marked as Exhibit 901, would you generally just  
23 describe what this document is?

24 A. Yes, this is a Power Point

1 presentation printout of the -- pretty much the  
2 testimony that I'm going to be providing today  
3 that I prepared.

4 Q. Now, the second -- let's bring it  
5 up. The second page of your Power Point -- and  
6 I'm also bringing it up on your screen in front of  
7 you.

8 A. Yes.

9 Q. Now, it says here you have about 14  
10 years of experience with CCR's, what are CCR's  
11 just so we're all clear?

12 A. Coal Combustion Residuals. It's the  
13 US EPA term for things you've been calling coal  
14 ash and similar.

15 Q. And we've heard several times  
16 already the coal ash we're talking about here is  
17 bottom ash?

18 A. Yes.

19 Q. Now, you say on this slide two that  
20 you have experience at dozens of ponds, CCR ponds  
21 and landfills. If you turn to the next slide,  
22 slide three.

23 A. Okay.

24 Q. Does this provide, slide three, some



1 of your recent CCR experience?

2 A. Yes, this is some recent stuff and  
3 update to provide a little more experience  
4 relative to this matter.

5 Q. I'm just noting for the record CCR  
6 surface impoundment closure plan in Illinois, you  
7 handled a CCR surface impoundment closure design  
8 in Illinois, groundwater monitoring systems at --  
9 CCR assessment in Ohio and Kentucky, you've worked  
10 on CCR sites in Ohio, West Virginia and Michigan,  
11 did I read that correctly?

12 A. Yes, you did.

13 Q. Are you familiar with the term  
14 beneficial uses of coal ash?

15 A. Yes, I am.

16 Q. What does that mean?

17 A. Well, as the ash comes out of the  
18 furnace and stack, it gets collected and reused in  
19 various ways and about 40 percent of it gets  
20 reused in the commercial marketplace.

21 Q. Generally, is bottom ash safe to be  
22 used as CCB?

23 A. Yes, generally it is.

24 Q. What types of uses?

1           A.       It's used in structural fill, it's  
2 used in pavements, it's used in cinderblock and  
3 concrete and my favorite use is shingles.

4           Q.       And are you familiar with ASTM  
5 standards?

6           A.       Yes, the American Society of Testing  
7 Materials.

8           Q.       Have you ever been involved in  
9 reviewing or revising an ASTM standard guide  
10 related to coal ash?

11          A.       Yes, I was.

12          Q.       When was that?

13          A.       2011 and 2012.

14          Q.       What did you do?

15          A.       Well, I was a part of a committee  
16 that was put together to update the -- the  
17 standard guide for the reuse of CCP's as  
18 structural fill.

19          Q.       Now, you're using a different term,  
20 what is CCP?

21          A.       Well, CCP is Coal Combustion Product  
22 I'll call it. The ash industry likes to use that  
23 term because they market the material and they  
24 like to think of it as a product because it does

1 get sold to people and reused.

2 Q. Is that the same for our purposes as  
3 CCB?

4 A. Yes.

5 Q. If you would turn to Tab 902,  
6 Exhibit MWG 902, in this case.

7 (Document marked as Respondent's  
8 Exhibit No. 902 for  
9 identification.)

10 BY THE WITNESS:

11 A. Yes.

12 BY MS. NIJMAN:

13 Q. Is this the ASTM standard you're  
14 talking about?

15 A. Yes.

16 Q. This is the one you worked on?

17 A. Yes.

18 Q. And if you would turn to Bates 50260  
19 in this document.

20 A. Okay.

21 Q. In Section 5, the second sentence of  
22 Section 5 starting from in addition, would you  
23 read that sentence?

24 A. "In addition to state and local --

1 or local guidance, screening procedures or  
2 analysis, techniques, should be employed as  
3 appropriate to determine what, if any, potential  
4 environmental risks need to be considered when  
5 using CCP's for engineered structural fills."

6 Q. What is that saying in lay people's  
7 speak?

8 A. As an engineer who uses and reuses  
9 the material, you want to make sure that you  
10 follow I'll call it environmental responsible  
11 methods to reuse the material. So you follow  
12 local standards and guides which would also  
13 include, of course, the federal.

14 Q. Picking up on that point, the  
15 beginning of the sentence says "In addition to  
16 state or local guidance," how does this standard  
17 relate to state or local guidance?

18 A. State and local guidance may not  
19 include some of the things in here. So it's  
20 really to do more work where necessary if state  
21 and local guidance doesn't address some of the  
22 things in this guidance.

23 Q. What state or local guidance would  
24 apply in Illinois?

1           A.       Well, Illinois has a statute for  
2   CCB's and we've discussed it earlier statute 415 I  
3   think it's 5/3.135, which is the statute that  
4   covers reuse of CCB's.

5           Q.       Now, the sentence also discusses if  
6   you find a potential environmental risk. What are  
7   you supposed to do under this standard guide?

8           A.       Well, the guide provides a process,  
9   step-wise process, that if you find unacceptable  
10   environmental risk, that there is further  
11   valuation that should be done prior to reuse. So  
12   that at the endpoint you can reuse it so it  
13   doesn't have the unacceptable environmental risk.

14          Q.       So is there a design element to what  
15   you're doing here?

16          A.       Yes, I consider most of this the  
17   designer's responsibility.

18          Q.       If you turn to page 50263.

19          A.       Yes.

20          Q.       Section 5.4.2 if you would read the  
21   caption on that section.

22          A.       Leaching Characteristics of CCP's -  
23   Test Method 3 -- D3987.

24          Q.       Now, we've heard a lot in this case

1 so far about D3987, is that the test that was used  
2 in -- at the Midwest Generation stations?

3 A. Yes.

4 Q. And is that the test being  
5 recommended in this ASTM standard?

6 A. Yes. Primarily, yes.

7 Q. Now, you were present during  
8 Mr. Gnat's testimony just now?

9 A. Yes, I was.

10 Q. Do you recall his discussion of  
11 using the D3987 test at the Midwest Gen stations?

12 A. Yes, I do.

13 Q. Do you -- would you describe whether  
14 or not you agree with his use of that particular  
15 test?

16 A. Yes, I do.

17 Q. And why is that?

18 A. Well, first of all, fundamentally,  
19 it's required by the statute and he applied what I  
20 called good scientific principals in  
21 characterizing the materials, testing them and  
22 reaching a conclusion as to their reuse.

23 Q. Now, you were also present during  
24 Dr. Kunkel's testimony for the complainants,

1 right?

2 A. Yes, I was.

3 Q. And Mr. Kunkel stated that he  
4 thought this D3987 test was not the right test,  
5 what is your opinion?

6 A. I think that's incorrect. It's  
7 required by statute and it provides a fair  
8 representation of the material.

9 Q. We've also heard a lot about the  
10 2015 federal rules for the disposal of Coal  
11 Combustion Residuals or the CCR rules, are you  
12 familiar with the CCR rules?

13 A. Yes, I am.

14 Q. And how?

15 A. Well, beginning probably in 2009,  
16 2010 really when the proposal rules came out, all  
17 the scientists and engineers were looking to see  
18 what could be required. So I've been following it  
19 through the proposed stage, through the public  
20 comment phase and through the finalization of the  
21 rule and then from the implementation of the rule  
22 many of my clients had to comply with the rule and  
23 they needed engineering to help them comply with  
24 the rule.

1 Q. I'd like you to look at what was  
2 marked as -- in Dr. Kunkel's binder at tab 406?

3 A. Okay.

4 Q. What is that?

5 A. That is the Federal Register  
6 printout of the -- we call it the CCR rule, the  
7 Coal Combustion Residual rule including the  
8 preamble.

9 Q. If you turn to -- there's not Bates  
10 numbers. So if you look at the Federal Register  
11 page 21342.

12 A. 21342?

13 Q. Yes.

14 A. Okay.

15 Q. And if you look on the far right  
16 column.

17 A. Yes.

18 Q. Starting -- the second sentence  
19 starting similarly, would you read that please out  
20 loud?

21 A. "Similarly, the requirements of this  
22 rule do not apply to inactive CCR landfills, which  
23 are CCR landfills that do not accept waste after  
24 the effective date of the regulations."



1 Q. And next sentence.

2 A. "The agency is not aware of any  
3 damage cases associated with inactive CCR  
4 landfills and, as noted, the risks of release from  
5 such units are significantly lower than CCR  
6 surface impoundments or active CCR landfills."

7 Q. Do you agree with that statement?

8 A. Yes, I do.

9 Q. And why are the risks as noted  
10 significantly lower than the CCR surface  
11 impoundments or active CCR landfills, in your  
12 opinion?

13 A. Primarily it has to do with water.  
14 Ponds have a lot of water and we call it a driving  
15 head or pressure and in an active CCR landfill  
16 they have moisture from the environment, but they  
17 don't have a head. It's basically pour water,  
18 that means water in the spaces of the soil is not  
19 a driving head water.

20 Q. So if I understand you correctly,  
21 it's sort of the weight or the pressure of the  
22 water that causes the head, is that right?

23 A. Yes, a head is a pressure which is  
24 developed by the height of water and the weight of

1 water. It doesn't exist on inactive land.

2 Q. Would it exist -- where else would  
3 such a head exist other than a pond?

4 A. Well, groundwater has a head, for  
5 example. If it goes from high pressure to low  
6 pressure, that's a head and Rich described that  
7 earlier, Rich Gnat, and so the head in a pond  
8 again it's the water in the pond driving it on the  
9 bottom of the pond that wants to force out the  
10 water into the environment and that exists in a  
11 pond, but that doesn't exist for this type of  
12 landfill, this inactive I'll call it fills.

13 Q. What about a berm that might have  
14 ash in it, does that have a head on it?

15 A. Not likely. I'm pretty sure that  
16 the water that's there would be the -- small  
17 amount of water that would infiltrate, but  
18 recognizing that if it's in a berm there is a  
19 slope on one side so the water runs off quickly  
20 and it doesn't have an opportunity to percolate  
21 into the ground or into the structural fill.

22 Q. Based on this statement by US EPA in  
23 the federal CCR rules, can you describe whether  
24 the rules apply or address the old landfill areas

1 generally? Do they apply to old landfill ash  
2 areas?

3 A. No, so long as they have not  
4 accepted waste after the effective date of the  
5 regulation.

6 Q. Now, again, you were here during  
7 Dr. Kunkel's testimony.

8 Do you recall him saying that he  
9 believed US EPA's analysis of low-risk from  
10 inactive landfills only applied to designed or  
11 engineered landfills, do you recall that?

12 A. Yes, I did and I was a little  
13 surprised. It's clear in the rule that the  
14 inactive landfills, whether they're engineered or  
15 not, are not included.

16 Q. Dr. Kunkel also stated he believed  
17 that some of the ash at Midwest Gen sites is mixed  
18 with soils and that caused him concern, what is  
19 your opinion as to potential risk of ash mixed  
20 with soils outside the ponds?

21 A. Well, by comparison to something in  
22 the pond, which is all ash outside, it's a  
23 mixture. So it has less ash and, therefore, less  
24 risk.

1 Q. And does that also relate to this  
2 question of the head?

3 A. Yes. Again, it doesn't have a head  
4 that a pond would have. So it also reduces the,  
5 call it, potential risk.

6 Q. Is that consistent -- your opinion  
7 consistent with what US EPA found in the CCR rules  
8 of 2015?

9 A. Yes, it is.

10 Q. Did your opinions in this case  
11 include whether the Midwest Generation ponds at  
12 the four stations complied with the CCR rules?

13 A. No, it did not.

14 Q. Why not?

15 A. The case arose prior to the rule  
16 becoming finalized and I have been focusing on  
17 this case specifically which did not include  
18 compliance with the CCR rule.

19 Q. And does that also relate to the age  
20 of the ponds?

21 A. Correct, the ponds existed before  
22 the rule. So they -- some of them came under the  
23 regulation, under the rule, but, again, I've been  
24 focusing on the -- this matter regarding the CCA's

1 and what exists, which is more than the ponds.

2 Q. Before the CCR rules in 2015, do you  
3 know whether or not ash ponds in Illinois were  
4 lined?

5 A. There is a statement that has been  
6 presented by Illinois EPA which is consistent with  
7 my experience that most of the ponds in Illinois  
8 are not lined, the CCR ponds are not lined. The  
9 calculation is around 40 percent of ponds are  
10 lined and if you think of the number of lined  
11 ponds that Midwest Gen has, which is maybe eight  
12 or ten, that is a significant portion of the lined  
13 ponds in Illinois.

14 Q. When CCR rules were codified in  
15 2015, do you believe that they confirmed an  
16 industry standard or created new standards?

17 A. Can you repeat the question? I'm  
18 sorry.

19 Q. When the rules were codified in  
20 2015, did they create a new standard?

21 A. Correct, it's a new going-forward so  
22 to speak that the ponds -- again, it addressed the  
23 existing surface impoundments and new surface  
24 impoundments, but it is the rules for the ponds

1 that are regulated under the CCR rule.

2 Q. I also want you in the federal CCR  
3 rules if you would turn to Bates page 21404.

4 A. Yes.

5 Q. And, again, on the third column to  
6 your right, this is a section of the CCR rule I  
7 discussed with Dr. Kunkel starting with -- in the  
8 middle of the first paragraph starting with the  
9 word aluminum.

10 A. Yes.

11 Q. I think further down.

12 A. This one?

13 Q. Further down in the middle of the  
14 first paragraph.

15 A. I got it.

16 Q. If you would read that sentence,  
17 please.

18 A. "Aluminum, copper, iron, manganese  
19 and sulfide have been removed because they lack  
20 maximum contaminant levels (MCL's) and were not  
21 known to be constituents of concern based on  
22 either the risk assessment conducted for this rule  
23 or the damage cases (see units X and XI of this  
24 document)."

1 Q. Now, Dr. Kunkel stated at some point  
2 that he felt this provision wasn't applicable  
3 to -- let me ask you this.

4 Based on this discussion, is  
5 manganese covered by the CCR rule?

6 A. It is not.

7 Q. And why not?

8 A. As it says, it did not have the  
9 damage cases and it did not drive the risks,  
10 therefore, they did not feel it was necessary to  
11 include in the rule.

12 Q. And Dr. Kunkel --

13 A. And it did not have a maximum  
14 contaminant level.

15 Q. I believe Dr. Kunkel suggested that  
16 this section five, because it's part of section  
17 five assessment monitoring program, that this  
18 would not be an applicable statement, do you agree  
19 with that?

20 A. No, I don't agree at all. This rule  
21 covers what we call detection monitoring first and  
22 if there is a problem you go to assessment  
23 monitoring. The parameters are slightly  
24 different, but assessment monitoring is more

1 comprehensive and more specific and that if there  
2 is a problem with an element or an analyte, it  
3 would be included here.

4 Q. And, in fact, if you refer to page  
5 21500 of the CCR rules --

6 A. Okay.

7 Q. -- do you see the chart there,  
8 appendix three and appendix four?

9 A. Yes.

10 Q. Appendix three is constituents for  
11 detection monitoring, is that right?

12 A. Yes.

13 Q. Appendix four is constituents for  
14 assessment monitoring, correct?

15 A. Yes.

16 Q. And do you see manganese on either  
17 of those lists?

18 A. It's not there.

19 Q. Thank you. Okay. We can put  
20 Dr. Kunkel's binder aside. If you would turn in  
21 your binder to Tab 903, Midwest Gen Exhibit 903.

22 (Document marked as Respondent's  
23 Exhibit No. 903 for  
24 identification.)



1 BY THE WITNESS:

2 A. Okay.

3 BY MS. NIJMAN:

4 Q. And I'd also like you to look  
5 quickly at Exhibit 904.

6 A. Yes.

7 (Document marked as Respondent's  
8 Exhibit No. 904 for  
9 identification.)

10 BY MS. NIJMAN:

11 Q. And just generally describe to me  
12 what those documents are?

13 A. The first document is my expert  
14 report from November 2015 and it's got -- a  
15 supplement to my report is Tab 904 and that was  
16 updating a calculation that I had made in the --  
17 in the report in Section 552.

18 Q. So Tab 904 just so I'm clear is just  
19 the updated calculations, the math, revised math  
20 calculations from your Exhibit 903, correct?

21 A. Correct.

22 Q. And then if you look at Tab 905,  
23 what is Tab 905?

24

1 (Document marked as Respondent's  
2 Exhibit No. 905 for  
3 identification.)

4 BY THE WITNESS:

5 A. This is a list of what I would call  
6 errata from my report. Things, for example, where  
7 additional information was added or corrected, a  
8 citation might be corrected, for example. So it  
9 was clarification to correct some errata in my  
10 report.

11 BY MS. NIJMAN:

12 Q. And, in fact, you attach a table,  
13 Table 5-1.

14 A. Yes.

15 Q. So was Table 5-1 originally in your  
16 report?

17 A. Yes.

18 Q. And what is changed on this  
19 Table 5-1?

20 A. If you look in the left column where  
21 it says Powerton, it says May 2004 BA01.

22 Q. Yes.

23 A. That is analysis I had not seen  
24 before and I wanted to include it to improve the

1 strength of the database.

2 Q. So you located an additional sample?

3 A. Yes, one that was not previously  
4 included. It was always in the database. I just  
5 hadn't seen it before.

6 Q. Did any of these revisions change  
7 your opinions?

8 A. No.

9 Q. If you would look at Tab 906 in your  
10 binder.

11 (Document marked as Respondent's  
12 Exhibit No. 906 for  
13 identification.)

14 BY THE WITNESS:

15 A. Okay.

16 BY MS. NIJMAN:

17 Q. Would you describe what this is?

18 A. This is what is called temporal  
19 trend testing result notes by J. Seymour from 29  
20 February 2016.

21 Q. Now, the thing that jumps out is  
22 that it's marked draft, why is that?

23 A. Well, I completed this just prior to  
24 my deposition based on a comment that Mr. Kunkel

1 had done some trends and I really felt I needed to  
2 look at it a little more clearly so I had a better  
3 understanding of groundwater conditions.

4 Q. And so you compared these for your  
5 deposition?

6 A. Yes, I prepared them to try to be  
7 prepared and then they were produced and entered  
8 into the record. I stamped them draft because at  
9 the time I didn't know if it was going to go final  
10 or not, but that's how it got entered into the  
11 record.

12 Q. Now, since your report at exhibit --  
13 or Tab 903, what additional review have you done  
14 to update your opinions?

15 A. Well, because this has gone on for a  
16 little longer than we thought, the groundwater  
17 data results from the close of 2014, which is the  
18 previous end of the dataset, was extended through  
19 the second quarter of 2017. So all the data from  
20 those nine or ten quarters was added to my  
21 database for all my calculations.

22 Q. And did you adding the data since  
23 2015 change or confirm any of your opinions?

24 A. It confirmed my opinions.

1           Q.       I'd like to turn now to some of your  
2 opinions in this case.  If you'd look at Tab 901.  
3 You've already told us that this is a Power Point  
4 you created to assist with your testimony today.

5                       Is that Power Point based on  
6 your report as updated with the 2017 data?

7           A.       Yes, the slides that are in this  
8 report represent the updated data.

9           Q.       And if you turn to slide four, and I  
10 know it's very small, but if you look on the very  
11 far left in the bottom blue line there are page  
12 numbers on this document.

13          A.       I have it.

14          Q.       And it's also on the screen in front  
15 of you.

16                       Now, we'll go into detail on  
17 each site individually, but generally how did you  
18 approach your assessment of this case?

19          A.       Well, the first thing I did  
20 recognizing there is four different plants with  
21 similar complaints I looked for what I call common  
22 factors because if I can identify common factors  
23 it makes the analysis more efficient.  So in  
24 reviewing the records, I looked to see what was

1 common amongst the four departments.

2 Q. The next point is -- the next is  
3 assessing site conditions, generally what did you  
4 do there?

5 A. Well, you look at the geology, you  
6 look at the groundwater and you look at how the  
7 ponds were constructed and operating basically.

8 Q. And you got bullets here of the site  
9 history looking at groundwater elevations,  
10 groundwater conditions and as you have said you  
11 updated with 2017 data?

12 A. Yes.

13 Q. The third bullet on this page is  
14 compare the bottom ash to groundwater conditions  
15 for each facility, generally what did you do  
16 there?

17 A. Well, we had the bottom ash analyses  
18 from the leachate and we had groundwater analysis  
19 and if you want to identify where the groundwater  
20 impacts are coming from, you want to see where --  
21 what is -- what is the potential source which is  
22 the ponds was one potential source.

23 Q. Okay. And then lastly you say on  
24 this page is your overview that there is a bullet

1 called risk analysis, what did you do there?

2 A. Well, in the remediation practice  
3 when you look at a site one thing you look for are  
4 exposure pathways because you want to understand  
5 if there is something that is in the environment  
6 what -- how will it travel to a receptor or a  
7 person or animal. So we did a risk analysis, if  
8 you will, of what I felt was not addressed at that  
9 time and that is the exposure to surface water.  
10 So I looked at that pathway.

11 Q. You mentioned it's part of the  
12 remediation and I think you may use that term a  
13 little differently than the rest of us.

14 From my perspective, does that  
15 also include the investigation stage of the site?

16 A. Yes, thanks for the clarification.  
17 The process is when you have an impact you conduct  
18 a remedial investigation first.

19 Q. Thank you. So looking at the common  
20 factors let's just go through some of the common  
21 factors and that is outlined on slide six. So the  
22 first common factor you've listed is old sites,  
23 what -- what -- why was that important to you?

24 A. Whenever we look at impacted

1 properties, the history of the property is really,  
2 really important to understand and the timeline  
3 and these sites go -- a couple start in the 1920s  
4 and youngest, if you will, is 1965, which is  
5 really, you know -- I'll call it sort of the end  
6 of the -- now we call it environmentally conscious  
7 era which started around the 1970s.

8 Q. And how does that relate to the  
9 complexity of these sites?

10 A. Well, given the fact also that  
11 they're industrial sites, that there may have been  
12 processes or activities that occurred that there  
13 is nobody that can attest to what it was. So  
14 there is a bit of a mystery when you look at old  
15 sites.

16 Q. The next point you have there is  
17 poz-o-pac or other liners 1978, would you explain  
18 what you were talking about there?

19 A. Sure. The fact that the ponds in  
20 1977, '78 were lined at all as you can tell by the  
21 fact of the number of unlined ponds in Illinois,  
22 it was in my mind a very good thing as far as to  
23 minimize any impacts to the environment. So it  
24 was unusual and I think, you know, proactive, if



1 you will, for the time.

2 Q. Now, we heard the poz-o-pac. What  
3 is your familiarity generally with poz-o-pac?

4 A. Well, as an engineer that has used  
5 fly ash before, I've heard of it. I have not had  
6 the opportunity to use it in a project, but I've  
7 looked at it using it in other projects. So I  
8 understand what it is and by my involvement in  
9 this project, I've had a chance to see some  
10 poz-o-pac and read about it.

11 Q. And in your 2015 report at Exhibit  
12 903, we can reference it if you like, but at  
13 footnote 75 you actually noted the density of  
14 poz-o-pac and you said the density was 136.9, does  
15 that sound right?

16 A. Yes, I'm very familiar with that.

17 Q. And I should make it clear 136.9  
18 pounds per cubic foot. Why was the density of  
19 poz-o-pac something that you mentioned in your  
20 report?

21 A. Well, it tells me that it is very  
22 dense. It's like concrete.

23 Q. And back in October, we heard it was  
24 a long time ago already, Mr. Gnat stated that KPRG

1 performed a permeability analysis of the poz-o-pac  
2 at the Will County station?

3 A. I remember.

4 Q. And how did that inform your  
5 opinions in this case?

6 A. I think it's very important because  
7 not only that, but other testimony that I've heard  
8 on the condition of the poz-o-pac was that it was  
9 in very good condition. It experienced very  
10 little weathering. So that is very positive again  
11 from the perspective of keeping the pond contents  
12 out of the environment.

13 Q. Now, in your report, you also note  
14 several times that poz-o-pac exists beneath the  
15 new HDPE liners that were installed at many of the  
16 stations, do you remember that?

17 A. Yes, I do.

18 Q. Why was that relevant to you?

19 A. It's relevant in that it provides an  
20 additional barrier to flow and additional support  
21 as a foundation member for the overall life of the  
22 liner. So it's still a positive thing.

23 Q. Looking back at your common factors  
24 slide, the next common factor you list is Midwest

1 Gen actions 1999 to 2013 and if you turn to the  
2 next slide, what are you looking at? The first  
3 bullet, what are you discussing here?

4 A. The first bullet is pond relining  
5 projects and basically when I was reviewing the  
6 information, which was quite challenging because  
7 it comes in pieces in these massive documents, I  
8 was able to filter through and realize that  
9 Midwest Gen had gone through a process to evaluate  
10 their ponds beginning with Maria Race's  
11 evaluation, hired a consultant to look at them and  
12 then they, of course, implement the program over  
13 the years and relined ponds that needed to be  
14 relined or were required to be relined.

15 Q. And why was that important to you?

16 A. Well, I looked at all the documents,  
17 like you said, in this bullet list because you  
18 want to understand the competency of the unit to  
19 be sound and whether the standard practice was  
20 followed -- in fact, as I looked through it, it  
21 did have very sound subgrades below the pond,  
22 which is important. The liner installation was 60  
23 mil HDPE which is a robust pond lining. It's  
24 about one of the best you can get. And what was a

1 surprise to me is that they used leak detection  
2 for their -- as a final quality assurance to  
3 remove leaks from the pond.

4 So all those things said, the  
5 construction and the design that I reviewed, met  
6 the standard of practice and I think went a little  
7 further by adding leak detection surveys which is  
8 not as common in the lining business, but it is  
9 getting more and more common.

10 Q. You already talked about the fact of  
11 having a poz-o-pac liner was unusual, was having  
12 HDPE liners starting in 2003 onward as Maria Race  
13 testified, was that unusual?

14 A. Well, a little bit. I mean, you  
15 don't have to use HDPE. They're other lining  
16 systems that can be used. But an advantage of  
17 HDPE is it is ultraviolet resistant because the  
18 plastic liners degrade in ultraviolet and to have  
19 HDPE with high density is important because it's  
20 more resistant than most -- almost any other liner  
21 so it's a very robust, long-lasting liner.

22 Q. Was the program -- you talked a  
23 little bit just now about the program Maria Race  
24 started, what did you think of that program?

1           A.       It was very responsible and  
2 proactive. I had worked with lots of clients that  
3 sort of have a general understanding of what they  
4 have, but they went through a process to  
5 categorize it and catalog it and prioritize it so  
6 they could budget the relinings over the years and  
7 so I found that to be very responsible and  
8 proactive.

9           Q.       Was there any requirement for them  
10 to do that starting in 2003?

11          A.       No, there was not.

12          Q.       Now, in reviewing the lining  
13 program, the relining program, what kind of  
14 documents did you look at?

15          A.       Well, it starts with the NRT  
16 technical memorandum, which there is at least  
17 three of I know. I think Maria said technical  
18 memo number three was the final and it went  
19 through the data gathering which Midwest Gen  
20 obtained a lot of data and fed it to NRT and in  
21 the spreadsheet they had they had some facts and  
22 then they had to make some assumptions and then  
23 they had to make some -- present some information  
24 for decisions.

1           Q.       What documents did you look at to  
2 assess the actual liners themselves?

3           A.       Well, when you build a liner, the  
4 common practice is to document what you build  
5 because as Maria testified, and it's true in  
6 Illinois and every other state, if you have an  
7 NPDES permit and you want to change what's in the  
8 permit you have to get an authorization from the  
9 agency. So they got that -- that approval and  
10 then they went forward and constructed it and  
11 collected quality control and quality assurance  
12 documents to prove what they built met the design  
13 that had been submitted to the Illinois EPA and --

14          Q.       What -- sorry. What kind of  
15 documents are included in that package? First of  
16 all, what do you call that package? Is that the  
17 construction documents?

18          A.       Yes, construction documents. Some  
19 people call it a completion report or  
20 certification report.

21          Q.       And what kind of documents are in  
22 there?

23          A.       Well, the most common things you  
24 include are a narrative of what they did, daily

1 reports which would include photographs, testing  
2 results, for example, a project has specifications  
3 and they will say to test the soil or other  
4 materials. So they have test results to prove it  
5 met the specifications. Liners especially have a  
6 lot of common specifications that require leak  
7 testing as they're installed and those are the  
8 kinds of -- certifications by the contractors,  
9 installers and at the end a licensed professional  
10 engineer in Illinois will sign that document  
11 saying -- who normally ran the inspection program  
12 that it met the plans and specs.

13 Q. Is it important to review those  
14 documents?

15 A. Yeah, it is. It was very helpful.  
16 Again, it tells me that they followed the standard  
17 practice and, you know, in Illinois and many other  
18 states have a established liner installation  
19 capabilities and requirements and so that -- for  
20 landfills, for example. So it's something if you  
21 do liner design, it's a thing you almost  
22 automatically do.

23 Q. And would it be something you would  
24 automatically ask for if you're familiar with

1 landfill design, with pond design?

2 A. Normally, yes. It all depends on  
3 the timing. If you are -- especially, if you're  
4 doing it under an agency permit program, you  
5 should have it, you should ask for it, it should  
6 be included.

7 Q. In looking what has been previously  
8 marked as Exhibit MWG 510 that is in front of  
9 you --

10 A. Yeah.

11 Q. -- what is that document?

12 A. It's a letter to -- from NRT,  
13 Natural Resource Technology, to Mr. Jeff Boudry  
14 Midwest Generation, reference construction  
15 documentation transmittal south ash pond two liner  
16 replacement Midwest Generation, LLC, Will County  
17 generating station.

18 Q. Is this an example of the  
19 construction documents you're talking about?

20 A. Yes.

21 Q. And I think we referred to it as  
22 construction documents because the re line is  
23 construction documentation, correct?

24 A. Yes.



1 Q. And then if you turn to -- turn to  
2 page 34362.

3 A. 362. Okay. I've got it.

4 Q. What is that document?

5 A. Attachment C1 geomembrane  
6 certification.

7 Q. And if you turn the page, what is it  
8 telling you?

9 A. This is the manufacturer of the  
10 geomembrane, GSC, it's roll data, it gives the  
11 numbers of the -- like an identifying number for  
12 each roll of material that was sent to the site  
13 for the project.

14 Q. And when we use the term  
15 geomembrane, we're talking about the HDPE liner,  
16 correct?

17 A. Yes.

18 Q. When we use the term geotextile,  
19 that's actually a cushion, that's different, isn't  
20 it?

21 A. In this project, that's correct.

22 Q. Okay. And so this certification,  
23 Attachment C1, Bates page 34362 is telling you --  
24 what is it telling you about the HDPE?

1           A.       Again, it provides the test results  
2 and then you can take the test results and compare  
3 it to what is required in the specification and  
4 that's being done and compared and accepted.

5           Q.       And if you turn to page 34370 --

6           A.       Yes.

7           Q.       -- what is this document?

8           A.       This is the geotextile  
9 certification. SKAPS Industries is the company  
10 that manufactured it.

11          Q.       S-K-A-P-S?

12          A.       Yes, we just say SKAPS.

13          Q.       And what is this telling you?

14          A.       This is -- the geotextiles which you  
15 have on this project are the cushions and, again,  
16 it provides the results of testing to indicate  
17 that it meets the specifications.

18          Q.       And then if you turn to 34378.

19          A.       Yes.

20          Q.       What is -- there are several pages  
21 of resumes, quite a few pages of resumes of  
22 individuals going all the way through to Bates  
23 34388, why is it relevant to have resumes of the  
24 installer crew?

1           A.       Well, the installer crew experience  
2 is important. Over the years it was identified  
3 very early on that they're contractors or  
4 installers that don't have the experience and can  
5 make mistakes and cause problems. So in the  
6 specifications, you normally require a minimum  
7 level of experience, normally the number of square  
8 feet of liner installed. So you can tell this  
9 person has the skills necessary to install a liner  
10 correctly.

11           Q.       And then if you look at 34389.

12           A.       Yes.

13           Q.       What is this document?

14           A.       This is very common. It's called  
15 subgrade acceptance. That typically what happens  
16 is the installer, as you can see this is an  
17 installer here, his name is Thong Ingels, from I  
18 think CAW -- CAAW, the initials of the company.  
19 It's -- the installer is different from the  
20 contractor. The contractor will build the  
21 subgrade and they don't -- nobody wants a dispute  
22 between the subcontractor and installer and the  
23 contractor on the upgrade.

24                            You want to make sure the

1 subgrade is acceptable so the person will lay the  
2 product on it. When I say acceptable, the spec  
3 will include what defines acceptable. Normally,  
4 no rocks, no protrusions, it's flat. So there is  
5 normally -- there is a specification on this  
6 project, too, for the subgrade.

7 Q. If you would read the middle  
8 paragraph, "I, Thong, T-H-O-N-G, Ingels,  
9 I-N-G-E-L-S."

10 A. "I, Thong Ingels, a duly authorized  
11 representative of CAAW have visually inspected the  
12 subgrade surface described above and found the  
13 surface to be acceptable for installation of the  
14 geomembrane. I do by -- I do hereby accept the  
15 soil subgrade area as described below and shall be  
16 responsible for its integrity for suitability,  
17 installation and future containment performance in  
18 accordance with these specifications from this  
19 date to completion and acceptance of the  
20 installation. This certification is based on  
21 observations of the surface of the subgrade only."

22 Q. And what does that mean to you?

23 A. It means that the surface was  
24 acceptable to install a geomembrane.

1 Q. And if you look at 34392.

2 A. Yes.

3 Q. It carries over to 34393. What is  
4 this document?

5 A. The geosynthetic material  
6 installation certificate.

7 Q. What is that telling you?

8 A. This is from Matt Albert from CAAW  
9 Systems. It's a letter to Midwest Generation and  
10 it states that the geomembrane and Geosyntec at  
11 south ash pond two were installed in accordance  
12 with the project specifications and manufacturer  
13 recommendations.

14 Q. Why is that important?

15 A. Well, this is the buyoff on the  
16 actual installer telling the owner I've done what  
17 is required.

18 Q. Then you mentioned earlier leak  
19 testing. If you turn to 34422.

20 A. Yes.

21 Q. What is this document?

22 A. This is the contractor -- the  
23 subcontractor Leak Location Services, Inc. and  
24 they did a leak testing at south ash pond number

1 two and it's a letter to Aron Yakima from Brieser  
2 Construction. That is the general contractor  
3 responsible for the liner installation and this is  
4 a Leak Location Services that was conducted on the  
5 geomembrane.

6 Q. And is the leak location survey  
7 taken after the warning layer is placed on top of  
8 the HDPE?

9 A. Yes.

10 Q. Why is that?

11 A. Well, when you install a  
12 geomembrane, there is multiple levels of QCQA.  
13 The first is as you're installing it you test the  
14 seams. You do an inspection of the material and  
15 then you buyoff on that and all the seams are leak  
16 tested and then when you put the material on top  
17 of it, the sand in this case, a cushion, you want  
18 to test it after that point in time in case any  
19 equipment could have damaged the liner during  
20 installation of that cushion layer.

21 Q. So if there were trucks on the  
22 cushion layer, the leak detection survey would  
23 locate them?

24 A. Would locate leaks --

1 Q. Leaks.

2 A. -- whether they were caused by the  
3 trucks or whether it was missed during the  
4 installation.

5 Q. Now, referring back to this whole  
6 Exhibit 510, MWG 510, did you review similar  
7 documents for most of the ponds at the Midwest Gen  
8 station?

9 A. Yes, for most of them. Nearly all.

10 Q. What did you conclude based on your  
11 review?

12 A. In my review, I concluded that they  
13 followed the standard of practice, that I know the  
14 engineering company and that they, again, followed  
15 the standard of practice and I think they did a  
16 job good installing the liners.

17 Q. Now, we heard Dr. Kunkel say he had  
18 not seen the construction documents for the  
19 Midwest Gen ponds, is it possible in your opinion  
20 to make a complete opinion about the value or the  
21 integrity of a liner without seeing the  
22 post-construction documents?

23 A. No, you really should not do that.  
24 You should not make an opinion without having

1 facts in evidence such as this or other types of  
2 documents similar to this.

3 Q. We've heard a lot about again the 60  
4 mil HDPE that was used in the relined pond.

5 What is your opinion whether 60  
6 mil liners were effective liners to prevent  
7 potential impact to groundwater?

8 A. I think they're very effective. To  
9 kind of demonstrate how effective they are, US EPA  
10 under RCRA, Resource Conservation and Recovery  
11 Act, used HDPE -- 60 mil HDPE under hazardous  
12 waste regulations for containment -- as part of a  
13 containment system because they are so resistant  
14 to chemicals and very low permeability.

15 Q. So the very same liners that are in  
16 the Midwest Generation ponds that Maria Race  
17 organized the installation, those are the same  
18 liners you would use at a hazardous waste  
19 landfill?

20 A. Absolutely. I've designed them and  
21 constructed them myself. I didn't construct them  
22 myself, but as the engineer contractor constructed  
23 them accordingly.

24 Q. Dr. Kunkel stated -- made a broad



1 statement that liners always leak, do you agree  
2 with that statement?

3 A. No, I think it's an extreme  
4 statement. I mean, we have seen over the years a  
5 lot of papers and he cited Schroeder, for example,  
6 from 1994 that talks about leaks in liners and  
7 that's all very good discussion. I think having  
8 known the founders of my company, Geosyntec, Rudy  
9 Bonaparte and Dr. Giroud --

10 Q. Can you spell those?

11 A. Dr. Rudy Bonaparte like Napoleon.

12 Q. B-O-N-A-P-A-R-T-E.

13 A. And Dr. Giroud, G-I-R-O-U-D. People  
14 that are like the founders they want to have good  
15 lining systems. They are pioneers in the business  
16 and I grew up with them. And they -- they  
17 fostered a large academic exercise to show owners  
18 and regulators what can happen and what can be  
19 avoided and so it's always trying to get a better  
20 product and so over the years they have developed  
21 methods to develop better products and so some of  
22 the opinions that you draw from papers in the past  
23 are valuable to understand what not to do and what  
24 to do.

1           Q.        So, for instance, in the 1994  
2 article cited by Dr. Kunkel, what has changed  
3 since then?

4           A.        One of the things is that leak  
5 location surveys were very new and they weren't  
6 hardly ever used and that's one thing that was  
7 used here at Midwest Gen and so that gives you the  
8 opportunity to address a lot of the comments that  
9 you see in the articles like that loading on the  
10 liners and to avoid certain things to avoid  
11 puncture and it gives you an opportunity that once  
12 it's installed and it's at a certain point you can  
13 do like a final test and so that's one thing that  
14 is very important because even though you may say  
15 you have a hole per acre, for example, when you do  
16 the leak location survey it can be misinterpreted  
17 when you say "Well, they found one hole per acre"  
18 and so that's what you use going forward to say  
19 "Well, the liner is leaking," but the point is  
20 lost that they found it and they fixed it.

21                                So my opinion is there are  
22 papers and studies that say they have done  
23 location surveys and there are no leaks. So at  
24 that point in time, I say that's the standard.

1 There are no leaks. If you do that, it passes the  
2 test, there is no leaks. So I think now it is  
3 easier to -- I'll say lower the numbers for the  
4 averages of leaks if you follow good QA and have  
5 Leak Location Services or a leak detection survey.

6 Q. And, as you stated, that was done in  
7 the Midwest Gen relining program?

8 A. Yes.

9 Q. Mr. Kunkel -- Dr. Kunkel also  
10 mentioned some concerns he had with sharp subgrade  
11 underneath the liners, what is your opinion as to  
12 the -- that concern?

13 A. Well, it's -- one of the things that  
14 Dr. Kunkel has done it's been very general  
15 statements, but when you drill down and look at  
16 the details and you look at the facts you have  
17 subgrade acceptance. So, by definition, it's not  
18 going to have sharp objects on the subgrade --

19 Q. In other words --

20 A. -- or stones.

21 Q. I'm sorry. In other words, like the  
22 documents we just went to in Midwest Gen 510,  
23 somebody has certified the subgrade?

24 A. Yes, so his assumption is that there

1 will be sharp objects like that poz-o-pac was not  
2 true.

3 Q. You also mentioned a few minutes ago  
4 cushions, cushion layers. Are cushion layers  
5 acceptable practice?

6 A. Yes, they are. They're used -- in  
7 certain circumstances, it can be to help protect  
8 the geomembrane either subgrade or on top of the  
9 geomembrane to protect the geomembrane when you  
10 apply materials over that cushion.

11 Q. Now, Dr. Kunkel also stated that the  
12 ponds might have leaked after relining, do you  
13 agree with his comment?

14 A. Again, it's a general comment based  
15 on his observations in other locations and he  
16 doesn't have any information from these specific  
17 properties to back that up. So I don't think the  
18 facts are there to support his conclusion.

19 Q. What is your response to Dr. Kunkel  
20 stating that trucks operating on the liners like  
21 during dredging might have caused tears?

22 A. Well, we've seen and heard testimony  
23 that they install -- excuse me. They dredge the  
24 cells carefully. The words have been used like

1 methodically that they don't turn sharply, they  
2 use rubber tired vehicles and so in my opinion --  
3 and they have procedures and processes where they  
4 meet with contractors to make sure everybody  
5 understands it.

6                   You even heard people say they  
7 want to really stay away from the edges. They're  
8 really conscious of things like that. So I think  
9 when you have a consistent program across all of  
10 these sites, it reduces the risk of having  
11 construction related -- excuse me -- a dredging  
12 related incident.

13           Q.       And in addition to the testimony  
14 you've heard throughout this hearing, did you do  
15 anything independently to assess the process used  
16 for dredging?

17           A.       Yes, we called -- I think it might  
18 have even been before the deposition, but we  
19 called the plant, the people like Chris Lux and  
20 people that were responsible for the dredging and  
21 we call Lafarge because they worked at two or  
22 three of their plants, we talked to the people who  
23 were doing the work to verify that they are  
24 following processes that are good practices and

1 not increasing the chances for tears in the  
2 liners.

3 Q. We talked a few minutes ago about  
4 design of ponds, are the Midwest Generation coal  
5 ash ponds designed for the removal of ash?

6 A. Yes, they are. As we've seen, they  
7 have the cushions on the geomembrane, they have  
8 adequate, proper subgrade below the geomembranes,  
9 they have the cushion layer, they have the crushed  
10 limestone layer, six inches and on the edges they  
11 have the posts which warn the operators when you  
12 get close to the edge so they don't -- as you can  
13 appreciate, the sides come up at a slope. So it's  
14 hard to tell exactly where it is. So they're  
15 marked at the toe of that slope, the bottom of the  
16 slope, so they know where to stop cutting.

17 Q. And I believe Mr. Kelly spoke  
18 yesterday about one exception to the ponds being  
19 designed for dredging, do you recall what that  
20 was?

21 A. Yes, the Powerton secondary ash  
22 basin was not designed to be cleaned out and it's  
23 evident in the design because on top of the  
24 geomembrane they did not install the cushion or

1 the sand cushion or the crushed stone and they  
2 don't have a ramp.

3 Q. So without a ramp, you can't get in?

4 A. You're not going in and out if you  
5 don't have a ramp. So it's not designed to be  
6 cleaned out. As Mark Kelly indicated, they --  
7 they -- when they went to clean it out, it had  
8 never been cleaned out before and they found some  
9 soft material in the bottom and in my professional  
10 experience on erosion that kind of soft material  
11 comes from the atmosphere.

12 We design for soil loss for  
13 landfills to have no more than two tons per acre  
14 per year soil loss. That comes from the old US  
15 soil conservation service. It's because the  
16 atmosphere deposits dust at about that rate. So  
17 you know that you're going to get dust in the  
18 pond. So what they found was not ash, but  
19 probably just soil, dust in the ponds.

20 Q. Now, we heard a lot of testimony  
21 that there have been some tears in the liners from  
22 time to time.

23 How is your opinion of the  
24 reliability of liners in this case impacted by the

1 evidence you've heard?

2           A.       Primarily you look at the -- I'll  
3 call it the system they have in place that  
4 everybody knows and you've heard many testimony  
5 they fix any tear within one to two weeks or as  
6 fast as they can, weather dependent. So I think  
7 it's been a very responsible program and you've  
8 heard the Midwest Gen people indicate that  
9 environmental consciousness is right up there with  
10 safety.

11                       So I look at the fact that  
12 they're finding tears and they are identifying and  
13 fixing them. It's very positive. Like I think  
14 some of the -- nobody could be accused of, oh, I  
15 got to get that the next time we clean up the pond  
16 and then fill the pond back up. We don't hear  
17 stories like that. So I'm assuming it's a good,  
18 responsible system that they have in place.

19           Q.       Did the location of the tears factor  
20 into your opinion?

21           A.       Yes, we heard time and time again  
22 mainly the tears at the top above the water line  
23 and that is for many different types of reasons,  
24 but, yeah, normally heavy equipment can do that



1 and so the point is that they were identified and  
2 they were patched and so that the risk of leaks is  
3 eliminated.

4 Q. How does the frequency of dredging  
5 impact your opinions?

6 A. Well, everything is -- risk is  
7 probabilistic science. The fewer times you're  
8 doing that activity, the lower the risk of having  
9 an incident. So some of these ponds are rarely  
10 cleaned out. Some of them have not even been  
11 cleaned out since they were relined. So the fewer  
12 chances of -- the fewer occurrences of dredging  
13 lowers the risk of any -- causing any leaks.

14 Q. So based on your assessment of the  
15 relining projects at the sites, what is your  
16 opinion as to Midwest Generation's actions for  
17 preventing potential leakage from the ponds?

18 A. As I said, they have a system and  
19 they have done everything they can to reduce the  
20 risk for leakage and I think it's been a very  
21 responsible system and somewhat proactive.  
22 They're aware of it. This is not an afterthought.

23 Q. Turning back to slide seven, you  
24 have a time period then on here of 2013 CCA's and

1 we've heard a lot of testimony that in 2013 and  
2 '14 Midwest Generation completed actions from its  
3 Compliance Commitment Agreements and it includes  
4 installing GMZ's and Environmental Land Use  
5 Controls. We heard Mr. Gnat talk about GMZ's and  
6 land use controls, did you agree with the  
7 statements in his testimony?

8 A. Yes.

9 Q. Was there anything in his testimony  
10 about GMZ's or ELUC's that you disagreed with?

11 A. I don't recall anything.

12 Q. Good. Then I don't have to ask you  
13 all those questions.

14 Looking back at your slide six,  
15 go back a page for me. You have a note here the  
16 fourth bullet down Wyoming coal?

17 A. Yes.

18 Q. Why was that something you noted?

19 A. Again, that's one of those common  
20 factors that if they're all burning the same coal  
21 and we've heard people like Fred Veenbaas say that  
22 the combustion process are the same, you'd expect  
23 the same bi-product. So if it's a consistent  
24 product, then the CCR will be consistent.

1           Q.       The next point you mention is onsite  
2 data, coal ash constituents MWG coal ash  
3 constituents, and then listed is samples of bottom  
4 ash from ponds and samples of historic ash areas.  
5 What did you do there?

6           A.       Well, we heard Mark Kelly, for  
7 example, and Fred Veenbaas state they actually  
8 took the samples which they had here on display as  
9 a demonstrative, packed it and brought it for --  
10 sent it to the lab for testing and then the --  
11 they ran the NLET or the ASTM D3987 test and they  
12 came up with the results and that, again, one of  
13 the common factors is that the leachate results  
14 were very similar across the sites.

15          Q.       Now, you -- you focus on the word  
16 onsite data here, why is onsite data important?

17          A.       Well, when you do an evaluation like  
18 this, having the specific data, the onsite data,  
19 is the best data. If you don't have the best data  
20 or the onsite data, you can look at literature and  
21 other studies, but primarily onsite data is what  
22 should rule over non-site specific data.

23          Q.       If you turn to slide eight, what is  
24 this document?

1           A.        These are the analysis of bottom ash  
2           from MWG ponds and that samples were taken from  
3           Powerton, Waukegan and Will County and as you can  
4           see there are one, two, three, four, five columns  
5           listing the results of the -- the -- in the water  
6           which is the leachate comes off of the shake test.

7           Q.        And when you say it comes off of the  
8           shake test, that's coming off of the ash from the  
9           Midwest Gen ponds?

10          A.        Yes, they take the sample, they  
11          bring it to the lab, they mix it in a container,  
12          they shake it, they decant the water and they test  
13          the water to measure what comes out of the ash  
14          that could be of concern.

15          Q.        And for all of these tests that were  
16          taken, was the D3987 test used?

17          A.        Yes, it was common for all of them.  
18          That's what is required by statute in Illinois.

19          Q.        Is this a summary of the Table 5-1  
20          from your report?

21          A.        It is as it has been updated for the  
22          Powerton May 2004 bottom ash sample which was not  
23          in my original report but it has been included  
24          here.

1           Q.       Now, I see on your list of  
2     generating stations Joliet 29 is not one of the  
3     stations, how do you account for the constituents  
4     of ash in the ponds at Joliet 29?

5           A.       One of the things we do in  
6     engineering and you look at is we correlate data.  
7     So, in other words, if you have five samples and  
8     the results are very similar and they all come  
9     from the same coal, the same burning process,  
10    Joliet has the same coal and the same burning  
11    process, so you can assume and correlate the data  
12    to the Joliet site also.

13          Q.       So based on this chart of onsite  
14    data, what were the actual constituents that you  
15    focused on for your opinions about the ponds in  
16    this case?

17          A.       Well, we looked at what we found and  
18    what we found was barium, boron, sulfate and TDS  
19    and we did -- if you look at the very bottom, the  
20    sulfate and TDS we did not analyze it except for  
21    one sample. We felt it was safe that even with --  
22    if it was in that one sample, it could be used  
23    across for comparisons.

24          Q.       So you took a conservative approach,

1 you found it in one, you applied it to the others?

2 A. Yes.

3 Q. And is this the part of the data  
4 that you relied on in your report and for your  
5 opinions today regarding the constituents of  
6 concern you were mostly looking at at the site --

7 A. Yes.

8 Q. -- sites?

9 A. Yes, this is the site specific data  
10 that we used.

11 Q. Okay. Now, you've heard Dr. Kunkel  
12 he instead of using the site specific data he  
13 relied on EPRI. First of all, what is EPRI?

14 A. That's the Electric Power Research  
15 Institute. It's a company that was set up to do  
16 research for the power industry. It's a  
17 non-profit organization and I work quite a bit  
18 with them.

19 Q. And why not do what Mr. Kunkel --  
20 Dr. Kunkel did and just use the EPRI published  
21 data?

22 A. Well, that published data is a color  
23 guide. It's information for people who may not  
24 have site specific data, but we have site specific

1 data. So you can compare the two and sort of  
2 calibrate or correlate that, yes, what you're  
3 looking for is reasonable.

4 Q. Did you do that also?

5 A. Yes, we did.

6 Q. So you used EPRI as a backup, if you  
7 will?

8 A. Yes, and it was similar. It wasn't  
9 exactly the same, but it was very similar and they  
10 said, yeah, what we're finding is -- would be  
11 expected from this Wyoming coal.

12 Q. Is the EPRI data based on different  
13 types of sites and ash?

14 A. Yes, it is. They looked at both  
15 landfill leachate and surface impoundment or pond  
16 leachate and they looked at it for different types  
17 of coal. It was pretty comprehensive. They had  
18 maybe a hundred samples.

19 Q. So Dr. Kunkel using the EPRI data  
20 focused on boron, manganese and sulfate, do you  
21 disagree with that?

22 A. Somewhat, yes. Not a hundred  
23 percent, but I disagree.

24 Q. How so?

1           A.       Well, again, he ignored the site  
2 specific data. We found barium and he didn't  
3 include barium and we did not find manganese, but  
4 he wants to use it. I think he wants to use it  
5 because it's found in the groundwater. So his  
6 assumption it's from the ponds, but our data says  
7 it's not from the ponds because we did not find it  
8 in the ash from the ponds.

9           Q.       Similarly, for barium, you found  
10 barium in the ash in the ponds?

11          A.       Yes.

12          Q.       So --

13          A.       I'm sorry.

14          Q.       But not in the groundwater?

15          A.       We did find it in the groundwater.  
16 We found the others to some extent as well and  
17 that's what we did when we looked at the  
18 comparison which we'll get to later I know, but we  
19 did find these things, but you look at what you  
20 find and also what you don't find and so one of  
21 the big differences that, you know, manganese is  
22 not in the ash, but it's in the groundwater. So  
23 it's not consistent.

24          Q.       Now, you mentioned barium, boron,



1 sulfate, why not just look at one constituent, a  
2 single constituent?

3 A. That would be somewhat shallow, if  
4 you will. I mean, it's really very easy to arrive  
5 at a false positive conclusion because clearly  
6 there is boron in the groundwater if you take  
7 boron as an example, but when you look at the  
8 other things it doesn't match. So you would have  
9 made an incorrect conclusion if you use just one  
10 of these analytes.

11 Q. Okay. Looking back at slide eight  
12 for a minute. So we talked about the constituents  
13 of concern that you were focusing on.

14 Did this information on this  
15 table tell you anything about the levels of  
16 constituents that you were seeing in the ash and  
17 the ponds at the Midwest Generation stations?

18 A. Well, the test is structured, again,  
19 to identify whether or not the material can be  
20 reused as a CCB and what it identified is that it  
21 met that standard because what you do is you  
22 compare the concentrations in the leachate with  
23 the Illinois Class 1 groundwater standards and if  
24 you meet those standards, then you can reuse that

1 ash in structural fill, for example.

2 Q. And all of these meet the standard?

3 A. Yes. One is at the standard, for  
4 example, boron at Waukegan was two and the  
5 standard is two, but I believe it was decided it  
6 could be reused. It did not -- was not above the  
7 standard.

8 Q. And that's the highest level ever  
9 found, correct?

10 A. In the leachate data that we've  
11 seen, correct.

12 Q. Now, given these -- these levels  
13 that you're seeing here along with the liners,  
14 what does this tell you about the potential to  
15 impact groundwater from the ponds?

16 A. Well, when it's this low, you expect  
17 that it should not impact the groundwater below  
18 the ponds to any, again, unacceptable levels.

19 Q. And I think you said Dr. Kunkel did  
20 not consider this data?

21 A. That's correct.

22 Q. Do you agree with ignoring the pond  
23 ash data?

24 A. I do not agree.

1 Q. For the reasons you've already  
2 discussed or is there anything else?

3 A. Again, it's site specific data and  
4 you cannot ignore it.

5 Q. You also mentioned one of the common  
6 factors you focused on was the sampling of  
7 historic areas and if you turn to the next slide,  
8 slide nine, what did you mean there?

9 A. Well, at three locations, the Joliet  
10 plant, Joliet 29, at the Powerton plant, and at  
11 the Will County plant they had areas that KPRG  
12 went out, Andrews Engineering went out and took  
13 samples, composite samples. It's very common  
14 under RCRA, R-C-R-A. You have to have a composite  
15 sample, meaning multiple samples that are  
16 composited and also they took multiple samples in  
17 analyzing them to represent the waste mass.

18 So they took all these data and,  
19 for example, KPRG they looked at what they found  
20 and they concluded as they -- as I will quote here  
21 on the slide for the findings for Joliet 29 they  
22 found, quote, high-degree of statistical certainty  
23 that the criteria established in 415 ILCS 5/3.135  
24 (formally 415 ILCS 5/3.94)a-5(B) are met and that

1 the material may be considered CCB for engineering  
2 beneficial reuse.

3 Q. Now, this chart is a summary --  
4 summary of the findings, did you review the actual  
5 sample results?

6 A. I did.

7 Q. And when you reviewed the results of  
8 the historic ash tests, what did that tell you  
9 about the levels of the constituents of concern  
10 you were focusing on?

11 A. They were, again, with the exception  
12 here of Powerton, they met the reuse standard and  
13 as it states for Powerton they found some  
14 excursion of selenium and chromium and, in fact,  
15 we did not find selenium or chromium in the  
16 groundwater at the sites above the groundwater  
17 targets. So I believe it was found -- in this  
18 situation, it was found to be reuseable.

19 Q. You mentioned the Powerton site,  
20 what else impacted your opinion at the Powerton --  
21 based on the Powerton -- your review of  
22 information at the Powerton site? What informed  
23 your opinion about historic ash areas from the  
24 Powerton site?

1           A.       Well, one thing that was very clear  
2 when you look at what is called the former ash  
3 area it is north and west of the current pond area  
4 that was an older area that -- and I think Mark  
5 Kelly described it as maybe an overflow area, an  
6 emergency overflow area, and so we know that there  
7 is several feet of ash there. It's contained in a  
8 berm and they have monitoring well's 2, 3 and 4  
9 that are immediately down gradient of that area  
10 and all the concentrations in those wells, and the  
11 groundwater in those wells, is less than the  
12 standard, the Illinois Class 1 groundwater  
13 standard.

14           Q.       And, in fact, were those all the  
15 sample results I went through with Dr. Kunkel when  
16 I was speaking to him?

17           A.       Yes, I remember it clearly.

18           Q.       And did Dr. Kunkel rely on this  
19 historic ash data?

20           A.       He did not.

21           Q.       Do you agree with that approach?

22           A.       I think you should look at this data  
23 because it's applicable and it's site specific.

24           Q.       The last common factor you mentioned

1 before was risks/no risks to potential receptors.

2 If you turn to your next slide.

3 A. Yes.

4 Q. What did you do to assess risk as  
5 part of your investigation?

6 A. As I mentioned earlier, when you do  
7 an evaluation like this, and I've done many, you  
8 look at the exposure root and the receptor and  
9 with an ELUC the potable water -- groundwater  
10 users is eliminated. It's a common factor for the  
11 sites by the ELUC's and then --

12 Q. Let me interrupt you for a second.

13 Even prior to the ELUC's, were  
14 there any potable water receptors?

15 A. Good point. There was two surveys  
16 that were conducted, one in 2009 and one as part  
17 of the Compliance Commitment Agreements, where  
18 they did a potable well water survey within 2,500  
19 feet of the plants. They identified that the only  
20 nearby users were a few wells that were at  
21 different plants and they were very deep and there  
22 is really no potential for those wells to be  
23 impacted by what we're seeing in the surface.

24 Q. Your second bullet on this page,

1 what does that say?

2 A. Well, what we did for the surface  
3 water we took the groundwater data from the wells  
4 and we compared the concentrations in wells as  
5 though they were being exposed to the surface  
6 water receptors and we looked at the Illinois  
7 water quality standards and the Illinois water  
8 quality criteria and they're different than Class  
9 1 drinking water standards and sometimes they're  
10 lower and we looked at those and we looked at  
11 whether or not the groundwater concentration  
12 exceeded those criteria as a screen level.  
13 Because recognize what's in the well it's going to  
14 change as it migrates through hundreds or  
15 thousands of feet to surface water. So -- in them  
16 being further away from where the groundwater has  
17 been impacted.

18 So we looked at it and we made a  
19 conclusion and I'll read a quote from my slide.  
20 Quote, an assessment of human and ecological  
21 receptors in surface water indicates that there is  
22 no risk to the surface water environment at each  
23 site based on regulatory risk standards and  
24 standards of practice for risk assessment.

1 Summary, conclusion, surface water receptors were  
2 not going to be exposed to anything unacceptable.

3 Q. Why did you look at surface water  
4 receptors, is that what is nearby?

5 A. Yeah, it's the every -- not every,  
6 but nearly every power plant that I work on is  
7 next to surface water because they need water for  
8 cooling.

9 Q. Now, is this risk analysis located  
10 in your 2015 expert report?

11 A. Yes, it's included in Appendix B and  
12 it's summarized very briefly in the content of the  
13 report.

14 Q. And since that report was updated,  
15 did you also update the risk data?

16 A. Yes, the data that we used included  
17 both maximum levels and average levels and so we  
18 add all those quarters to update the average and  
19 maximum levels that we used in our comparison to  
20 the water quality standards and criteria.

21 Q. If you turn to Tab 907, what has  
22 been marked Midwest Gen 907 in the binder, is that  
23 the updated risk data?

24 A. Yes.



1 Q. Did the updated data change the  
2 conclusions of risks at all?

3 A. No, they did not.

4 Q. So we've walked through each of the  
5 common factors for your assessment. If we look at  
6 slide 11, which is just a brief statement of our  
7 next point, the next point was compare bottom ash  
8 to groundwater conditions for each facility and  
9 you've mentioned a little bit of what you did  
10 there. If you turn to slide 12, looking at the  
11 first bullet -- I'm sorry. Are you with me?

12 A. Now, I am. Thank you.

13 Q. So what do you mean here when you  
14 say you conducted a comparison of the occurrence  
15 of groundwater constituents to indicators of  
16 leachates in the ponds, from ash stored in the  
17 ponds?

18 A. Well, we took the data.

19 Q. Which data?

20 A. The groundwater data all the way  
21 through second quarter of 2017 and we looked at  
22 our indicators that we found in the ash ponds  
23 being barium, boron, sulfate and TSS -- excuse  
24 me -- TDS and we compared it to, again, the two

1 against each other and we looked at what was  
2 consistent, meaning found in both or not found in  
3 both, and inconsistent, meaning found in one and  
4 not found in the other, and we did a calculation  
5 as a percentage. We looked at number of times it  
6 was inconsistent, which meant they would not -- it  
7 would indicate that the ash in the pond would not  
8 be a source in the groundwater.

9 Q. And is that comparison process that  
10 you described a standard methodology for reviewing  
11 a site?

12 A. Having reviewed a number of sites,  
13 we all do data comparisons. It's done different  
14 ways. This way I simply put it in a percentage of  
15 matching or non-matching.

16 Q. Have you presented this type of  
17 information in percentages before?

18 A. No, I haven't.

19 Q. So is that -- why did you do it  
20 here? Was it a way to present data?

21 A. Yeah. When you look at data, it  
22 seemed like a simple way to present it that people  
23 could understand whether it matched or did not  
24 match, was it consistent or was it inconsistent.

1           Q.       But is the comparison process  
2 standard for your field?

3           A.       Yes, it is.

4           Q.       In this first bullet we were reading  
5 from slide 12, it also mentions EPRI research,  
6 what did you do there?

7           A.       Well, as I mentioned, we started  
8 with the site specific data and we know that  
9 Dr. Kunkel had looked at the EPRI research. So we  
10 wanted to do our own comparison using our data,  
11 the site specific data in the ponds, to see how it  
12 compared to the EPRI data or the literature data.

13          Q.       And did the EPRI data change your  
14 conclusions?

15          A.       No, it did not.

16          Q.       In looking at the next bullet, what  
17 were your conclusions?

18          A.       The profiles that we looked at of  
19 the constituents that we found in groundwater did  
20 not match the profiles what was found in the ponds  
21 at the sites.

22          Q.       And your final bullet on this point,  
23 was your conclusion based on both the comparison  
24 data and the other information you analyzed

1 regarding the ponds?

2 A. Yes, and the final conclusion was  
3 that groundwater impacts are not the result of ash  
4 stored in the ponds at the sites.

5 Q. Now, we spoke a minute about the  
6 historic areas and I guess I want to be clear on  
7 what historic areas we're talking about.

8 You heard Maria Race testify  
9 about potential areas of historic ash based on  
10 maps from ENSR, E-N-S-R, reports that she was  
11 shown, is that part of what you're referring to?

12 A. Yeah, the facility when I speak of  
13 historic areas you can look at it in two levels.  
14 One is the ENSR report from 1998 identified some  
15 areas that were based on some conversations with  
16 people that said these are areas that they believe  
17 are there. That's one level of history. The  
18 other level of history is what I'll call not quite  
19 ancient because it's 50-year history and I'm past  
20 that so I don't want to admit to being ancient,  
21 but it is that old data, the plants are very old.  
22 So you go 50 to 80 years old, there is some other  
23 historic data that could be representative of the  
24 sites.

1           Q.       But we're not -- as we discussed  
2 historic areas, you're not including those 50 to  
3 80 year-old areas, are you?

4           A.       No, I'm not. Really we're looking  
5 at -- you can think of historic areas as the  
6 borings where ash was found and the ponds which,  
7 of course, have existed for quite a while. So  
8 those are the historic areas that we based our  
9 evla- -- based my valuation on.

10          Q.       And what about things like the  
11 northeast landfill area we heard a lot about today  
12 at Joliet, is that included as in your definition  
13 of historic area?

14          A.       Yes.

15          Q.       So what is not included, is it fair  
16 to say that it's what's known?

17          A.       Yes.

18          Q.       Historic ash that is known to exist?

19          A.       Yes.

20          Q.       Would it include the ash that we  
21 know might be in the berms?

22          A.       Yes, it would.

23                    MS. NIJMAN: I can keep going. I'm  
24 going to jump into some of the stations now. What

1 would you like to do?

2 HEARING OFFICER HALLORAN: Let's go  
3 off the record for a minute.

4 (Whereupon, a break was taken  
5 after which the following  
6 proceedings were had.)

7 BY MS. NIJMAN:

8 Q. All right. Looking at your  
9 overview, again one of the things that you said  
10 you had done was you assessed the site conditions  
11 for each of the facilities. So I'd like to turn  
12 to that point and starting with Joliet 29, what  
13 did you do -- again, I don't want to go over a lot  
14 of this because much of it we heard over other  
15 people, testimony that came before. For instance,  
16 we heard from Maria Race that Joliet 29 converted  
17 to gas in 2016. It's been operating for 30 years.  
18 Just looking at slide 14 what other conditions at  
19 Joliet were -- forms the basis of your opinions?

20 A. Well, one of them is when it was  
21 operating most of the ash went offsite so the  
22 ponds are only used occasionally. I think the  
23 number I recall is maybe five percent of the time  
24 and also that when you look at the data

1 preclosure -- or preconversion, you know, you have  
2 pond one and two, you use one pond at a time, pond  
3 three was a finishing pond understanding that is  
4 important, too.

5                   Finishing pond means by  
6 definition, by the rule, it receives di minimus  
7 ash and it's not regulated. I understand how it's  
8 operated and also we know they were lined back in  
9 '78 and they were relined. So that's all very  
10 important to know in doing the evaluation.

11           Q.       What is your opinion as to whether  
12 water in the finishing ponds could be a source of  
13 constituents to groundwater?

14           A.       I don't -- I don't think that's  
15 significant at all. I wouldn't be concerned about  
16 it. The water is there, it's in a liner and what  
17 is in that water as we know it's -- by design it  
18 shouldn't have a level of constituent that we  
19 would be concerned about.

20           Q.       Turning to the next slide, slide 15.  
21 We've heard some testimony about this slide before  
22 depicting the Joliet site ponds and can you  
23 identify the ponds on that page?

24           A.       Yes, on the left side of the

1 drawing, which is to the west, is ash pond one,  
2 adjacent to it to the east is ash pond two, a  
3 little further away is ash pond three, also called  
4 a finishing pond.

5 Q. If you turn to your next slide,  
6 slide 16.

7 A. Okay.

8 Q. What does this reflect?

9 A. This -- this, again, was a bit of  
10 struggle, as you go through the data, for me.  
11 There is so many dates and facts to remember.  
12 This was a nice summary so that I could see like,  
13 for example, on the left you see ash pond one. It  
14 says how it was used before 2015, intermittently  
15 when -- conveyor was not operating. It says when  
16 it was originally lined, it says when it was  
17 relined and how often the ash was removed. So it  
18 goes through that summary for each pond and it's a  
19 nice way to see kind of what is going on over  
20 time.

21 Q. Looking at the column that is marked  
22 date constructed liners, they all say poz-o-pac  
23 which we know from prior testimony, but they also  
24 say bituminous, B-I-T-U-M-I-N-O-U-S, seal coat,



1 what does that mean?

2 A. Well, it's an organic material,  
3 black normally, it comes a little bit like glue  
4 and you spread it over the surface and it sets and  
5 it provides like similar to a rubber type seal  
6 over -- over the -- over the poz-o-pac.

7 Q. We also see on this slide 16 that  
8 you have the poz-o-pac 12 inches thick for the  
9 ponds at Joliet, why was that relevant to you?

10 A. Well, again, it has compacted  
11 granular fill underneath and that's the subgrade,  
12 the foundation and they put the poz-o-pac which is  
13 12-inch thick poz-o-pac. If you think, most  
14 pavement in your communities aren't 12 inches  
15 thick. So it's a pretty thick, hard layer.

16 Q. This slide also notes in the fourth  
17 column, I guess, the date relined with HDPE. If  
18 you look at the next slide, slide 17, what are we  
19 seeing here?

20 A. This is a cross section reproduced  
21 from my report and which Decision Quest has made  
22 it look beautiful. It is ash pond's one and two  
23 relined in 2008 and you can see from the bottom up  
24 on the far right you -- the dark brown is the soil

1 subgrade. You see poz-o-pac on the right 12  
2 inches thick and above that you have the bottom  
3 geotextile cushion, above that is the 60 mil HDPE  
4 liner, above that is the top geotextile cushion,  
5 on top of that cushion is a sand cushion layer 12  
6 inches thick, on top of that is a crushed  
7 limestone warning layer which is six inches thick.

8 Q. Is this an accurate depiction of the  
9 Joliet ash pond's one and two?

10 A. Yes, based on all the records I  
11 could find, I believe it's accurate.

12 Q. We've discussed a little bit as it's  
13 used here, what is the purpose of the geotextile?

14 A. Again, it's a cushion for the  
15 geomembrane to prevent mainly puncture damage.

16 Q. And what is the purpose of the sand  
17 cushion 12 inches thick?

18 A. Well, when you install a  
19 geomembrane, you can appreciate that it can be  
20 punctured by equipment and its tools. So you want  
21 to have that cushion on top of it as a minimum  
22 before you put any heavy equipment on that -- in  
23 that area. So the crushed limestone is what I  
24 call a very strong binding layer. It interlocks

1 and provides a hard-working surface similar to a  
2 gravel road, for example. It's a good -- good  
3 working surface for the equipment later on when  
4 the pond is cleaned out.

5 Q. Does this go back to your comment,  
6 your opinion earlier, about the design of these  
7 ponds?

8 A. Yeah, these ponds are designed to be  
9 cleaned out with heavy equipment.

10 Q. When you say heavy equipment, do  
11 you -- what do you refer to?

12 A. We've heard kinds of equipment that  
13 they have been using. They've had dump trucks,  
14 they've had rubber tire end loaders and that type  
15 of equipment.

16 Q. And in your understanding, that is  
17 acceptable for a pond designed this way?

18 A. Yes. I believe so, yes.

19 Q. You also note on this slide 17  
20 groundwater elevation, average groundwater  
21 elevation.

22 A. Yes, we can see for pond one the  
23 elevation is 506 feet and for pond two it's 505  
24 feet.

1           Q.       And then you also have noted on here  
2 the pond bottom elevation.

3           A.       Yes, the pond bottom elevation for  
4 both ponds is 516 feet.

5           Q.       And why did you want to note that on  
6 these drawings you did?

7           A.       Well, Dr. Kunkel made quite a bit  
8 of -- put a bunch of ink in his report about the  
9 occurrence of hydrostatic uplift and this  
10 demonstrates that the groundwater levels are quite  
11 a bit lower than the liner system and that  
12 hydrostatic uplift will just not happen because  
13 the water level doesn't go up high enough to  
14 contact and push up the liner.

15          Q.       If you turn to the next page, this  
16 page we were just looking at was for pond's one  
17 and two. If you turn to the next page, you see  
18 ash pond three and you mentioned a minute ago that  
19 was the finishing pond, I believe?

20          A.       Yes, it is.

21          Q.       And would you describe -- I think  
22 generally the layers of the pond are similar,  
23 correct?

24          A.       Yes, they are.

1           Q.       The cross section is similar to  
2 pond's one and two. You also noted the pond  
3 bottom elevation and the average groundwater  
4 elevation here.

5           A.       Yes, the average water level through  
6 the updated data is 505.5 feet and the pond bottom  
7 elevation is 517.5 feet.

8           Q.       Now, you've listed here the average  
9 groundwater elevation.

10                   Did you also consider the  
11 maximum and the minimum groundwater elevation?

12           A.       Separate from this, yes, I did.

13           Q.       And you looked at it all?

14           A.       Yeah, and I had the same conclusion  
15 that -- recognizing that when ponds are  
16 constructed, they often don't have seven years of  
17 data and you may have a data point in time. So  
18 you design it to accommodate some reasonable  
19 expectation of what a maximum could be and when we  
20 looked at the actual data, say, over the seven  
21 years, it -- again, while it did come close to the  
22 bottom, it just would not cause hydrostatic  
23 uplift.

24           Q.       What are other things based on the

1 design of the ponds that would prevent hydrostatic  
2 uplift?

3 A. Well, it's one of the things we  
4 talked about, the weight of these materials help  
5 resist hydrostatic uplift.

6 Q. What do you mean?

7 A. The weight of -- the combination of  
8 the poz-o-pac, the sand, the stone and the water  
9 in the pond because that adds weight in the pond  
10 to help counterbalance potential uplift force from  
11 groundwater rising.

12 Q. So even if there was some weird  
13 situation where you had a 500-year flood and there  
14 was water rising, would you -- first of all, are  
15 you aware that has happened so far?

16 A. I'm sure it has not happened,  
17 although we've had some pretty big rain storms  
18 down in Joliet, it seems to have been hit hard  
19 over the last few years, but I would have expected  
20 that the water in the pond -- because it's in the  
21 pond. It would be plenty -- in addition to the  
22 other liner materials, would have played a  
23 resistance to hydrostatic uplift and we also know  
24 from Rich Gnat's testimony earlier there is a lock

1 system nearby that they control the water levels  
2 in the river which, in turn, will control the  
3 water levels in the ground.

4 Q. So is there any likelihood of  
5 hydrostatic uplift in your opinion at pond's one,  
6 two or three at Joliet?

7 A. No.

8 Q. Now, going back for a second to  
9 slide 16, the chart of the impoundments you did,  
10 the last column scheduled ash removals, why was  
11 that relevant?

12 A. Again, it goes back to the how  
13 frequently do you have the risk of damage. So in  
14 this situation, they're only cleaned out every  
15 couple years and I think what happened, and the  
16 way I understand it, about every two years one of  
17 them has to be cleaned out. That's why it says  
18 every two to four years. So you don't have to  
19 clean it out instantly. So it's in that range.  
20 One of the ponds is cleaned out every couple years  
21 or so and then less frequently means less probable  
22 chance of damage to the liner.

23 Q. And you mentioned when we were  
24 speaking about the sites generally that you

1 personally did -- Geosyntec did some investigation  
2 to assure that the processes used in the ponds  
3 were -- were appropriate.

4 Did you do anything specific for  
5 Joliet or who did you speak to for Joliet, if you  
6 recall?

7 A. I believe it was -- I can't remember  
8 if it was the plant person. We had a conversation  
9 with a number of different people.

10 Q. Does Harrison Estep sound familiar?

11 A. Oh, yes. Harrison Estep. Yes, that  
12 is the person. Thank you. Sorry. Yeah, we spoke  
13 to -- Harrison Estep had reported it. I believe  
14 that may have been a document that was produced  
15 from phone notes. So that was the person, yes.

16 Q. And did he, along with the testimony  
17 we've heard in this case, confirm that at Joliet  
18 29 the operations inside the pond would serve to  
19 prevent damage?

20 A. Yes, I think all the processes they  
21 followed were appropriate and they took very  
22 reasonable care to avoid damage.

23 Q. Now, as part of your --

24 MS. NIJMAN: I can keep going. It's



1 quarter til.

2 HEARING OFFICER HALLORAN: Yeah,  
3 let's start wrapping up.

4 MS. NIJMAN: I'll just stop here.

5 HEARING OFFICER HALLORAN: Okay.

6 All right. We're still on record. I think we're  
7 going to close up shop and continue it tomorrow at  
8 9:00 a.m., February 2nd, 2018. Groundhog Day. So  
9 hopefully nobody sees their shadow tomorrow  
10 morning when they walk out, but, anyway, thank  
11 you. Have a safe drive home.

12

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1 STATE OF ILLINOIS )  
2 ) SS.  
3 COUNTY OF COOK )  
4

5 I, Steven Brickey, Certified Shorthand  
6 Reporter, do hereby certify that I reported in  
7 shorthand the proceedings had at the trial  
8 aforesaid, and that the foregoing is a true,  
9 complete and correct transcript of the proceedings  
10 of said trial as appears from my stenographic  
11 notes so taken and transcribed under my personal  
12 direction.

13 Witness my official signature in and for  
14 Cook County, Illinois, on this \_\_\_\_\_ day of  
15 \_\_\_\_\_, A.D., 2018.

16  
17  
18  
19  
20  
21  
22  
23  
24



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<b>A</b>	<b>accurate</b> 290:8 290:11	<b>adds</b> 294:9	106:21 108:12	169:2,3 172:13
<b>A.D</b> 298:15	<b>accused</b> 264:14	<b>adequate</b> 262:8	<b>agreement</b>	173:14,20
<b>a.m</b> 1:16 297:8	<b>achieve</b> 30:3	<b>adjacent</b> 111:10 288:2	38:14 39:9	174:20 177:6
<b>ABEL</b> 2:10	<b>acquire</b> 170:2	<b>admission</b> 136:4 161:15	89:21,24 90:12	181:9 186:13
<b>ability</b> 157:15	<b>acre</b> 258:15,17 263:13	<b>admit</b> 88:17	97:24 145:4	199:3,24 200:3
<b>able</b> 14:14 24:16 35:10 42:21,23 64:7 72:23 73:8 76:22 77:22 150:11 186:21 196:8 198:5 203:2 207:11 211:23 212:7 243:8	<b>acres</b> 152:13,17	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>Agreements</b> 266:3 278:17	212:10 220:2 227:9 234:23 237:23 238:18 239:1,7 242:1 268:1 280:9
<b>above-entitled</b> 1:12	<b>Act</b> 256:11	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>Agriculture</b> 138:12	<b>analyte</b> 232:2
<b>absolute</b> 99:10	<b>actions</b> 106:22 106:22 243:1 265:16 266:2	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>ahead</b> 13:16 42:1 44:9 63:18 133:7 156:17 183:4 184:12	<b>analytes</b> 273:10
<b>absolutely</b> 48:20 59:5 103:10 105:2,8 256:20	<b>active</b> 11:19 107:13 167:4 192:7 225:6,11 225:15	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>al</b> 212:20	<b>analytical</b> 87:11 87:13 89:9 90:19 160:4 173:12 199:11
<b>abstract</b> 174:22 174:24 175:1,9 176:5,7,9,16 176:18,21	<b>activities</b> 240:12	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>Albert</b> 253:8	<b>analyze</b> 91:7 92:10 159:2,11 159:19 269:20
<b>abstracts</b> 174:15 174:18 176:15	<b>activity</b> 178:24 265:8	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>Alilla</b> 27:17	<b>analyzed</b> 91:24 159:3,6 168:11 173:17 283:24
<b>academic</b> 257:17	<b>actual</b> 12:19 90:23 129:16 132:4 152:8 169:16,19 246:2 253:16 269:14 276:4 293:20	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>Alisa</b> 6:15	<b>analyzing</b> 147:1 168:6,7 275:17
<b>accept</b> 159:22 224:23 252:14	<b>add</b> 47:5 280:18	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>alleged</b> 124:14	<b>ancient</b> 284:19 284:20
<b>acceptable</b> 252:1,2,3,13 252:24 260:5 291:17	<b>added</b> 207:22,23 234:7 236:20	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>allow</b> 19:17 108:10 141:2	<b>Andrews</b> 275:12
<b>acceptance</b> 251:15 252:19 259:17	<b>adding</b> 208:2 236:22 244:7	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>allowed</b> 65:13	<b>animal</b> 239:7
<b>accepted</b> 12:1 13:1 227:4 250:4	<b>addition</b> 219:22 219:24 220:15 261:13 294:21	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>allowing</b> 108:18	<b>annual</b> 94:16 193:10
<b>accepts</b> 87:17	<b>additional</b> 118:12 139:21 142:1 146:15 234:7 235:2 236:13 242:20 242:20	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>allows</b> 11:14 167:4	<b>answer</b> 24:16 28:21 33:4 35:10 45:7 57:15 64:7 72:23 73:8 74:9,9 75:24 76:3,22 77:22 80:15 150:11 185:5 196:7 198:5 203:2
<b>access</b> 53:10	<b>address</b> 220:21 226:24 258:8	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>aloud</b> 75:20	<b>answered</b> 68:17 74:5,8 197:24 198:1
<b>accommodate</b> 293:18	<b>addressed</b> 116:3 193:1 229:22 239:8	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>aluminum</b> 230:9 230:18	<b>antidotal</b> 77:1,6
<b>account</b> 269:3	<b>addressing</b> 116:7	<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>ambient</b> 30:12 205:15	<b>anybody</b> 31:21 77:14 172:24
<b>accuracy</b> 50:24		<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>amended</b> 134:3	<b>anyway</b> 297:10
		<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>American</b> 218:6	
		<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>amount</b> 17:6 197:22 226:17	
		<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>analyses</b> 87:18 91:4 92:22 199:1,11,14,22 238:17	
		<b>admitted</b> 43:15 46:14 111:6 117:16 118:24 120:19 122:4 136:10 148:8 158:3 161:18 163:15 166:9 177:18	<b>analysis</b> 87:12 91:5,23,24 92:1,7 93:14 146:6,13 159:12,17,21 159:21 160:2 168:5,18,22	

<b>apologize</b> 9:16 13:16 33:18 80:1 195:6 199:2	204:10 <b>April</b> 97:21 <b>aquifer</b> 103:22 142:2 156:18	204:24 206:7 206:11,12,23 207:17,18 210:15,21 252:15 277:3,3 277:4,5,6,9 285:11,13 290:23	42:10,19 45:1 47:4,4,8 49:11 50:19,19,24 51:14,18 54:14 55:15,20 56:5 56:9,9 57:17 57:24 58:3 61:21 62:10,15 63:11,15 64:2 70:2,7 73:12 73:19 74:3,16 80:8,23 84:12 102:5 111:11 124:14 127:14 133:17,19 142:10,18 143:6,7 146:14 154:5,13,24 155:20 157:2 158:20,21,23 162:20 168:9 168:20 170:12 170:16 191:19 193:16 195:16 195:19,20,23 196:3,18 197:10,19,22 202:16 206:12 206:23 210:3 210:22 216:14 216:16,17 217:14,17,21 218:10,22 226:14 227:1 227:17,19,22 227:23 229:3 238:14,17 241:5 248:15 253:11,24 262:5,5,21 263:18 267:2,2 267:4,4 268:1 268:8,13,22 269:4 271:13 272:8,10,22 273:16 274:1 274:23 276:8	276:23 277:2,7 277:19 281:7 281:16,22 282:7 284:3,9 285:6,18,20 286:21 287:7 288:1,2,3,13 288:17 289:22 290:9 292:18 295:10 <b>Ashland</b> 203:11 <b>ashless</b> 15:23 <b>aside</b> 37:7 48:3 232:20 <b>asked</b> 65:9 68:21 69:18 70:22 71:18 74:5,8 180:13 180:15 183:23 184:2 197:24 198:1,2 200:5 202:13,15 210:9,11,14 <b>asking</b> 23:11 198:3 <b>aspect</b> 84:12 <b>assembled</b> 181:1 <b>assess</b> 246:2 261:15 278:4 <b>assessed</b> 286:10 <b>assessing</b> 238:3 <b>assessment</b> 19:2 217:9 230:22 231:17,22,24 232:14 237:18 265:14 279:20 279:24 281:5 <b>assigned</b> 6:4 171:5 <b>assist</b> 91:13 107:6 139:17 151:18 157:6 158:14 166:20 237:4 <b>assistance</b> 107:2 <b>assisted</b> 112:11 139:18 140:6
<b>apparent</b> 131:10 <b>apparently</b> 51:11 <b>appear</b> 48:23 118:11 <b>appeared</b> 2:18 3:7 192:19 <b>appears</b> 45:22 49:1 59:16 95:17 105:11 136:24 175:9 215:8 298:10 <b>appendix</b> 232:8 232:8,10,13 280:11 <b>applicable</b> 107:17 231:2 231:18 277:23 <b>applications</b> 112:12 <b>applied</b> 222:19 227:10 270:1 <b>apply</b> 107:24 138:14 167:6 220:24 224:22 226:24 227:1 260:10 <b>applying</b> 173:2 173:3 <b>appreciate</b> 262:13 290:19 <b>approach</b> 237:18 269:24 277:21 <b>appropriate</b> 220:3 296:3,21 <b>approval</b> 246:9 <b>approved</b> 140:12 <b>approximate</b> 98:12 210:8 <b>approximately</b> 152:11,18	<b>area</b> 10:3,3,6,10 10:13,19 11:4 11:6 17:5,7 29:5 45:17 55:2,2,17,18 56:3,5,7,7 61:19 62:9,10 62:15,17,18 77:1 97:1 98:14 100:15 101:2 107:14 107:16 108:12 112:21 113:2 122:7,17,21,23 123:20,24 124:15,19 125:8,18 129:8 129:21 137:15 138:7,9,15 139:13 140:15 142:1,4,8,10 142:13,22,23 150:6,14,23 155:1,20 156:1 157:2,13 158:21 167:20 184:17 185:17 185:18 188:7 191:19,23 192:8 193:7,13 193:14,16,16 193:21 194:10 194:14,23 195:13,16,19 195:21 196:3 197:4,10,17,19 197:23 198:10 198:13 201:13 202:16 203:10 203:14,17 204:15,18,22	<b>areas</b> 9:4 12:1 12:10 13:6 51:10 54:20,23 54:24 55:12 69:2 80:11 105:7,8 118:10 119:23 120:3 121:14,18 138:12 187:1 226:24 227:2 267:4 275:7,11 276:23 284:6,7 284:9,13,15,16 285:2,3,5,8 <b>Aron</b> 254:1 <b>arose</b> 228:15 <b>arrive</b> 273:4 <b>arrived</b> 67:23 <b>arrow</b> 156:21 <b>arrows</b> 98:4 <b>arsenic</b> 149:22 <b>article</b> 258:2 <b>articles</b> 258:9 <b>aruss@enviro...</b> 2:12 <b>ash</b> 7:16,19 8:2 8:3,4 9:4 10:3 10:5,7,9,13,17 12:1,5,6,9,11 12:15,16,18,18 12:20 13:1,4,5 13:7,10,11,13 13:13 14:6,8 15:19,21 18:12 18:15 23:8 25:13 28:1,1,5 28:15 29:4 32:13,15 35:14 36:17 40:3,21		

166:21 167:12 191:2 <b>associated</b> 107:13 108:20 112:8 155:21 179:2 225:3 <b>Associates</b> 83:1 119:14 158:10 <b>assume</b> 11:13 18:2 32:24 269:11 <b>Assumes</b> 75:6 75:10 76:19 77:19 <b>assuming</b> 264:17 <b>assumption</b> 259:24 272:6 <b>assumptions</b> 245:22 <b>assurance</b> 183:2 244:2 246:11 <b>assure</b> 296:2 <b>ASTM</b> 159:4,15 159:24 168:11 169:2,16,20 170:5 171:2,10 171:11,12 173:5 174:11 175:10,24 176:13 198:23 199:4 218:4,9 219:13 222:5 267:11 <b>ASTM's</b> 172:6 <b>atmosphere</b> 263:11,16 <b>attach</b> 234:12 <b>attached</b> 128:13 130:10 215:6 <b>Attachment</b> 249:5,23 <b>attempted</b> 117:13 <b>attempting</b> 197:22 <b>attention</b> 88:7	<b>attest</b> 240:13 <b>attitude</b> 179:8 <b>attorney</b> 6:14 <b>August</b> 1:1 119:15,20 121:9 <b>authoritatively</b> 30:21 <b>authorization</b> 246:8 <b>authorized</b> 252:10 <b>authors</b> 60:12 <b>automatically</b> 247:22,24 <b>available</b> 170:7 <b>Avenue</b> 2:10 <b>average</b> 29:8,9 103:13 184:16 185:22 186:3 280:17,18 291:20 293:3,5 293:8 <b>averages</b> 259:4 <b>avoid</b> 32:2 258:10,10 296:22 <b>avoided</b> 257:19 <b>aware</b> 18:4,6,14 18:16 21:14,15 21:16,17 23:1 23:6 30:14 31:21,24 32:6 37:9 58:9 69:12,12 73:12 74:3 76:8 77:17 102:13 193:18,22 196:12,14,24 197:2,6,21 198:7 210:16 225:2 265:22 294:15	<b>B-I-T-U-M-I-...</b> 288:24 <b>B-O-N-A-P-A...</b> 257:12 <b>BA01</b> 234:21 <b>Bachelor</b> 215:16 <b>back</b> 12:12 14:5 15:22 18:8,17 37:14 39:8 42:2 51:2 54:7 57:10 63:7 65:5 66:21 74:18 82:6,6 87:19 111:21 113:17 116:1 117:9,13 122:18,20 128:22 137:18 139:3 141:5,13 141:13,17 155:23 157:18 161:13 177:20 180:5,12 182:23 183:12 186:20 191:16 191:23 192:13 193:7,9 202:22 204:10 211:15 213:5 241:23 242:23 255:5 260:17 264:16 265:23 266:14 266:15 273:11 287:8 291:5 295:8,12 <b>background</b> 27:15 83:4 100:4,7 101:3 102:14,18 103:4,5,9 105:14,16,24 106:2,4,6 200:6,11,19 201:1,6,8,12 <b>backup</b> 271:6 <b>bailer</b> 87:3 <b>bank</b> 25:4 127:5	<b>barium</b> 149:22 269:18 272:2,3 272:9,10,24 281:23 <b>barrier</b> 242:20 <b>base</b> 32:9 192:9 <b>based</b> 16:8 17:24 77:16 106:16 118:21 120:16 122:2 153:8 168:22 179:6 184:16 200:22 203:18 205:18,22 226:22 230:21 231:4 235:24 237:5 252:20 255:10 260:14 265:14 269:13 271:12 276:21 279:23 283:23 284:9,15 285:8 285:9 290:10 293:24 <b>basement</b> 15:19 <b>basically</b> 50:18 68:3 97:4 108:19 143:17 155:20 182:3 199:23 202:12 225:17 238:7 243:5 <b>basin</b> 42:24 62:17 133:17 133:19 137:5 137:14 142:10 143:6,8 262:22 <b>basis</b> 62:16 86:6 86:7 89:23 102:8 107:3 124:9 173:6 286:19 <b>bass</b> 68:6 <b>Bates</b> 9:8 19:4 39:11 44:14,15 49:6 118:6 206:3 211:16	219:18 224:9 230:3 249:23 250:22 <b>beautiful</b> 289:22 <b>becoming</b> 228:16 <b>bedrock</b> 103:2 <b>began</b> 85:16 95:7 125:20 <b>beginning</b> 184:3 220:15 223:15 243:10 <b>behalf</b> 2:18 3:7 <b>believe</b> 16:17 42:13 52:7 66:20 71:18 85:3,16 86:2 86:13 89:13 94:6 97:7 99:12 105:20 112:5 113:13 117:14 122:11 122:16 124:16 126:23 130:13 131:21,24 135:20 139:4 145:24 147:11 148:21 149:22 152:12 159:10 163:2,4 169:2 170:5 171:2,4 171:12 173:11 173:14 176:5 181:16 183:1 183:19 184:5 186:15 188:17 188:21 189:11 189:19 190:19 190:24 191:22 197:17 199:2,6 200:9 201:22 203:8,16 205:14 207:17 207:19 210:15 211:20 229:15 231:15 262:17 274:5 276:17
---	---	--	--	---

284:16 290:11	<b>binders</b> 214:17	196:23 285:6	63:3 65:1 82:2	<b>business</b> 182:6
291:18 292:19	<b>binding</b> 290:24	<b>boron</b> 105:22,23	113:14 117:5	244:8 257:15
296:7,13	<b>bit</b> 12:12 25:16	138:17,21	128:18 141:9	<b>button</b> 182:22
<b>believed</b> 227:9	27:14 28:15	139:9,12,14	161:9 180:1	<b>buyoff</b> 253:15
227:16	63:11 78:7,24	269:18 271:20	204:2,6 213:1	254:15
<b>beneath</b> 56:13	79:7 83:21	272:24 273:6,7	286:4	<b>bypass</b> 133:17
58:2,6,13	106:5 129:15	274:4 281:23	<b>breaking</b> 140:21	
90:15 127:13	131:10,16	<b>bottom</b> 7:19 8:3	<b>Brickey</b> 3:10	<b>C</b>
129:24 130:1	133:9 135:21	8:4 9:15 10:2	37:14 82:11	<b>C</b> 2:1 7:9 65:6
154:24 157:2	143:7 146:19	12:20 13:5,13	202:22 213:11	72:10 82:17
212:8 242:14	162:23 192:2	19:8 21:6	298:5,20	180:7 209:13
<b>beneficial</b>	200:1 205:13	23:10,21 24:22	<b>brief</b> 58:18	211:13 213:16
168:10,24	240:14 244:14	24:23 27:16	281:6	<b>C-A-A-W</b> 36:13
170:12,14	244:23 270:17	32:13 40:6	<b>briefly</b> 18:24	<b>C1</b> 249:5,23
177:11 217:14	281:9 288:9	42:3 44:17	90:20 117:3	<b>CAAW</b> 36:12,12
276:2	289:3 290:12	47:8 53:21,24	195:22 209:12	36:16 251:18
<b>beneficially</b>	292:7,11	54:10 59:14,15	211:11 280:12	252:11 253:8
159:6,14	<b>bituminous</b>	59:16 63:22	<b>Brieser</b> 254:1	<b>calculation</b>
<b>berm</b> 17:11	288:24	72:1 79:23	<b>bring</b> 33:2 132:6	229:9 233:16
226:13,18	<b>black</b> 104:14,17	80:3 92:6	178:2 195:10	282:4
277:8	206:11,15	118:7 119:17	216:4 268:11	<b>calculations</b>
<b>berms</b> 285:21	289:3	158:17,23	<b>bringing</b> 216:6	233:19,20
<b>best</b> 75:21 102:6	<b>bladder</b> 86:23	168:9 180:20	<b>broad</b> 256:24	236:21
200:10 243:24	<b>blast</b> 212:19	216:17 217:21	<b>brought</b> 95:11	<b>calibrate</b> 271:2
267:19,19	<b>blow</b> 182:21	226:9 237:11	130:19 267:9	<b>California</b> 2:16
<b>better</b> 9:16,18	<b>blue</b> 98:2 156:15	238:14,17	<b>brown</b> 289:24	<b>call</b> 15:20 19:23
106:8 186:22	156:20 237:11	262:15 263:9	<b>bucket</b> 54:7	19:24 40:3
192:2 236:2	<b>Board</b> 1:1 6:4	267:3 268:1,22	<b>budget</b> 245:6	90:4,10 99:14
257:19,21	<b>bodies</b> 126:17	269:19 281:7	<b>bug</b> 82:21	108:3 208:24
<b>beyond</b> 63:11	<b>body</b> 190:6	289:23 290:2	<b>BUGEL</b> 2:2	218:22 220:10
<b>bi-product</b> 7:18	<b>boiler</b> 7:18,20	292:2,3 293:3	<b>build</b> 246:3,4	224:6 225:14
20:9 21:10	64:12 162:21	293:6,22	251:20	226:12 228:5
22:8 67:11	<b>Bonaparte</b>	<b>bottoms</b> 23:13	<b>building</b> 15:19	231:21 234:5
75:4 80:8	257:9,11	<b>Boudry</b> 248:13	15:22	237:21 240:5,6
160:3 170:14	<b>book</b> 165:14	<b>boundary</b>	<b>built</b> 246:12	246:16,19
177:11 266:23	<b>boring</b> 131:2	206:13	<b>bulk</b> 12:19	261:21 264:3
<b>bi-products</b> 78:2	150:1,4,22	<b>box</b> 40:20,21	<b>bullet</b> 238:13,24	284:18 290:24
<b>big</b> 49:20 50:13	151:5,5,10,14	41:5,7,10 42:9	243:3,4,17	<b>called</b> 7:5 10:3
152:11 272:21	151:23,24	42:10,22,22,22	266:16 278:24	19:10 20:1
294:17	152:23 153:5,8	45:1,4,21	281:11 283:4	47:19 77:7
<b>billion</b> 139:1,2	153:13,14,15	108:6	283:16,22	82:15 89:20
<b>binder</b> 104:4	153:21,22	<b>boxes</b> 51:20	<b>bullets</b> 238:8	114:1 127:10
158:6 169:13	154:1	<b>boy</b> 52:23	<b>bunch</b> 292:8	148:23 151:24
175:7 207:3	<b>borings</b> 150:13	105:23	<b>buried</b> 148:15	172:2 173:22
214:14 224:2	150:16,21	<b>Brad</b> 6:2	195:16,19,20	184:15 213:14
232:20,21	151:6,7 154:8	<b>BRADLEY</b> 1:13	<b>burning</b> 266:20	222:20 235:18
235:10 280:22	195:13 196:17	<b>break</b> 39:4 57:6	269:9,10	239:1 251:14

261:17,19	124:7 144:2	225:11,15	265:12	<b>Chris</b> 27:23
277:2 288:3	204:18,21,23	226:23 228:7	<b>change</b> 146:5	30:19 261:19
<b>calling</b> 213:8	205:2 227:18	228:12,18	173:23 192:16	<b>Christopher</b>
216:13	255:2 260:21	229:2,8,14	235:6 236:23	27:23 36:5
<b>calls</b> 24:13 82:9	<b>causes</b> 225:22	230:1,2,6	246:7 279:14	<b>chromium</b>
150:7	<b>causing</b> 205:6,8	231:5 232:5	281:1 283:13	276:14,15
<b>cap</b> 8:8,23 9:1,2	205:11 265:13	266:24	<b>changed</b> 122:21	<b>cinderblock</b>
123:10 193:20	<b>caution</b> 24:8	<b>CCR's</b> 216:10	163:5 173:8	218:2
211:5	<b>caveats</b> 176:1	216:10	234:18 258:2	<b>circle</b> 61:24 62:2
<b>capabilities</b>	<b>CAW</b> 251:18	<b>ceased</b> 16:12	<b>changes</b> 146:12	62:5,9 63:10
247:19	<b>CCA</b> 26:1 89:20	<b>cells</b> 260:24	171:7,18	63:13,14 64:2
<b>capped</b> 8:20	90:3,18,24	<b>center</b> 1:4,15 2:5	<b>Channahon</b>	70:10
11:6 16:5,9	91:3,23 92:5,7	6:6 103:11	111:14	<b>circumstances</b>
18:19,20,21	92:11,21 93:1	<b>centered</b> 104:19	<b>channel</b> 98:9,13	260:7
22:16,21	93:18,23 94:2	<b>certain</b> 30:1	109:24 155:6	<b>citation</b> 234:8
193:17 196:3	97:24 129:6	34:7,9 92:10	184:2 185:4,24	<b>cited</b> 200:7
<b>capping</b> 8:8,10	139:16 145:1,2	106:21 108:9	<b>Characteristics</b>	257:5 258:2
8:16	146:20 155:13	174:22 175:2	221:22	<b>citizen</b> 6:9
<b>caption</b> 221:21	155:19,21	258:10,12	<b>characterized</b>	<b>Citizens</b> 1:5 6:6
<b>care</b> 296:22	156:1 157:4,8	260:7	38:17	<b>Civil</b> 215:17
<b>carefully</b> 260:24	164:23 165:1	<b>certainly</b> 99:8	<b>characterizing</b>	<b>clarification</b>
<b>carries</b> 253:3	180:19	103:23 133:18	222:21	191:11 234:9
<b>case</b> 31:20 90:9	<b>CCA's</b> 106:21	136:22 142:13	<b>chart</b> 187:11	239:16
108:7,9,17	145:8 166:19	153:21 154:4	232:7 269:13	<b>clarify</b> 28:11
109:12 113:24	228:24 265:24	183:6 187:9	276:3 295:9	53:11 54:24
159:8 166:14	<b>CCB</b> 168:1	193:2 199:10	<b>charts</b> 181:23	71:20 113:23
171:6 188:8	169:4 217:22	<b>certainty</b> 81:13	<b>check</b> 41:5	182:9 208:14
215:7 219:6	219:3 273:20	81:15 275:22	94:13 192:12	<b>clarifying</b>
221:24 228:10	276:1	<b>certificate</b> 253:6	<b>checked</b> 40:21	160:22
228:15,17	<b>CCB's</b> 221:2,4	<b>certification</b>	42:11 45:1,10	<b>Class</b> 102:1,9
237:2,18 242:5	<b>CCP</b> 218:20,21	246:20 249:6	45:12,12,22	106:12 107:16
254:17,18	<b>CCP's</b> 218:17	249:22 250:9	114:19	107:19,21,24
263:24 269:16	220:5 221:22	252:20	<b>checklist</b> 44:11	138:3 167:5
296:17	<b>CCR</b> 40:3 71:1,8	<b>certifications</b>	45:21	200:15 201:10
<b>cases</b> 225:3	90:4,6,8,17	247:8	<b>checks</b> 45:13	201:17,24
230:23 231:9	91:1,6,24 92:1	<b>certified</b> 259:23	<b>chemicals</b> 34:8	202:11 205:12
<b>catalog</b> 245:5	92:5,10,23	298:5	256:14	205:16 273:23
<b>categorically</b>	93:14,18,23	<b>certify</b> 298:6	<b>Chicago</b> 1:15	277:12 279:8
31:19	94:2 129:7	<b>cetera</b> 41:6	2:7 3:4 83:10	<b>classified</b> 170:13
<b>categories</b> 89:14	135:7,9 148:16	114:4	111:17 213:22	177:10
89:17	165:23 180:19	<b>chain</b> 15:11	298:22	<b>clay</b> 127:20
<b>categorize</b> 245:5	207:24 208:1	87:10,18	<b>chloride</b> 111:23	129:3,10,19
<b>caught</b> 143:14	216:20 217:1,5	<b>challenging</b>	112:4,7,8	130:4,11 131:5
<b>cause</b> 1:12 123:8	217:7,9,10	243:6	136:23 137:13	131:12 133:1
251:5 293:22	223:11,12	<b>chance</b> 45:7	<b>chlorides</b> 112:2	142:19 143:1,3
<b>caused</b> 31:17,18	224:6,22,23	241:9 295:22	136:19 137:11	143:12,15,18
31:23 81:11	225:3,5,6,10	<b>chances</b> 262:1	<b>choose</b> 160:2	144:1,3 194:4

194:5 195:11 <b>clean</b> 51:10 263:7 264:15 295:19 <b>cleaned</b> 41:19 262:22 263:6,8 265:10,11 291:4,9 295:14 295:17,20 <b>cleaning</b> 51:6,10 57:18 <b>clear</b> 42:8 54:9 96:6 144:11 189:5 216:11 227:13 233:18 241:17 277:1 284:6 <b>clearly</b> 156:24 176:23 236:2 273:5 277:17 <b>client</b> 179:12 <b>clients</b> 223:22 245:2 <b>close</b> 49:19 71:16 100:16 139:15 151:4 193:2 236:17 262:12 293:21 297:7 <b>closed</b> 68:6 78:3 <b>closely</b> 120:4 137:2 <b>closer</b> 28:12 <b>closure</b> 217:6,7 <b>Club</b> 1:3 2:14 6:5 <b>coal</b> 7:20 49:11 90:6 154:2,3 160:3 170:12 170:13,16,16 177:9,11 216:12,13,16 217:14 218:10 218:21 223:10 224:7 262:4 266:16,20 267:2,2 269:9	269:10 271:11 271:17 <b>coat</b> 288:24 <b>code</b> 169:17 <b>codified</b> 229:14 229:19 <b>cold</b> 29:10 30:2 30:13 51:5 <b>collect</b> 86:16,19 87:3 92:15 96:22 158:20 168:8 179:19 <b>collected</b> 86:5 87:5 185:21 217:18 246:11 <b>collects</b> 86:15 137:14 <b>color</b> 270:22 <b>column</b> 87:2 224:16 230:5 234:20 288:21 289:17 295:10 <b>columns</b> 268:4 <b>combination</b> 294:7 <b>combustion</b> 90:7 160:3 170:13 177:10,11 216:12 218:21 223:11 224:7 266:22 <b>come</b> 39:8 123:13 185:14 211:18 262:13 269:8 293:21 <b>comes</b> 11:11 32:15 173:4 179:14 183:5 217:17 243:7 263:11,14 268:6,7,13 289:3 <b>comfortable</b> 38:18 <b>coming</b> 55:16 95:20 106:9 149:21 205:2,6	238:20 268:8 <b>comment</b> 223:20 235:24 260:13 260:14 291:5 <b>comments</b> 258:8 <b>commercial</b> 217:20 <b>Commitment</b> 89:21,24 97:23 145:4 266:3 278:17 <b>committee</b> 218:15 <b>common</b> 237:21 237:22 238:1 239:19,20,22 242:23,24 244:8,9 246:4 246:23 247:6 251:14 266:19 267:13 268:17 275:5,13 277:24 278:10 281:5 <b>commonly</b> 15:20 <b>communicated</b> 44:5 <b>communities</b> 289:14 <b>community</b> 103:18 104:14 138:16 <b>compacted</b> 289:10 <b>companies</b> 83:19 95:12 130:18 <b>company</b> 83:16 83:16 89:10 91:16 95:18 250:9 251:18 255:14 257:8 270:15 <b>compare</b> 101:22 107:19 152:22 200:14 238:14 250:2 271:1	273:22 281:7 <b>compared</b> 101:24 177:1 236:4 250:4 279:4 281:24 283:12 <b>comparing</b> 91:23 152:15 <b>comparison</b> 106:8,10 107:22 227:21 272:18 280:19 281:14 282:9 283:1,10,23 <b>comparisons</b> 269:23 282:13 <b>compartment</b> 54:8 <b>competency</b> 243:18 <b>complainants</b> 1:6 2:18 6:7 43:9 46:9 94:5 114:23 134:4 222:24 <b>Complainants'</b> 5:5,6,7,8 9:5 27:5 35:20 38:8,8,11 39:9 43:10,14,22 44:2,15 46:10 46:14,16,20 48:4,13 60:21 60:24 61:1,7 104:3,5 109:8 110:5,6,7,9,10 113:5 132:8,21 134:2,5,7,8,9 141:18 145:10 145:11,13 147:20,21 164:4 165:6,7 165:8,10 167:23,24 168:6 169:8 174:16 175:7 175:18 178:6	183:13 205:24 209:16 <b>complaints</b> 237:21 <b>complete</b> 99:8 169:22 175:4 175:12 176:22 176:23 177:2 255:20 298:9 <b>completed</b> 36:19 40:2 78:17 235:23 266:2 <b>completely</b> 101:10 188:19 <b>completion</b> 246:19 252:19 <b>complexity</b> 240:9 <b>compliance</b> 89:21,24 97:23 145:3 179:10 179:14 207:24 208:2 228:18 266:3 278:17 <b>complicated</b> 129:15 <b>complied</b> 173:20 228:12 <b>comply</b> 179:15 223:22,23 <b>component</b> 133:4 155:5 <b>components</b> 131:19 <b>composite</b> 275:13,14 <b>composited</b> 275:16 <b>compounds</b> 179:4 <b>comprehensive</b> 232:1 271:17 <b>computer</b> 47:3 47:21 <b>concentration</b> 279:11 <b>concentrations</b>
---	--	--	--	---



138:3,22,24	<b>conduct</b> 22:11	98:17,21 99:1	<b>consumption</b>	68:23 201:15
201:1 273:22	85:19 93:17,19	103:6 128:3,7	200:23 205:22	297:7
277:10 279:4	122:6,14 177:6	<b>considered</b>	<b>contact</b> 25:14	<b>continued</b> 6:12
<b>concern</b> 70:18	177:23,23	220:4 276:1	29:4 41:18	<b>continues</b> 18:15
78:22 112:18	183:1,1 189:13	<b>considering</b>	60:4 69:3	57:16
167:9 227:18	239:17	105:13	70:21 292:14	<b>continuing</b>
230:21 259:12	<b>conducted</b> 86:11	<b>consistent</b> 98:15	<b>contacted</b> 69:4	130:2 141:15
268:14 270:6	94:23,24	127:15 137:12	112:17 167:8	<b>continuous</b>
273:13 276:9	173:20 178:13	168:20 199:3	191:5,12	129:19 130:1
<b>concerned</b>	190:20 195:15	199:12,15	<b>contain</b> 174:18	<b>contour</b> 97:2,6
287:15,19	197:3 230:22	228:6,7 229:6	175:18	97:20 98:2,7
<b>concerns</b> 48:8	254:4 278:16	261:9 266:23	<b>contained</b>	99:9 127:21
191:5,13	281:14	266:24 272:23	100:22 135:24	129:2,10 142:8
259:10	<b>conducting</b>	282:2,24	145:21 148:1	144:20 156:16
<b>conclude</b> 151:10	122:23	<b>constantly</b>	153:22 155:11	156:20 163:24
255:10	<b>conducts</b> 85:10	182:11	165:18 166:3	186:9,13 189:6
<b>concluded</b>	93:17	<b>constituent</b>	166:16 172:3	207:6 209:20
255:12 275:20	<b>confidential</b>	111:22 273:1,2	210:5 277:7	<b>contouring</b>
<b>conclusion</b>	74:20 75:18	287:18	<b>container</b> 91:11	128:2
137:10 222:22	76:16 78:8	<b>constituents</b>	268:11	<b>contours</b> 97:4
260:18 273:5,9	79:4	111:24 230:21	<b>containers</b> 87:8	183:22 187:7
279:19 280:1	<b>confirm</b> 69:6	232:10,13	87:10	<b>contracted</b> 51:8
283:23 284:2	93:16 97:8	267:2,3 269:3	<b>containment</b>	<b>contractor</b> 52:9
293:14	139:4 200:14	269:14 270:5	252:17 256:12	52:11 71:21
<b>conclusions</b>	207:6 211:17	273:12,16	256:13	251:20,20,23
120:9 121:11	212:9 236:23	276:9 281:15	<b>contains</b> 18:5	253:22 254:2
123:1 124:10	296:17	283:19 287:13	56:17	256:22
168:19 281:2	<b>confirmed</b>	<b>construct</b>	<b>contaminant</b>	<b>contractors</b> 72:2
283:14,17	229:15 236:24	256:21	230:20 231:14	247:8 251:3
<b>concrete</b> 15:18	<b>confusion</b>	<b>constructed</b>	<b>contaminants</b>	261:4
65:19,20 72:13	113:24	77:5 238:7	179:3	<b>contradicts</b> 78:9
72:14,20 73:3	<b>connected</b>	246:10 256:21	<b>contamination</b>	<b>control</b> 1:1 6:4
73:5,13,18	129:18 190:10	256:22 288:22	124:13 149:18	108:3,6 125:8
74:4,15 218:3	190:11,13	293:16	149:19 179:1	125:18 126:11
241:22	<b>conscious</b> 240:6	<b>construction</b>	202:15	126:16,20
<b>concrete-like</b>	261:8	57:20 131:2	<b>content</b> 20:7	139:20 149:7
74:13	<b>consciousness</b>	146:16,17,22	75:15 76:8	157:10 166:23
<b>concurrently</b>	264:9	244:5 246:17	280:12	167:3 201:20
93:20	<b>conservation</b>	246:18 248:14	<b>contents</b> 75:4	246:11 295:1,2
<b>condition</b>	263:15	248:19,22,23	151:15 242:11	<b>controlled</b>
118:12 122:12	<b>conservative</b>	254:2 255:18	<b>context</b> 33:21	125:14
122:17 242:8,9	269:24	261:11	78:24 79:18	<b>controlling</b>
<b>conditions</b>	<b>consider</b> 26:5	<b>consultant</b> 149:1	89:23 92:18	125:8
214:11 236:3	97:1,9 172:14	149:13 150:5	103:16	<b>controls</b> 107:8
238:3,10,14	221:16 274:20	209:6 243:11	<b>continually</b>	266:5,6
281:8 286:10	293:10	<b>consultants</b>	32:16	<b>conversation</b>
286:18	<b>consideration</b>	208:21 213:22	<b>continue</b> 55:20	66:14 256:10

296:8	102:15 103:21	164:10,24	<b>creation</b> 91:13	222:1,11 223:4
<b>conversations</b>	106:1 113:6,19	165:4 166:20	97:10 191:3	267:11 268:16
77:10,13	115:4 120:8	167:2,8,13	<b>crew</b> 93:22	<b>D3987-12</b>
284:15	144:4 147:8,9	177:21,24	250:24 251:1	171:12
<b>converted</b>	156:7 174:1	178:3,5,15	<b>criteria</b> 275:23	<b>D3987-85</b>
286:16	176:4 181:7,13	186:10 188:15	279:8,12	168:12 170:23
<b>convey</b> 37:23	181:14 184:6	188:16,17	280:20	<b>daily</b> 246:24
<b>conveyor</b> 288:15	184:10 185:8	189:10,14	<b>critical</b> 187:24	<b>dam</b> 98:14,16,24
<b>Cook</b> 105:3	189:7,15,16,24	190:6,21	188:12	125:1,4 126:12
298:3,14	191:4,7,9	209:24 210:10	<b>cross</b> 180:5	126:19 184:17
<b>cooling</b> 280:8	194:24 195:1	242:2 248:16	204:12 289:20	<b>damage</b> 26:13
<b>copper</b> 230:18	199:5 200:11	268:3 275:11	293:1	32:2 40:20
<b>copy</b> 40:2 175:4	201:19 202:6	298:3,14	<b>Cross-Examin...</b>	41:1,8 47:9
<b>corner</b> 10:2 19:8	204:20 207:8	<b>couple</b> 16:7	4:4,11	225:3 230:23
41:8 43:1	210:19 211:21	18:24 22:18	<b>crushed</b> 262:9	231:9 290:15
63:22 104:24	215:10 228:21	26:22 31:11	263:1 290:6,23	295:13,22
189:20	229:21 232:14	37:23 50:3	<b>CSR</b> 3:10,10	296:19,22
<b>correct</b> 8:2,11	233:20,21	52:1 61:2 69:7	298:20,23	<b>damaged</b> 254:19
8:14 10:6,10	234:9 248:23	70:22 71:19	<b>cubic</b> 52:24	<b>damaging</b> 70:15
10:19 11:20,21	249:16,21	72:8 86:24	241:18	<b>dams</b> 125:5,6,13
15:5,12,12	274:9,11,21	152:12,17	<b>cumulative</b>	<b>dark</b> 289:24
16:3,20 17:14	292:23 298:9	160:21 203:22	181:24	<b>data</b> 88:2,3 89:2
17:17 19:5	<b>corrected</b> 95:14	240:3 295:15	<b>curiosity</b> 199:13	92:1,5,6,15
20:19,22 21:24	95:23 234:7,8	295:20	<b>curious</b> 22:5	93:11,14 94:9
22:13 23:5,14	<b>correctly</b> 92:21	<b>course</b> 54:16	<b>current</b> 95:12	94:10,17 95:17
23:23 24:2,5	118:16 153:24	120:1 181:24	277:3	95:19,20 96:7
24:22 25:22	173:3 217:11	182:6 207:5	<b>Currently</b> 31:11	96:9 100:10
26:2 28:6 29:8	225:20 251:10	220:13 243:12	<b>cushion</b> 23:14	102:3,22 103:9
31:4 33:9,23	<b>correlate</b> 269:6	285:7	25:8 249:19	103:24 104:11
34:12 35:3	269:11 271:2	<b>courses</b> 83:11	254:17,20,22	104:15 105:2
39:11 40:13,22	<b>corresponds</b>	<b>Court</b> 1:14	260:4,4,10	107:3 135:14
40:23 43:6	137:2	<b>cover</b> 8:10,13	262:9,24 263:1	156:4,6 166:14
44:11,19,20,22	<b>counsel</b> 114:20	118:10 119:23	290:3,4,5,5,14	166:17 168:21
47:10 48:10	211:12	193:23 194:7	290:17,21	168:22 173:24
49:2,12 52:15	<b>counsel's</b> 117:12	204:24 211:5	<b>cushions</b> 250:15	180:16,19,24
53:3,22,23	<b>counterbalance</b>	<b>covered</b> 18:9	260:4 262:7	181:19,21
54:14,17,20	294:10	150:23 151:3	<b>custody</b> 87:11	182:4,15,18
55:21 56:18	<b>County</b> 11:17,20	231:5	87:18	183:8 185:17
59:20 61:17	13:24 14:4	<b>covers</b> 221:4	<b>cutting</b> 262:16	187:16 188:16
63:23 69:13	15:9 16:6,9	231:21	<b>cyclone</b> 7:18	197:8 200:6
80:24 81:5	17:24 18:11,18	<b>cracks</b> 73:2		201:16,16,23
84:3 85:18	19:3 22:20,23	<b>create</b> 97:5	<b>D</b>	203:10,14,18
87:23 89:12	58:5,9,14 60:5	157:19 229:20	<b>D</b> 4:1 65:6 82:17	205:15 208:18
91:21 92:3	67:24 74:16	<b>created</b> 78:18	171:3 209:13	236:17,19,22
93:14,15 96:1	89:6 96:5	91:15 102:13	213:16	237:6,8 238:11
96:15 98:11,19	105:3,3,3,4,5	102:17 229:16	<b>D.C</b> 2:11	245:19,20
98:23 102:11	163:18 164:6,9	237:4	<b>D3987</b> 221:23	249:10 267:2

267:16,16,18	<b>decisions</b> 245:24	<b>depends</b> 29:9	126:14 127:3	168:9 170:19
267:18,19,19	<b>dedicated</b> 86:22	84:19 100:5	155:12 226:6	186:24 212:3
267:20,21,22	<b>deed</b> 108:14	133:13 194:1,6	252:12,15	220:3
269:6,11,14	140:13 157:14	248:2	277:5 282:10	<b>determined</b>
270:3,9,12,21	<b>deep</b> 150:14	<b>depicted</b> 185:10	<b>describing</b> 41:1	31:19 90:15
270:22,24	151:6 153:15	<b>depicting</b> 287:22	<b>description</b>	129:14 131:3
271:1,12,19	278:21	<b>depiction</b> 290:8	215:21	149:4 174:1
272:2,6 274:10	<b>deeper</b> 153:16	<b>deposed</b> 20:18	<b>design</b> 57:17,20	199:14
274:20,23	153:17	31:2,3 79:1	77:4 217:7	<b>determining</b>
275:3,18	<b>define</b> 100:3	<b>deposeth</b> 7:6	221:14 244:5	170:22 187:7
277:19,22	188:6	82:16 213:15	246:12 247:21	<b>detrimental</b>
279:3 280:15	<b>defined</b> 167:20	<b>deposition</b> 20:14	248:1,1 262:4	118:12
280:16,23	197:17	20:17,22 26:16	262:23 263:12	<b>develop</b> 130:22
281:1,18,19,20	<b>defines</b> 169:21	28:9,11 31:7	287:17 291:6	195:9 257:21
282:13,20,21	252:3	33:6,7,13	293:18 294:1	<b>developed</b> 90:6
283:8,10,11,12	<b>defining</b> 143:11	34:18 35:4	<b>designated</b> 12:3	101:9 102:22
283:12,13,24	<b>definitely</b> 37:5	36:24 38:1,4	107:15 108:8	103:15 144:20
284:21,23	<b>definition</b>	49:16 50:5	140:15	200:22 206:8
286:24 288:10	259:17 285:12	52:24 66:20	<b>designates</b>	225:24 257:20
293:6,17,17,20	287:6	67:15 68:20	107:14	<b>developing</b>
<b>database</b> 183:10	<b>definitions</b>	69:8 74:19	<b>designation</b>	192:10,24
235:1,4 236:21	74:11	78:8,12 79:1	108:1	<b>development</b>
<b>dataset</b> 91:12	<b>degrade</b> 244:18	79:14 235:24	<b>designed</b> 227:10	107:6
103:9,11,14,14	<b>degree</b> 83:9	236:5 261:18	256:20 262:5	<b>device</b> 14:14
104:1 106:2	127:7,9	<b>deposits</b> 168:20	262:19,22	<b>dewater</b> 32:16
236:18	<b>degrees</b> 83:5	263:16	263:5 291:8,17	54:17,20 55:9
<b>date</b> 42:4,5,7	<b>deicing</b> 136:16	<b>derived</b> 205:14	<b>designer's</b>	55:9,12,13,18
164:1 224:24	<b>deliver</b> 32:17	<b>Des</b> 16:23,23	221:17	<b>dewatering</b> 32:5
227:4 252:19	<b>demonstrate</b>	17:1,2,3 98:9	<b>destroyed</b>	32:11
288:22 289:17	256:9	98:13 110:1	148:15	<b>di</b> 287:6
<b>dated</b> 40:12	<b>demonstrates</b>	124:8,23 125:1	<b>detail</b> 41:5 45:17	<b>diagram</b> 143:23
44:18 115:18	292:10	125:21 126:2	237:16	<b>diameter</b> 31:13
115:22 116:5	<b>demonstrative</b>	127:16 178:16	<b>details</b> 259:16	49:20 50:15
118:2 119:15	127:23 128:6	178:17 184:24	<b>detected</b> 137:13	<b>difference</b> 50:21
121:9 144:20	130:3 267:9	185:4,23	138:2	90:19,21,23
158:10 206:8	<b>denote</b> 25:4	190:12,14	<b>detection</b> 231:21	146:24 173:9
<b>dates</b> 288:11	71:24	210:4,6	232:11 244:1,7	173:11 176:14
<b>day</b> 1:15 36:19	<b>dense</b> 241:22	<b>describe</b> 41:5	254:22 259:5	181:19 193:13
182:21 201:21	<b>density</b> 241:13	45:17 52:14	<b>determination</b>	<b>differences</b>
297:8 298:14	241:14,18	83:13 97:18	132:2 153:11	90:22 91:2
<b>days</b> 52:1	244:19	99:14 104:18	159:5,13 160:6	272:21
<b>decant</b> 268:12	<b>departments</b>	136:20 162:14	168:1 170:11	<b>different</b> 37:3
<b>December</b> 44:18	238:1	179:8 206:10	177:9	55:13 78:24
46:4	<b>dependent</b> 29:11	215:23 222:13	<b>determine</b> 22:12	79:7 84:9
<b>decided</b> 176:18	29:14,20,23	226:23 233:11	96:19 100:7,10	89:14,17
208:1 274:5	264:6	235:17 292:21	102:4 150:5,23	101:10 128:5
<b>Decision</b> 289:21	<b>depending</b> 87:8	<b>described</b> 49:8	151:2,15 160:2	144:23 146:19

155:15 163:5 171:3 174:6 201:3 218:19 231:24 237:20 249:19 251:19 264:23 271:12 271:16 278:21 279:8 282:13 296:9 <b>differently</b> 239:13 <b>difficult</b> 30:3,4 <b>direct</b> 4:10,17 6:17 9:15 19:14,15 25:13 57:17 88:5,6 88:18 141:15 189:12 <b>directed</b> 15:8 <b>direction</b> 51:12 100:1 109:22 131:13,18 133:4 155:9 298:12 <b>directions</b> 142:4 205:1 <b>directly</b> 87:7 88:3 91:10 108:14 129:17 183:9 191:12 <b>disagree</b> 79:9 271:21,23 <b>disagreed</b> 123:1 266:10 <b>discharge</b> 17:14 66:6 126:2,5 <b>discontinuous</b> 129:21 131:5 142:20 <b>discovered</b> 130:16 <b>discovery</b> 51:19 51:23 <b>discrepancy</b> 79:9 <b>discuss</b> 9:3 16:18 18:24	56:10 74:20 195:22 <b>discussed</b> 23:7 27:15,24 36:24 42:15 65:24 66:14 69:7 75:14 89:14 90:19 110:2 115:11 116:9 133:21 136:18 137:7 165:3 174:11 191:20 194:13,13,22 199:21 205:12 207:7 221:2 230:7 275:2 285:1 290:12 <b>discusses</b> 221:5 <b>discussing</b> 28:12 39:18 166:19 243:3 <b>discussion</b> 31:10 68:19 137:4 174:11 222:10 231:4 257:7 <b>discussions</b> 196:1 210:16 210:17 <b>display</b> 160:15 267:8 <b>displayed</b> 118:13 <b>disposal</b> 159:7 159:20 223:10 <b>disposed</b> 159:9 <b>dispute</b> 251:21 <b>dissolved</b> 91:5 93:2 <b>distance</b> 152:17 <b>distances</b> 152:8 <b>distinction</b> 21:18 92:17 <b>District</b> 163:4 <b>disturb</b> 55:15 56:7 <b>divergence</b> 133:5 155:4	<b>divergent</b> 142:3 142:11,14 143:21 <b>DNR</b> 108:13 <b>docketed</b> 6:9 <b>document</b> 38:10 44:1 46:19 47:2,15 59:3 59:22 61:6 103:4 117:17 119:6 121:1 130:5 134:22 158:9 159:22 168:2 169:22 175:3,4,5 214:23 215:1 215:21,23 219:7,19 230:24 232:22 233:7,13 234:1 235:11 237:12 246:4 247:10 248:11 249:4 250:7 251:13 253:4,21 267:24 296:14 <b>documentation</b> 115:16,18 116:6,7 248:15 248:23 <b>documented</b> 127:13 <b>documenting</b> 115:19,23 <b>documents</b> 40:1 40:2 88:10 115:1 116:2 233:12 243:7 243:16 245:14 246:1,12,15,17 246:18,21 247:14 248:19 248:22 255:7 255:18,22 256:2 259:22 <b>doing</b> 51:6 84:20 149:1 150:18	155:18 221:15 248:4 261:23 265:8 287:10 <b>dolomite</b> 103:2 <b>dots</b> 104:14,17 <b>double</b> 133:19 <b>download</b> 88:5 89:9 <b>downloaded</b> 88:2 183:10 <b>downloads</b> 183:2 <b>downward</b> 17:11 <b>dozens</b> 216:20 <b>Dr</b> 102:11,13,19 103:19 105:15 123:22 124:12 125:24 151:9 151:13 174:11 181:17 200:7 222:24 224:2 227:7,16 230:7 231:1,12,15 232:20 255:17 256:24 257:9 257:11,13 258:2 259:9,14 260:11,19 270:11,20 271:19 274:19 277:15,18 283:9 292:7 <b>draft</b> 235:22 236:8 <b>drain</b> 32:14 57:23 58:2,6,9 58:12 <b>drainage</b> 56:10 56:13,17 <b>draining</b> 123:11 <b>draw</b> 206:19 257:22 <b>drawing</b> 61:16 155:22 288:1 <b>drawings</b> 131:2 292:6	<b>drawn</b> 61:24 63:12 64:2 164:1 <b>dredge</b> 260:23 <b>dredging</b> 52:3,4 53:3 71:19,21 260:21 261:11 261:16,20 262:19 265:4 265:12 <b>drew</b> 206:17 <b>dried</b> 22:2 <b>drill</b> 259:15 <b>drinking</b> 101:3 102:1,9 106:12 108:11 138:4 201:10 205:17 279:9 <b>drive</b> 2:6 57:19 231:9 297:11 <b>driving</b> 225:14 225:19 226:8 <b>dropped</b> 50:18 <b>drum</b> 178:23 <b>dry</b> 32:17 <b>Dubin</b> 2:6 4:4,6 7:8,10 11:2 19:18,19 24:20 29:1,17,18 33:14,17,19 34:5,16 35:10 35:18 37:18,19 38:13,21,22 39:14,17,20 43:9,16,19,20 44:4,6 45:8,15 46:9,15,22 48:3,7 53:18 53:19 55:6,7 55:24 56:1 57:3,11,22 58:22 59:1 60:1 61:1,11 62:19,24 63:8 63:17,20 64:14 64:17 65:9 66:19 68:13,15
--	--	--	---	---

68:16,20 69:18 72:7,8,11,17 72:18 73:4,11 73:16,17,21 74:2,17 75:13 75:14 76:1,7 77:9 78:5,21 78:22 79:16,20 80:16,21 81:18 81:20 <b>ductwork</b> 51:4,7 51:11 <b>due</b> 136:19 143:24 <b>duly</b> 7:5 82:15 213:14 252:10 <b>dump</b> 52:19,22 53:8,20,24 291:13 <b>dumped</b> 50:24 <b>dumping</b> 51:14 52:21 <b>DuPage</b> 105:3 <b>duplicity</b> 181:20 <b>dust</b> 263:16,17 263:19 <b>duties</b> 26:1 <b>duty</b> 133:20	112:10 115:17 124:24 127:23 128:6 136:18 139:5 141:2 147:7 173:7 183:23 191:21 207:7 209:4 221:2 226:7 253:18 278:6 291:6 294:24 <b>earliest</b> 33:8 <b>early</b> 85:17 251:3 <b>earth</b> 83:7 <b>ease</b> 97:17 <b>easier</b> 9:21 131:10 259:3 <b>easiest</b> 34:17 <b>easily</b> 105:23 <b>east</b> 2:6 14:23 23:8,17 26:14 27:24 31:13 34:21 40:21 42:10,24 45:1 47:8 57:24 61:20 63:10 137:5,13 142:9 142:12,24 143:10 155:1 207:15 288:2 <b>eastern</b> 83:11 143:5,18 156:10,22 <b>easy</b> 114:6 273:4 <b>ecological</b> 279:20 <b>edge</b> 143:11,18 156:10,10 189:23 262:12 <b>edges</b> 261:7 262:10 <b>education</b> 215:10 <b>educational</b> 83:5 <b>effect</b> 30:4 <b>effected</b> 46:6 107:15	<b>effective</b> 224:24 227:4 256:6,8 256:9 <b>effects</b> 118:13 126:21 205:7 <b>efficient</b> 237:23 <b>efforts</b> 212:3 <b>eight</b> 50:14 122:22 182:19 229:11 267:23 273:11 <b>either</b> 15:8 18:6 69:12 87:9 148:14 154:2 185:7 230:22 232:16 260:8 <b>elaborate</b> 208:9 <b>electric</b> 11:20 270:14 <b>element</b> 221:14 232:2 <b>elevation</b> 97:5 98:3,12 99:17 99:18,20 131:12 156:17 184:3,16 185:10,22 186:16,18 187:16,21 188:16 189:2 203:10 210:8 212:3,11 291:20,21,23 292:2,3 293:3 293:4,7,9,11 <b>elevations</b> 97:3 98:1,15 186:14 187:1 188:7 238:9 <b>eliminated</b> 265:3 278:10 <b>ELUC</b> 90:10,12 108:4,8,16 139:19 140:7 140:10,13 147:7,11 148:1 148:14,22,23	149:7,10,11 150:2,6,6 151:11,15 153:9,17 156:23 157:9 157:12 167:13 167:17,18,21 208:18,19,19 208:20,23 278:9 <b>ELUC's</b> 106:14 107:8 191:2,6 266:10 278:11 278:13 <b>eludes</b> 159:16 <b>emergency</b> 277:6 <b>employed</b> 213:21 220:2 <b>employment</b> 215:9 <b>ended</b> 129:15 <b>endpoint</b> 182:3 221:12 <b>energy</b> 83:23 <b>enforcement</b> 6:9 <b>engineer</b> 220:8 241:4 247:10 256:22 <b>engineered</b> 220:5 227:11 227:14 <b>engineering</b> 85:23 94:23,24 95:18 130:20 214:1 215:13 215:17 223:23 255:14 269:6 275:12 276:1 <b>Engineering's</b> 95:4,8 <b>engineers</b> 223:17 <b>ENSR</b> 151:10,14 151:22 153:23 197:18 284:10 284:14	<b>enter</b> 8:17 43:10 46:10 <b>entered</b> 48:18 90:1 106:21 128:1 155:16 236:7,10 <b>entering</b> 139:12 139:12 <b>entire</b> 28:21 34:19,19 51:8 53:14 55:9 172:4 <b>entitled</b> 6:5 104:4 <b>environment</b> 1:5 6:7 225:16 226:10 239:5 240:23 242:12 279:22 <b>environmental</b> 1:3 2:5,9 6:5 48:9 51:4 107:8 108:3 139:20 157:9 166:22 179:9 179:14 220:4 220:10 221:6 221:10,13 264:9 266:4 <b>environmenta...</b> 240:6 <b>EPA</b> 90:2,6 101:22 102:8 102:21 106:11 106:15 112:17 139:8 140:3,12 146:16,21 162:22 167:8 177:8 200:16 216:13 226:22 228:7 229:6 246:13 256:9 <b>EPA's</b> 227:9 <b>EPRI</b> 270:13,13 270:20 271:6 271:12,19 283:5,9,12,13
<b>E</b>				
<b>E</b> 2:1,1,2 4:1 5:1 7:9 65:6,6,6 72:10,10 82:17 82:17 180:7 209:13,13,13 211:13,13 213:16,16 <b>E-L-U-C</b> 90:11 <b>e-mail</b> 27:7,16 28:7 36:4,5,11 49:2,8,13 51:3 <b>e-mails</b> 48:23 <b>E-N-S-R</b> 284:10 <b>earlier</b> 74:23 75:15 79:5 81:3 85:5 89:8 94:22 106:14				

<b>equal</b> 97:5,5 98:3 156:17	<b>estimated</b> 98:2 184:18	<b>excavated</b> 158:23	110:22,24 111:6 113:7	234:2 235:12 236:12 241:11
<b>equipment</b> 52:8 52:15 81:11 254:19 264:24 290:20,22 291:3,9,10,12 291:15	<b>estimating</b> 71:8 <b>et</b> 41:6 114:4 212:20	<b>excavating</b> 32:14	114:2 115:2,15 115:16,21	248:8 255:6
<b>equivalent</b> 114:3	<b>evaluate</b> 100:19 243:9	<b>excavator</b> 32:18	116:4 117:18 117:22 118:18	<b>Exhibit's</b> 88:7 88:16 89:1
<b>era</b> 240:7	<b>evaluation</b> 243:11 267:17 278:7 287:10	<b>exceeded</b> 279:12	118:24 119:3,7 120:14,18,23	91:19,22 113:5 114:21 115:13
<b>erosion</b> 115:17 115:19,23 116:6 118:3,4 118:12 119:24 123:8,12 124:6 192:10,17,20 204:17,21,23 263:10	<b>event</b> 36:18 99:3 125:21,22 164:1	<b>exceeding</b> 195:9	121:2,22 122:4 128:13,15	116:22 145:8 165:5 166:12 166:12 180:15 181:23
<b>erosional</b> 121:15	<b>events</b> 15:11 125:15 126:9	<b>Excel</b> 88:2,3 89:10 94:11 134:20 145:22 165:19 183:9	130:3,6 132:21 134:2,4,6,7,8,9	<b>exhibits</b> 58:17 69:19 88:14 91:20 94:14 104:4 110:23 113:4,11,20 128:1 134:1 145:21 155:11 155:17 161:3 165:18 189:11
<b>errata</b> 234:6,9	<b>everybody</b> 114:6 261:4 264:4	<b>Excellent</b> 127:18	134:20,23 135:4,11 136:1 136:4,10 137:8 137:19 141:18 144:9,18,19 145:10,12,13 145:22,24 147:4,20,21 148:2,5,8,20 151:17 153:6 154:11,23 155:10,15,15 157:19,22 158:3,6 160:17 160:23 161:17 162:4 163:10 163:15,17 164:4 165:6,7 165:9,11,15,20 166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>exist</b> 34:23 226:1,2,3,11 285:18
<b>errors</b> 95:14,14 95:15,21,23	<b>evidence</b> 10:12 10:17 11:3 22:7 23:2 27:8 35:21 48:18 75:3,7,11,21 76:20 77:20 124:19 193:20 196:12 256:1 264:1	<b>exception</b> 262:18 276:11	159:11 160:12 165:9 168:5,11 260:23 261:11 281:23	<b>existed</b> 228:21 285:7
<b>especially</b> 100:14 108:17 138:7 247:5 248:3	<b>evla-</b> 285:9	<b>excuse</b> 13:3 93:17 109:13 110:5 119:20 131:6 154:19 156:11 160:12 165:9 168:5,11 260:23 261:11 281:23	159:11 160:12 165:9 168:5,11 260:23 261:11 281:23	<b>existing</b> 229:23
<b>establish</b> 100:7	<b>evident</b> 262:23	<b>exercise</b> 257:17	160:23 161:17 162:4 163:10 163:15,17 164:4 165:6,7 165:9,11,15,20 166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>exists</b> 31:13 77:2 226:10 229:1 242:14
<b>established</b> 85:9 107:18 112:14 112:16 139:23 140:2,8 167:7 167:14 191:8 191:11 201:11 201:15 247:18 275:23	<b>exact</b> 159:16 177:2	<b>excursion</b> 276:14	166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>exit</b> 15:6
<b>establishing</b> 139:17,18 140:7 157:7 166:20,21 167:13	<b>exactly</b> 31:23 53:5 80:13 262:14 271:9	<b>excuse</b> 13:3 93:17 109:13 110:5 119:20 131:6 154:19 156:11 160:12 165:9 168:5,11 260:23 261:11 281:23	166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>expect</b> 266:22 274:16
<b>establishment</b> 140:10 157:11 167:1,16 191:1	<b>Examination</b> 4:5,10,12,17	<b>excuse</b> 13:3 93:17 109:13 110:5 119:20 131:6 154:19 156:11 160:12 165:9 168:5,11 260:23 261:11 281:23	166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>expectation</b> 293:19
<b>Estep</b> 296:10,11 296:13	<b>example</b> 84:21 99:22 100:8 105:19 133:15 133:16 146:4 210:11 226:5 234:6,8 247:2 247:20 248:18 257:5 258:15 267:7 273:7 274:1,4 275:19 288:13 291:2	<b>excuse</b> 13:3 93:17 109:13 110:5 119:20 131:6 154:19 156:11 160:12 165:9 168:5,11 260:23 261:11 281:23	166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>expected</b> 271:11 294:19
<b>estimate</b> 195:18 197:10	<b>examples</b> 94:2	<b>excuse</b> 13:3 93:17 109:13 110:5 119:20 131:6 154:19 156:11 160:12 165:9 168:5,11 260:23 261:11 281:23	166:3,9 167:23 167:23,24 168:6 169:8,13 171:23 173:17 174:16 175:18 175:20 176:6 177:4,13,18 178:6 183:13 188:22 190:24 191:17 205:24 205:24 207:2,2 209:16 214:20 214:21 215:2 215:22 219:6,8 232:21,23 233:5,8,20	<b>experience</b> 16:8 30:16 194:3 216:10,20 217:1,3 229:7 251:1,4,7 263:10

215:6 233:13 280:10 <b>expert's</b> 214:12 <b>explain</b> 155:14 156:13 192:2 240:17 <b>explanation</b> 45:21 <b>explanations</b> 47:23 <b>exposed</b> 279:5 280:2 <b>exposure</b> 239:4 239:9 278:8 <b>extended</b> 236:18 <b>extends</b> 149:8 <b>extent</b> 19:14 63:15 126:19 206:22 272:16 <b>extra</b> 143:19 <b>extreme</b> 257:3 <b>eyes</b> 97:17	76:19 77:19 245:21 256:1 259:16 260:18 288:11 <b>fair</b> 194:8 223:7 285:15 <b>fairly</b> 98:15,15 105:10 125:11 125:12,14 <b>FAITH</b> 2:2 <b>fall</b> 90:18 94:4 110:2 111:10 126:8 133:21 145:6 147:18 151:9 165:3 168:3 192:4 193:4,10,13 <b>falls</b> 194:2 <b>false</b> 273:5 <b>familiar</b> 8:8 13:19 19:21 56:12 59:2 84:13 141:21 161:24 195:24 208:12 209:5 217:13 218:4 223:12 241:16 247:24 296:10 <b>familiarity</b> 125:3 241:3 <b>far</b> 38:18 69:21 76:11 104:23 189:20 222:1 224:15 237:11 240:22 289:24 294:15 <b>farming</b> 138:12 <b>fast</b> 126:16 264:6 <b>favorite</b> 218:3 <b>fbugel@gmail...</b> 2:4 <b>feature</b> 142:23 <b>features</b> 115:20 121:15 124:6 <b>February</b> 1:16 6:11 20:19	31:4 235:20 297:8 <b>fed</b> 245:20 <b>federal</b> 91:6 220:13 223:10 224:5,10 226:23 230:2 <b>feel</b> 33:5 78:6 140:24 212:6 212:12 231:10 <b>feet</b> 28:5,18,19 49:22 50:3,14 50:15,22,22 152:21 153:16 153:18 154:3 251:8 277:7 278:19 279:15 291:23,24 292:4 293:6,7 <b>fell</b> 12:16 201:16 <b>felt</b> 119:23 187:24 231:2 236:1 239:8 269:21 <b>fence</b> 192:5,6,6 192:9 <b>fertilizer</b> 138:8 <b>fewer</b> 265:7,11 265:12 <b>field</b> 10:14,21 11:7 91:3,9 92:8,9,14,19 93:22 147:2 283:2 <b>figure</b> 31:22 61:24 76:14 104:5,10,12 109:7,19 132:9 142:7 151:20 154:22 164:17 164:18,20 185:2,22 209:17 211:17 211:24 <b>file</b> 88:1,2,3 <b>filed</b> 127:23 128:6	<b>fill</b> 40:15 55:21 195:11 203:11 218:1,18 226:21 264:16 274:1 289:11 <b>fills</b> 220:5 226:12 <b>filter</b> 91:3 94:2 243:8 <b>filtered</b> 87:9 91:9 92:8,14 92:18,18 147:2 180:22 181:4,6 181:8,18,21 <b>filtering</b> 92:9 <b>final</b> 198:9 236:9 244:2 245:18 258:13 283:22 284:2 <b>finalization</b> 223:20 <b>finalized</b> 228:16 <b>finally</b> 8:20 13:9 179:6 188:14 197:9 <b>find</b> 113:22 148:15 167:23 178:21 187:21 193:12 207:11 221:6,9 272:3 272:7,15,19,20 272:20 276:15 290:11 <b>finding</b> 136:23 211:12 264:12 271:10 <b>findings</b> 275:21 276:4 <b>fine</b> 12:19 61:5 80:15 115:9 120:11 121:18 132:5 141:1 188:20 207:1 209:8 <b>finer</b> 12:17 18:3 18:5 <b>finished</b> 57:11	62:21 65:9 81:24 <b>finishing</b> 287:3 287:5,12 288:4 292:19 <b>firm</b> 188:2 <b>first</b> 7:5,14 9:4 30:18 36:4 38:23 58:17 72:12 82:15,22 85:3 86:18 91:13 96:21 103:7 107:2 108:22 129:4 129:18 134:8 146:4,11,23 160:10 169:7 171:22 180:14 186:7 208:13 211:11 213:14 222:18 230:8 230:14 231:21 233:13 237:19 239:18,22 243:2,4 246:15 254:13 270:13 281:11 283:4 294:14 <b>firsthand</b> 77:3 <b>fish</b> 68:4,5 <b>five</b> 28:5,18 49:22 50:22 78:20 84:22 231:16,17 268:4 269:7 286:23 <b>fix</b> 29:7 264:5 <b>fixed</b> 32:23 258:20 <b>fixing</b> 264:13 <b>flat</b> 252:4 <b>flip</b> 68:19 165:14 166:1 169:13 215:20 <b>flood</b> 125:8,21 125:22 294:13 <b>flooding</b> 123:20
<b>F</b>				
<b>facilitate</b> 87:2 <b>facilities</b> 84:10 84:12 86:22 89:4 286:11 <b>facility</b> 84:20 238:15 281:8 284:12 <b>fact</b> 79:6 169:6 232:4 234:12 240:10,19,21 243:20 244:10 264:11 276:14 277:14 <b>factor</b> 239:22 242:24 264:19 277:24 278:10 <b>factors</b> 151:1 237:22,22 239:20,21 242:23 266:20 267:13 275:6 281:5 <b>facts</b> 75:6,10				

124:7 125:18	228:24 273:13	245:7 252:12	<b>freezing</b> 14:8,9	6:23 7:1 19:13
126:21 205:4	276:10	258:17,20	14:12	24:13 28:20
<b>floor</b> 32:9	<b>folks</b> 25:18 26:4	263:8,18	<b>frequency</b> 265:4	29:15 33:12
<b>flow</b> 9:1 14:5,14	91:16	269:17,18	<b>frequently</b>	34:4,13 35:8
14:18,18,20,24	<b>follow</b> 142:8	270:1 272:2,5	295:13,21	37:11 38:13
86:23 96:19	156:21 220:10	272:9,16 274:9	<b>Friday</b> 36:17,19	39:1,12,16
97:2,11,14	220:11 259:4	275:19,22	49:4	43:11,12,14
98:5,5 99:17	<b>follow-up</b> 72:9	276:13,17,18	<b>front</b> 13:15	44:4 45:6
100:1,2 109:20	115:15,24	281:22 282:2,2	35:22 38:7	46:11,12 53:15
109:21 126:2	<b>followed</b> 243:20	282:3,4 283:19	40:1 43:21	55:3,22 56:19
127:11,13,14	247:16 255:13	283:20 285:6	46:16 48:13	56:21,22 58:21
129:12,16,17	255:14 296:21	<b>foundation</b>	52:17 53:9	59:21 63:16
130:21,23	<b>following</b> 39:5	29:15 35:8	54:6 66:11	64:4,19,20
132:3,23 133:3	42:22 57:7	56:19 63:16	94:7 97:16	65:5,7 68:18
133:5,8,8,9	63:4 65:2 82:3	64:5 72:15	128:24 183:16	72:5,7,15,21
142:3,11,14	113:15 117:6	73:6,14 208:7	188:23,24	73:6,14,20,23
143:4,21	128:19 141:10	242:21 289:12	206:1 214:14	74:5,22 75:6,9
154:23,24	161:10 180:2	<b>founders</b> 257:8	214:17 216:6	75:10 76:19
155:3,5,9,22	182:19 204:7	257:14	237:14 248:8	77:19 78:12
156:8,15,18,19	213:2 223:18	<b>four</b> 11:19,24	<b>full</b> 18:2 94:20	79:8,19 80:12
156:24 163:17	261:24 286:5	13:9,10,11,11	149:23 160:10	81:20,21 82:7
164:20,21	<b>follows</b> 7:6	37:9 50:15	210:21	82:8,18 88:13
190:20 212:8	82:16 213:15	52:24 79:10	<b>fun</b> 81:23	88:15,23 97:13
242:20	<b>foot</b> 153:15	89:4,19 101:14	<b>function</b> 142:18	97:15 100:20
<b>flow-thru</b> 13:20	154:1 241:18	102:14 118:11	<b>fundamentally</b>	101:1 108:24
14:5,7,13	<b>footnote</b> 92:13	153:15,16,18	222:18	109:2 111:2,8
16:12,16 65:10	92:19 241:13	154:1 192:24	<b>furnace</b> 217:18	113:9,19 114:5
65:13	<b>force</b> 226:9	201:23 214:11	<b>further</b> 6:20	114:11,12,18
<b>flowing</b> 124:20	294:10	228:12 232:8	64:14 72:5	115:7,10
131:13,17	<b>foregoing</b> 298:8	232:13 237:9	81:18,21	116:21 117:20
<b>flows</b> 15:4,12,18	<b>form</b> 40:16	237:20 238:1	131:19 155:2	118:17 119:1
72:19 100:18	107:22	268:4 295:18	162:24 179:17	119:11 120:13
<b>fluctuation</b>	<b>formal</b> 26:5	<b>fourth</b> 86:2,5,9	209:9 211:7	120:20,21
125:17	<b>formally</b> 275:24	93:8,9 94:16	212:13 221:10	121:6,21 122:5
<b>fluctuations</b>	<b>former</b> 62:10,14	110:8,9,17	230:11,13	127:20 128:12
125:9 126:7	162:16,19,21	134:7,17	244:7 279:16	128:23 130:14
<b>flue</b> 20:9 21:9	162:24 163:6	145:12,18	288:3	132:6,13,17,18
22:8 67:5,11	178:23 206:22	165:10 266:16	<b>furthermore</b>	135:1 136:3,11
79:11 80:6,7	277:2	289:16	200:13	140:20 141:15
<b>fluid</b> 72:13,19	<b>forms</b> 286:19	<b>Franzetti</b> 3:1,2	<b>future</b> 252:17	141:16,20
<b>fly</b> 13:13 51:14	<b>forward</b> 246:10	114:19		144:7,14,16
241:5	258:18	<b>Fred</b> 266:21	<b>G</b>	146:10 148:4,9
<b>focus</b> 267:15	<b>fostered</b> 257:17	267:7	<b>G-I-R-O-U-D</b>	150:17 157:21
<b>focused</b> 155:19	<b>found</b> 22:4	<b>FREDERICK</b>	257:13	158:4 160:16
269:15 271:20	95:22 129:20	4:2 7:4	<b>G-N-A-T</b> 82:21	160:24 161:1
275:6	178:24 204:17	<b>free</b> 33:5	<b>Gale</b> 3:2 4:5,10	161:19 163:9
<b>focusing</b> 228:16	204:18 228:7	<b>freeze</b> 14:16	4:12 6:18,19	163:16,19



166:5,10	26:10 27:1	158:11 179:11	249:10 258:7	42:1 44:9 51:2
177:12,19	32:3 52:12	182:7 214:6	258:11	53:14 56:6
178:2,4,8,10	56:4 62:14	222:2 228:11	<b>giving</b> 143:15,18	57:3 61:23
179:16 184:7	83:13,18 84:8	248:14,16	<b>glue</b> 289:3	62:20 63:18
189:6 190:15	84:18 85:1	253:9 256:16	<b>GMZ</b> 107:18	64:22 66:13,21
194:16 196:4	88:8,24 89:16	262:4 266:2	112:11,14,16	81:24 96:6,22
197:24 202:19	94:4,9 96:18	273:17	112:18 139:23	107:23 113:13
207:7 208:7	99:13 104:18	<b>Generation's</b>	140:2,4 167:7	117:2 122:18
209:11,12,14	106:13 111:20	117:22 179:8	167:10 201:15	128:16 131:19
211:7,9 212:16	112:2 122:10	265:16	201:18,19	133:6 150:14
212:17	156:19 192:23	<b>Geological</b>	202:1	150:18 151:20
<b>Gale's</b> 75:16	194:2 195:3	211:19	<b>GMZ's</b> 106:14	161:7 166:13
<b>gas</b> 20:9 21:9	215:22 217:21	<b>geology</b> 83:4	191:1,6 266:4	183:4 184:12
22:8 67:5,11	217:23 227:1	238:5	266:5,10	186:5,20
80:6,7 162:24	233:11 237:17	<b>geomembrane</b>	<b>Gnat</b> 4:8 82:9,10	187:23 188:2
163:1 286:17	238:3,15 241:3	249:5,10,15	82:14,19,21,24	191:17 194:3
<b>gathering</b>	292:22 295:24	252:14,24	88:6 96:16	207:12 212:22
245:19	<b>generated</b>	253:10 254:5	97:18 100:3	231:22 236:9
<b>gauge</b> 185:18	103:21 107:3	254:12 260:8,9	102:10 104:2	237:16 239:20
<b>Gen</b> 38:15	135:15 156:3	260:9 262:7,24	111:9 112:20	240:3 266:15
110:24 111:3	<b>generating</b>	290:15,19	117:21 119:2	284:22 286:2
132:10 141:19	11:20 205:19	<b>geomembranes</b>	120:22 122:6	286:13 288:10
147:4 148:2,20	205:21 248:17	262:8	128:24 130:15	291:5 292:13
149:3,5,8,21	269:2	<b>geosciences</b> 83:9	132:19 136:12	<b>goes</b> 15:17 53:5
154:11,22	<b>Generation</b> 1:8	<b>Geosyntec</b>	137:18 141:14	137:21 142:24
158:16 160:17	6:8 82:8 84:2	213:22 253:10	141:21 144:17	155:5 205:18
162:3,9,13	85:4 87:20	257:8 296:1	145:6 148:10	205:20 226:5
163:10 165:15	88:7,15 90:1	<b>geosynthetic</b>	148:22 150:4	288:18 295:12
165:19 166:3,6	90:13,16 91:20	253:5	151:8 154:10	<b>going</b> 13:16 14:1
166:12 169:13	91:22 96:14	<b>geotechnical</b>	155:10 157:4	14:21 20:13,16
171:23 175:19	101:22 106:16	214:1 215:13	158:5 161:3,20	20:16 25:4
177:4,13 178:8	106:20 107:1	<b>geotextile</b> 24:1	163:20 164:6	26:21 39:10,12
179:7 206:3	110:22 112:11	249:18 250:8	164:23 166:11	39:17 46:1
211:16 222:11	114:21 115:13	290:3,4,13	167:22 169:1	68:21 71:6
227:17 229:11	115:22 116:5	<b>geotextiles</b>	169:12 174:10	72:1 74:21
232:21 243:1,9	116:22 118:2	250:14	175:6 177:20	80:16 100:6,17
245:19 255:7	118:18 119:3	<b>getting</b> 53:12	179:6 180:6	108:21 125:17
255:19 258:7	119:15 120:14	143:14 244:9	204:11 209:15	127:19 132:2
259:7,22 264:8	120:23 121:9	<b>Giroud</b> 257:9,13	210:14 211:5	138:24 141:17
268:9 280:22	121:22 122:24	<b>give</b> 35:24 38:24	212:19 226:7	142:3,12 143:4
<b>Gen's</b> 213:6	123:3 130:3	44:7 46:23	241:24 266:5	144:6 155:9
<b>general</b> 162:21	134:19 135:4	48:16,19 88:8	<b>Gnat's</b> 222:8	172:10 180:11
185:15 201:6	135:11 136:1,3	105:19 196:6	294:24	180:11 199:2
245:3 254:2	136:4 137:8,19	<b>given</b> 126:11,22	<b>go</b> 9:1 14:22	206:2 209:15
259:14 260:14	144:9,18	184:24 189:3	15:16 22:6	216:2 236:9
<b>generally</b> 7:17	145:22 148:5	240:10 274:12	26:10 28:14	250:22 258:18
7:18,19 8:3	157:19,22	<b>gives</b> 91:4 172:7	30:16 39:1	259:18 263:4

263:17 279:13	133:1	145:17 146:18	<b>guess</b> 17:23	78:19 80:14
280:2 285:23	<b>great</b> 112:10	154:23,24	33:21 39:10	81:19,22 82:5
285:24 288:19	169:12 179:12	155:3,5,8,22	43:5 45:10	82:10 88:13,19
295:8 296:24	179:21	156:11,14,16	49:16,17 57:1	111:5 113:12
297:7	<b>greater</b> 192:24	156:17,19	64:9 71:13	113:17 114:8
<b>going-forward</b>	<b>green</b> 207:18	163:17,24	76:17 77:16	115:5,8 116:24
229:21	<b>GREG</b> 2:14	164:20,21	91:12 128:3	117:4,8,15
<b>good</b> 6:1 71:6	<b>greg.wannier...</b>	165:4,17	141:1 158:22	118:19,23
103:22 118:11	2:17	166:14,22	180:18 182:9	120:17 121:23
122:12,17	<b>Greiss-Pfleger</b>	167:1,5,19	187:14 200:13	122:3 128:8,16
132:1 140:21	162:19	179:1 180:16	209:4 284:6	128:21 132:11
141:8 180:9,10	<b>grew</b> 257:16	183:22 187:7	289:17	132:15 136:6,9
213:10 222:20	<b>ground</b> 11:14	189:6 190:19	<b>guesswork</b>	140:23 141:4,7
240:22 242:9	50:19 51:1,14	200:6,15,18,20	153:2	141:12 146:8
255:16 257:7	143:14 192:6	200:23 201:15	<b>guidance</b> 172:9	148:7 150:10
257:14 259:4	226:21 295:3	201:17 202:3,8	220:1,16,17,18	157:23 158:2
261:24 264:17	<b>Groundhog</b>	202:9 203:9,14	220:21,22,23	160:18,24
266:12 278:15	297:8	203:17 205:13	<b>guide</b> 218:9,17	161:7,12,16
291:2,2	<b>groundwater</b>	205:15 207:6	221:7,8 270:23	163:11,14
<b>gosh</b> 9:15 16:23	83:17 84:11	212:8 217:8	<b>guides</b> 220:12	166:8 177:14
<b>graded</b> 123:10	85:10,13,20	226:4 236:3,16		177:17 179:18
<b>gradient</b> 99:12	86:16,17,20	238:6,9,10,14	<b>H</b>	179:22 180:4
99:13,15,15,16	89:3,3 90:15	238:18,19	<b>H</b> 5:1	184:11 190:16
99:19,21,24	95:3,8 96:7,19	256:7 272:5,14	<b>half</b> 152:20	194:19 196:6
100:2,13,15	96:21 97:2,6	272:15,22	<b>Halloran</b> 1:13	197:11 198:4
109:10,12,15	97:14,20,21	273:6,23	6:1,2,21,24 7:7	202:21 203:1
109:17 133:11	98:5 99:3,9,17	274:15,17	10:22 11:1	203:24 204:4,9
133:12,14,16	100:4 101:21	276:16,16	19:16 24:15	208:8 209:10
133:17,18	106:8,17 107:7	277:11,12	28:22 29:16	211:8 212:15
139:5,7,21	107:9,11,14,16	278:9 279:3,11	33:15 34:14	212:18,22
154:11,13,17	108:1 109:20	279:16 281:8	35:9 37:13,17	213:4,9 286:2
154:19,21	110:3,15,17,22	281:15,20	38:20 39:3,7	297:2,5
164:11,12,14	112:3,4 124:19	282:8 283:19	39:19 43:11,13	<b>hand</b> 20:13,16
277:9	124:20 126:7,8	284:3 287:13	43:17 46:11,13	20:17 82:11
<b>graduate</b> 83:9	126:13,14,23	291:20,20	46:17 48:5	95:19 213:11
<b>Granted</b> 28:23	127:1,6,11,12	292:10 293:3,9	53:16 55:5,23	<b>handed</b> 155:10
<b>granular</b> 289:11	127:13 128:2	293:11 294:11	56:20 57:5,9	<b>handing</b> 144:9
<b>grass</b> 11:7,10,13	129:2,12,16	<b>group</b> 114:2	57:12 59:23	<b>handle</b> 75:18,22
<b>grassy</b> 10:14	130:16,22	<b>groupings</b>	60:23 61:4	79:5 80:7
<b>gravel</b> 102:24	131:17 132:3	113:10	62:22 63:1,6	<b>handled</b> 217:7
103:1,22	132:23 133:3	<b>grow</b> 11:13,14	63:18 64:6,15	<b>handwritten</b>
104:11 105:21	133:22 134:14	35:6	64:18,21 65:4	62:2,3
129:24 131:9	134:16,21	<b>growing</b> 34:12	68:14 72:6,16	<b>happen</b> 201:5
131:15 142:20	135:2,14,23	35:2	72:22 73:7,15	257:18 292:12
143:17,20	139:19 141:17	<b>grows</b> 35:14	73:24 74:7	<b>happened</b> 77:4,4
291:2	142:11 143:4	<b>growth</b> 35:13	75:8,12,23	148:12 171:10
<b>gravelly</b> 132:20	144:8,19	<b>GSC</b> 249:10	76:2,21 77:21	192:3 294:15

294:16 295:15 <b>happening</b> 57:19 127:9 <b>happens</b> 127:8 251:15 <b>happy</b> 114:3 188:21 <b>hard</b> 30:11 33:4 37:4 41:2 102:4 130:21 152:20 153:1 206:9 262:14 289:15 294:18 <b>hard-working</b> 291:1 <b>Harrison</b> 296:10 296:11,13 <b>hashmarks</b> 61:19 <b>Hayes</b> 36:11,16 51:8 <b>hazardous</b> 170:19,22 256:11,18 <b>HDPE</b> 24:21 242:15 243:23 244:12,15,17 244:19 249:15 249:24 254:8 256:4,11,11 289:17 290:3 <b>head</b> 31:9 97:5 99:18,18 225:15,17,19 225:22,23 226:3,4,6,7,14 228:2,3 <b>health</b> 200:22 205:17,21 <b>hear</b> 34:18 61:5 74:8 126:1 136:15 264:16 <b>heard</b> 37:24 78:15 210:17 210:21 216:15 221:24 223:9 241:2,5,23	242:7 255:17 256:3 260:22 261:6,14 263:20 264:1,4 264:8,21 266:1 266:5,21 267:6 270:11 284:8 285:11 286:14 286:16 287:21 291:12 296:17 <b>hearing</b> 1:12,13 6:1,3,12,21,24 7:7 10:22 11:1 19:16 24:15 28:22 29:16 33:15 34:14 35:9 37:13,17 38:3,20 39:3,7 39:19 43:11,13 43:17 46:11,13 46:17 48:5 53:16 55:5,23 56:20 57:5,9 57:12 59:23 60:23 61:4 62:22 63:1,6 63:18 64:6,15 64:18,21 65:4 68:14 72:6,16 72:22 73:7,15 73:24 74:7 75:8,12,23 76:2,21 77:21 78:19,20 80:14 81:19,22 82:5 82:10 88:13,19 100:20 111:2,5 113:9,12,17 114:8,18 115:5 115:8 116:21 116:24 117:4,8 117:15 118:17 118:19,23 120:13,17 121:21,23 122:3 127:22 128:8,16,21	132:7,11,15 136:6,9 140:20 140:23 141:4,7 141:12 144:8 146:8 148:4,7 150:10 157:21 157:23 158:2 160:16,18,24 161:7,12,16 163:9,11,14 166:5,8 177:12 177:14,17 179:18,22 180:4 184:11 190:16 194:19 196:6 197:11 198:4 202:21 203:1,24 204:4 204:9 208:8 209:10 210:18 210:20 211:8 212:15,18,22 213:4,9 261:14 286:2 297:2,5 <b>heavily</b> 105:6 137:16 <b>heavy</b> 52:14,16 264:24 290:22 291:9,10 <b>height</b> 225:24 <b>held</b> 102:7 120:5 <b>helicopters</b> 10:15 <b>help</b> 113:22 125:17 137:10 190:17 209:15 223:23 260:7 294:4,10 <b>helpful</b> 247:15 <b>high</b> 17:10 30:1 30:10 50:1,15 139:1 226:5 244:19 292:13 <b>high-degree</b> 275:22 <b>higher</b> 30:7 99:17,18,20	131:12 143:15 194:6 <b>highest</b> 99:23 103:10 274:8 <b>highlight</b> 175:3 <b>highlighting</b> 155:20 <b>Highway</b> 111:15 <b>hired</b> 243:11 <b>historic</b> 77:1 149:17,19 267:4 275:7 276:8,23 277:19 284:6,7 284:9,13,23 285:2,5,8,13 285:18 <b>historical</b> 62:16 <b>historically</b> 21:16 <b>history</b> 215:9 238:9 240:1 284:17,18,19 <b>hit</b> 138:24 182:22 294:18 <b>hits</b> 11:13 <b>hitting</b> 70:14 <b>holding</b> 118:16 120:11 <b>hole</b> 258:15,17 <b>holes</b> 26:1 31:12 32:23 34:12 69:7 <b>home</b> 297:11 <b>homogamous</b> 168:21 <b>Honor</b> 113:23 117:2 160:20 198:2 203:21 <b>Honorable</b> 1:13 <b>hopefully</b> 297:9 <b>horizontal</b> 32:4 32:7 <b>hot</b> 51:5 <b>hour</b> 1:16 204:1 <b>house</b> 43:1 <b>huge</b> 50:21	125:20 <b>human</b> 167:21 279:20 <b>hundred</b> 71:12 71:14 152:12 152:17,21 271:18,22 <b>hundreds</b> 279:14 <b>hydraulically</b> 129:17 <b>hydrocarbons</b> 179:5 <b>hydrogeologic...</b> 190:10,11 <b>hydrogeology</b> 83:4,11 <b>hydrostatic</b> 292:9,12 293:22 294:1,5 294:23 295:5
---	---	--	---	--

**I**

**I-N-G-E-L-S**

252:9  
**ideally** 107:23  
**identical** 52:6  
**identification**  
5:3 38:12 44:3  
46:21 61:8  
88:12 115:3  
117:19 119:8  
121:3 130:7  
134:24 215:3  
219:9 232:24  
233:9 234:3  
235:13  
**identified** 90:5  
95:13 112:24  
112:24 116:8  
174:15 251:2  
265:1 273:20  
278:19 284:14  
**identifies** 108:7  
162:8  
**identify** 39:13  
104:14 119:22

237:22 238:19 273:19 287:23 <b>identifying</b> 249:11 264:12 <b>IEPA</b> 108:13 139:22 160:6 191:5,12 <b>ignore</b> 275:4 <b>ignored</b> 272:1 <b>ignoring</b> 274:22 <b>ILCS</b> 169:11 275:23,24 <b>Illinois</b> 1:1,15 2:3,7 3:4 6:3 83:8,10 90:1 101:22 102:8 102:20 104:11 104:13 106:11 106:15 112:17 138:10 139:8 140:3,12 146:16,21 160:5 162:22 167:8 168:13 169:4 170:11 177:8 200:15 200:16,18 217:6,8 220:24 221:1 229:3,6 229:7,13 240:21 246:6 246:13 247:10 247:17 268:18 273:23 277:12 279:6,7 298:1 298:14,22 <b>immediate</b> 150:14 162:14 <b>immediately</b> 149:2 277:9 <b>impact</b> 83:17 239:17 256:7 265:5 274:15 274:17 <b>impacted</b> 102:5 102:6 239:24 263:24 276:20	278:23 279:17 <b>impacting</b> 90:15 <b>impacts</b> 238:20 240:23 284:3 <b>impasse</b> 78:6 <b>impermeable</b> 73:10 193:24 <b>impervious</b> 8:17 11:9,10,15 <b>implement</b> 149:7 243:12 <b>implementation</b> 223:21 <b>important</b> 239:23 240:2 242:6 243:15 243:22 244:19 247:13 251:2 253:14 258:14 267:16 287:4 287:10 <b>impoundment</b> 191:19 206:23 217:6,7 271:15 <b>impoundments</b> 225:6,11 229:23,24 295:9 <b>improve</b> 234:24 <b>improving</b> 202:4 202:5 <b>inactive</b> 224:22 225:3 226:1,12 227:10,14 <b>inch</b> 152:20 <b>inches</b> 31:12 69:9 192:24 262:10 289:8 289:14 290:2,6 290:7,17 <b>incident</b> 27:15 49:8 261:12 265:9 <b>incline</b> 25:4 72:1 72:4 <b>include</b> 41:11 84:2 93:13	96:10 156:3 176:16,18 180:19 182:17 210:12 220:13 220:19 228:11 228:17 231:11 234:24 239:15 246:24 247:1 252:3 272:3 285:20 <b>included</b> 92:11 149:24 175:21 179:3 181:21 188:18 227:15 232:3 235:4 246:15 248:6 268:23 280:11 280:16 285:12 285:15 <b>includes</b> 149:22 156:5 159:20 176:9,10 182:15 266:3 <b>including</b> 84:4 137:15 224:7 285:2 <b>incomplete</b> 47:4 47:14,16 <b>inconsistent</b> 282:3,6,24 <b>incorrect</b> 106:5 223:6 273:9 <b>increase</b> 126:5 <b>increased</b> 127:4 <b>increases</b> 126:17 <b>increasing</b> 262:1 <b>independent</b> 212:2 <b>independently</b> 261:15 <b>indicate</b> 250:16 264:8 282:7 <b>indicated</b> 121:17 124:6 137:16 140:3 160:14 180:20 184:5,6 200:2 263:6	<b>indicates</b> 279:21 <b>indication</b> 123:19 203:16 205:3 <b>indicators</b> 281:15,22 <b>individual</b> 93:4 94:15 <b>individually</b> 237:17 <b>individuals</b> 250:22 <b>industrial</b> 101:2 178:22 240:11 <b>industrialized</b> 105:7 <b>industries</b> 83:19 250:9 <b>industry</b> 83:23 83:24 84:1 100:15 218:22 229:16 270:16 <b>infiltrate</b> 226:17 <b>infiltrates</b> 143:13 <b>inform</b> 242:4 <b>information</b> 60:10 88:17 89:9 96:1 130:20 150:21 155:23,24 174:19 185:15 185:16 193:18 234:7 243:6 245:23 260:16 270:23 273:14 276:22 282:17 283:24 <b>informed</b> 26:11 276:22 <b>Ingels</b> 251:17 252:8,10 <b>inherent</b> 95:21 <b>initial</b> 131:23,24 148:14 191:24 <b>initially</b> 155:18 <b>initials</b> 251:18	<b>initiated</b> 86:21 <b>ink</b> 292:8 <b>inlet</b> 14:22 <b>Inorganic</b> 104:10 <b>inside</b> 296:18 <b>inspect</b> 193:6 <b>inspected</b> 112:21 120:4 252:11 <b>inspection</b> 40:3 40:16 44:10 47:4,5,14,20 48:1 70:23 113:1 115:20 115:24 116:8 118:3 119:13 119:21 121:10 121:16 122:7 122:15 191:24 192:4 193:3,10 193:15 198:14 198:15,18,20 247:11 254:14 <b>inspections</b> 25:17,19,21 71:1,1,9,10 114:16 115:12 122:23 123:23 191:18 192:22 198:10,11 <b>install</b> 251:9 252:24 254:11 260:23 262:24 290:18 <b>installation</b> 57:21 101:15 135:15 157:15 167:19 243:22 247:18 252:13 252:17,20 253:6 254:3,20 255:4 256:17 <b>installed</b> 24:1,21 25:2,3,9 53:3 58:13 76:18 77:18 80:7
--	--	---	--	--

90:12 93:6,7,9	<b>interpret</b> 142:17	47:13 116:2,7	41:16,20 42:1	52:16 53:1
101:18 125:7	<b>interpretation</b>		52:3 285:24	57:2 60:14
135:9,21 139:7	153:16 203:18	<b>J</b>	<b>jumping</b> 19:3	62:5 63:14
139:21 148:13	<b>interpretations</b>	<b>J</b> 3:10 235:19	40:6 44:13	64:9,10 67:12
148:24 149:9	150:15 172:15	<b>James</b> 6:14	50:4 74:18	67:19 68:1,5
149:11 208:13	173:2	<b>January</b> 6:13	<b>jumps</b> 235:21	69:21 72:3
208:17,20	<b>interrupt</b> 278:12	162:12 206:8	<b>June</b> 47:5 164:2	73:16 74:11
209:2 242:15	<b>introduced</b> 27:8	<b>jargon</b> 77:8	209:20	76:12 77:6,17
247:7 251:8	35:21 69:19	<b>Jason</b> 6:14	<b>K</b>	78:1 79:5,13
253:11 258:12	70:23 94:5	<b>Jeff</b> 248:13	<b>keep</b> 10:23 34:4	80:18 81:7,13
<b>installer</b> 250:24	117:13	<b>JENNIFER</b> 3:1	39:12 49:24	93:21 98:6
251:1,16,17,19	<b>inventories</b>	<b>jn@nijmanfra...</b>	197:12 285:23	99:7 100:5
251:22 253:16	87:16	3:5	296:24	102:17 105:5
<b>installers</b> 247:9	<b>investigate</b>	<b>job</b> 48:8 51:8	<b>keeping</b> 242:11	107:2 113:10
251:4	173:19	57:15 255:16	<b>Kelly</b> 136:13	126:18 133:13
<b>installing</b> 56:13	<b>investigated</b>	<b>John</b> 4:15 213:8	137:16 262:17	133:15 136:22
140:14 254:13	142:15	213:13,20	263:6 267:6	140:21 152:19
255:16 266:4	<b>investigation</b>	<b>Johns</b> 162:16	277:5	152:20,21
<b>instance</b> 89:17	22:12 31:22	<b>Johnson</b> 163:7,7	<b>Kentucky</b> 217:9	169:6 170:24
258:1 286:15	90:14 149:2,3	<b>Joliet</b> 84:21,21	<b>kept</b> 98:15	173:1,8 180:18
<b>instances</b> 81:4	239:15,18	89:5,18 96:5	<b>key</b> 175:16	182:16,19
212:5	278:5 296:1	97:13 105:4	<b>kg@nijmanfr...</b>	184:22 185:17
<b>instantly</b> 295:19	<b>involved</b> 57:20	108:23,24	3:6	186:2 188:9
<b>Institute</b> 270:15	59:19 70:21	109:3,20 110:4	<b>kind</b> 19:9 22:5	191:2,14,15
<b>institutional</b>	106:22,24	111:12,13	34:8,18 49:24	193:23 194:9
107:12 108:6	218:8	112:3,12,22	54:23 55:12	195:9,20
149:7 167:3	<b>involvement</b>	122:7,24	79:6 83:18	196:10,14
201:20	60:2 241:8	123:18 124:13	142:9 172:7	197:14,18
<b>intake</b> 98:9,13	<b>iron</b> 230:18	124:20 127:1	182:20 184:15	199:16 205:20
109:24 155:6	<b>island</b> 178:17,19	127:14,18	207:16,18	206:10,15,17
184:2 185:3	189:14 190:2	136:19 183:22	245:13 246:14	206:21,24
<b>integrity</b> 2:9	190:20	191:16 195:23	246:21 256:9	207:10 229:3
252:16 255:21	<b>isolated</b> 131:5,7	196:22 202:14	263:10 288:19	236:9 237:10
<b>intended</b> 206:16	142:22	202:17 204:15	<b>kinds</b> 247:8	240:5,24
207:12	<b>isolates</b> 192:6	210:14 269:2,4	291:12	245:17 247:17
<b>intent</b> 208:5	<b>issue</b> 34:6 41:18	269:10,12	<b>knew</b> 77:1,2	255:13 262:16
<b>intents</b> 64:10	51:15 84:7	275:9,10,21	<b>know</b> 6:16,22	263:17 272:18
<b>interchangeably</b>	161:6 182:14	285:12 286:12	10:11,20 11:15	272:21 277:6
7:15,22 8:2	<b>issued</b> 95:11	286:16,19	13:23 16:11,24	283:8 285:21
<b>interesting</b>	106:15 110:20	287:22 289:9	17:21,22 26:20	287:1,8,10,17
64:12	130:18 146:16	290:9 294:18	26:23 28:11	288:23 294:23
<b>interlocks</b>	171:12,13	295:6 296:5,5	31:19 33:22	<b>knowing</b> 99:10
290:24	199:7	296:17	36:13,15 37:20	100:14 187:9
<b>intermittently</b>	<b>issues</b> 83:17	<b>July</b> 158:10	39:22 46:5,24	211:2,3
288:14	140:3 183:8	<b>jump</b> 7:12 17:16	47:15,17,22	<b>knowledge</b>
<b>Internet</b> 170:6	<b>itemized</b> 37:3	18:8 21:1,20	50:23,24 52:2	17:23 18:18,21
176:10	<b>items</b> 47:12,12	33:20 34:17		18:23 20:4,5

22:15,17 52:5	235:24 255:17	227:10,11,14	257:1 258:4,16	293:5
69:15 73:22	256:24 258:2	247:20 263:13	259:5,5	<b>levels</b> 22:5 86:19
76:24 77:3	259:9,9,14	<b>large</b> 51:3 52:22	<b>leakage</b> 265:17	96:22,23 97:3
78:16 124:18	260:11,19	125:15,21	265:20	99:3,20,23,24
125:19,23	270:11,19,20	126:1,7,12	<b>leaked</b> 17:4,9	100:2 126:17
138:5 146:12	271:19 274:19	257:17	260:12	127:1 129:22
149:18 152:10	277:15,18	<b>larger</b> 126:16	<b>leaking</b> 100:11	130:23 131:6
160:1 171:9	283:9 292:7	129:24 206:15	101:19 258:19	131:14,15
185:20 186:18	<b>Kunkel's</b> 123:22	<b>LaSalle</b> 3:3	<b>leaks</b> 244:3	143:3,15
196:2,17 198:3	124:12 181:17	<b>lasted</b> 78:3	254:24 255:1	230:20 254:12
211:18	222:24 224:2	<b>lastly</b> 238:23	257:6 258:23	273:15 274:12
<b>knowledgeable</b>	227:7 232:20	<b>late</b> 85:4	259:1,2,4	274:18 276:9
179:13		<b>latest</b> 188:6	265:2,13	280:17,17,19
<b>known</b> 80:4	<b>L</b>	<b>latitude</b> 19:17	<b>left</b> 10:2 14:4	284:13 292:10
163:7 230:21	<b>lab</b> 91:10 173:15	196:7	16:9,15 17:24	295:1,3
257:8 285:16	173:22,23,24	<b>law</b> 1:4 2:5 6:5	18:11,18 19:8	<b>License</b> 3:10
285:18	183:2,5,7,8	71:4	61:15,23	<b>licensed</b> 60:5,6
<b>knows</b> 264:4	199:21 200:2	<b>lay</b> 220:6 252:1	234:20 237:11	60:17 247:9
<b>KPRG</b> 83:1,14	267:10 268:11	<b>layer</b> 23:14,22	287:24 288:13	<b>life</b> 242:21
84:9 85:9	<b>labeled</b> 210:2	24:4,6,8,12,12	<b>length</b> 30:15	<b>lifted</b> 201:18
86:15,16 87:6	<b>laboratory</b> 87:8	25:8,11 154:4	53:14	202:1
87:19,24 93:17	87:11,14,14,16	254:7,20,22	<b>let's</b> 28:14 42:16	<b>likelihood</b> 295:4
94:12 95:1	88:5 199:12	262:9,10	45:13 64:22	<b>likes</b> 218:22
115:18,21	<b>lack</b> 230:19	289:15 290:5,7	75:23 81:24	<b>limestone</b> 24:7,7
116:5,17 118:1	<b>Lafarge</b> 261:21	290:24	93:8 99:21	24:11 262:10
119:14 121:8	<b>laid</b> 206:1	<b>layers</b> 24:2	104:22 128:16	290:7,23
124:10 130:18	<b>Lake</b> 155:7	260:4,4 292:22	138:17 161:7	<b>limitation</b>
144:21 150:1	187:16 188:8,9	<b>ldubin@elpc....</b>	205:24 207:1	176:17
157:19 158:9	<b>land</b> 10:15 107:8	2:8	216:4 239:20	<b>limitations</b>
159:10 160:2	108:3,8 139:20	<b>leach</b> 159:4	286:2 297:3	172:6,11,12,15
162:7 164:1	157:9,14	160:1,11,14	<b>letter</b> 66:5	173:1 175:19
168:2,7 170:2	166:23 189:21	168:12 195:15	115:21 116:4	176:11 177:5
177:23 178:21	189:22 226:1	197:4	118:1 119:14	<b>LINDSAY</b> 2:6
206:7,19 209:2	266:4,6	<b>leachability</b>	121:8,10,12,19	<b>line</b> 21:1,2 23:18
241:24 275:11	<b>landfill</b> 159:9,20	160:15	248:12 253:9	26:2 27:2 29:3
275:19	159:22 193:16	<b>leachate</b> 159:15	254:1	31:11 34:20
<b>KPRG's</b> 107:1	194:10,23	159:24 238:18	<b>level</b> 17:10 97:4	35:1 44:24
<b>KRISTEN</b> 3:2	195:13,23	267:13 268:6	98:1 99:10,11	45:16 47:7
<b>Kunkel</b> 102:11	196:3,18	271:15,16	102:6 125:9,14	59:14,15,16
102:13,19	204:15 225:15	273:22 274:10	126:20 127:4	66:23,23,24
103:19 104:4	226:12,24	<b>leachates</b> 281:16	130:10 139:13	67:15,15 68:11
105:15 125:24	227:1 248:1	<b>Leaching</b> 221:22	155:24 156:4,6	69:5,23 70:1,6
151:9,13	256:19 271:15	<b>leads</b> 53:21	184:16 185:12	70:7 79:2,3
174:11 175:6	285:11	<b>leak</b> 21:24 22:12	231:14 251:7	81:2,16 206:11
200:7 223:3	<b>landfills</b> 216:21	244:1,7 247:6	274:8 279:12	206:16 237:11
227:16 230:7	224:22,23	253:18,23,24	284:17,18	248:22 264:22
231:1,12,15	225:4,6,11	254:4,6,15,22	287:18 292:13	<b>lined</b> 11:4 15:24

22:24 72:13	244:8,15	220:18,21,23	59:4,8,13	34:1 35:19
73:13 74:4	245:12 257:15	<b>locate</b> 254:23,24	61:13,22 63:21	40:18 42:9
229:4,8,8,10	<b>list</b> 91:1 112:5	<b>located</b> 10:6,8	74:12 79:2	44:17 45:4
229:10,12	159:18 172:6	34:22 58:6	104:22 116:18	49:7 63:9
240:20 287:8	234:5 242:24	64:3 80:23	120:2 130:19	96:18 100:22
288:16	243:17 269:1	81:8 104:19	137:19 138:17	109:19 131:1
<b>liner</b> 23:3,6	<b>listed</b> 60:14	132:20 150:22	142:2 146:3	137:24 150:24
24:21 25:14,20	90:24 110:24	164:4 202:17	171:21 178:14	151:2,21
26:2 28:1	135:3 145:21	235:2 280:9	183:6 184:1	154:10,22
29:20 30:22	148:10 187:1	<b>location</b> 41:6	186:21 188:10	156:8 162:13
31:6 32:2 35:7	239:22 267:3	105:2 138:3,24	192:1 210:11	164:19 170:23
35:13 36:17	293:8	152:23 253:23	224:1,10,15	175:17 176:24
37:9,21 46:3	<b>listing</b> 37:3	254:4,6 258:5	233:4,22	177:4 178:13
47:9,9 48:1	268:5	258:16,23	234:20 235:9	195:10 210:1
58:3,13 65:22	<b>lists</b> 232:17	259:5 264:19	236:2 237:2,10	223:17 238:9
242:22 243:22	<b>literature</b>	<b>locations</b> 151:23	238:5,6,6	239:19 242:23
244:11,20,21	267:20 283:12	152:6 260:15	239:3,3,24	243:2 248:7
246:3 247:18	<b>little</b> 25:16	275:9	240:14 243:11	266:14 270:6
247:21 248:15	27:14 28:15	<b>lock</b> 98:14,16,24	245:14 246:1	271:3 273:11
249:15 251:8,9	63:11 78:7,24	124:24 125:4	251:11 253:1	281:10 283:16
254:3,19	79:7 83:21	126:11,19	259:15,16	285:4 286:8,18
255:21 258:19	106:5 129:15	184:16 294:24	264:2,11	288:21 292:16
287:16 290:4	131:10,10,16	<b>locks</b> 125:5,6,13	267:20 269:6	<b>looks</b> 42:24 45:2
292:11,14	133:9 135:21	<b>logged</b> 154:5	269:19 272:19	67:12 74:14
294:22 295:22	139:3 143:7	<b>logs</b> 131:2 150:1	273:1,7 277:2	105:1
<b>liners</b> 29:7 40:20	146:19 162:23	150:4,22	277:22 278:8	<b>loops</b> 142:9
56:14 57:21	189:20 192:2	151:10,14	280:3 281:5	<b>loss</b> 263:12,14
240:17 242:15	200:1 205:13	152:23 153:6,9	282:21 284:13	<b>lost</b> 258:20
244:12,18	208:9 217:3	153:13,14,15	286:24 289:18	<b>lot</b> 51:7 55:19
246:2 247:5	227:12 236:2	153:21,22	289:22	153:2 221:24
255:16 256:6,6	236:16 239:13	154:1	<b>looked</b> 67:11	223:9 225:14
256:15,18	242:10 244:6	<b>long</b> 28:5,18,19	120:7 122:19	245:20 247:6
257:1,6 258:10	244:14,23	30:14 51:22	131:7,14 133:2	256:3 257:5
259:11 260:20	281:9 288:3	78:2 182:17	147:18 181:18	258:8 263:20
262:2 263:21	289:3 290:12	207:18 227:3	186:23 187:3	266:1 285:11
263:24 274:13	<b>Liu</b> 6:15	241:24	192:9,14	286:13
288:22	<b>LLC</b> 1:8 6:8	<b>long-lasting</b>	237:21,24	<b>lots</b> 245:2
<b>lines</b> 28:13	248:16	244:21	239:10 241:7	<b>loud</b> 74:21
33:20 50:8	<b>LLP</b> 3:1	<b>longer</b> 29:12	243:16,20	197:14 224:20
68:21,22,23,24	<b>load</b> 54:7	67:17 107:16	269:17 271:14	<b>low</b> 86:23 226:5
75:1 79:14	<b>loaded</b> 56:6	236:16	271:16 272:17	256:14 274:16
98:2,2,3,4,5,7	<b>loader</b> 52:17	<b>longest</b> 30:15	275:19 279:6	<b>low-risk</b> 227:9
156:15,15,16	53:9 54:6	<b>look</b> 9:5,7,14,19	279:10,10,18	<b>lower</b> 99:18,18
156:16,18,18	<b>loaders</b> 291:14	10:1 13:15,17	281:21 282:1,5	100:1 131:16
156:21	<b>loading</b> 258:9	19:7 27:7	283:9,18	225:5,10 259:3
<b>lining</b> 23:1	<b>local</b> 219:24	33:14 36:3	293:13,20	265:8 279:10
73:19 243:23	220:1,12,16,17	44:16,24 48:12	<b>looking</b> 20:23	292:11

<b>lowers</b> 265:13	151:22 152:9	<b>market</b> 218:23	54:10 67:7	103:16,20
<b>lowest</b> 103:10	152:14,15,18	<b>marketplace</b>	74:12 86:7	105:16,20,24
<b>lunch</b> 82:6	154:10 155:22	217:20	87:22 93:3	106:2,5 200:10
140:22 141:8	156:2,3,5,15	<b>marking</b> 143:18	95:16 97:4	<b>meet</b> 54:5 174:7
141:14	157:19 162:7	<b>mass</b> 275:17	99:14 105:17	174:7 198:21
<b>Lux</b> 27:23 30:19	163:17,24	<b>massive</b> 243:7	118:14 127:8	261:4 273:24
36:5 261:19	164:4 165:2	<b>Master</b> 215:12	133:6 137:12	274:2
<hr/>	178:2,3,5,13	<b>match</b> 273:8	138:9 139:10	<b>meeting</b> 27:23
<b>M</b>	183:22 185:11	282:24 283:20	140:11 152:5	48:9
<b>M</b> 3:2 7:9 65:6	186:16,21,24	<b>matched</b> 282:23	157:12 167:2	<b>meets</b> 168:23
72:10 82:17	187:19 188:17	<b>matching</b>	167:17 169:19	250:17
180:7 209:13	189:3,6,9,18	282:15	169:23 171:1	<b>melt</b> 122:20
211:13 213:16	189:20,23,24	<b>material</b> 21:17	172:12,17,20	123:15
<b>main</b> 81:12 91:2	206:5,16,18,20	35:12 67:10,13	174:5 176:21	<b>melts</b> 192:13
111:23 146:24	207:6,14	73:18 159:5	202:2 210:16	<b>member</b> 242:21
<b>maintain</b> 22:6	209:20 210:10	168:23 195:11	217:16 244:14	<b>memo</b> 59:20
<b>making</b> 30:19	211:21	218:23 220:9	252:22 257:4	60:10,12,15
<b>managed</b> 12:16	<b>maps</b> 97:3	220:11 223:8	273:4 275:8	245:18
<b>Management</b>	127:22 130:23	249:12 253:5	281:13 289:1	<b>memorandum</b>
107:7,9,11	132:8 155:16	254:14,16	294:6	245:16
108:1 139:19	185:16 186:9	263:9,10	<b>meaning</b> 275:15	<b>mention</b> 28:6
166:22 167:1	284:10	273:19 276:1	282:2,3	39:15 53:13
202:3,8,10	<b>March</b> 33:8 34:2	289:2	<b>means</b> 8:10,21	77:11 267:1
<b>manganese</b>	36:5	<b>materials</b>	52:16 55:12	<b>mentioned</b> 9:17
230:18 231:5	<b>Maria</b> 243:10	136:16 170:15	103:12 129:20	17:17 23:11,22
232:16 271:20	244:12,23	171:4 218:7	152:6 225:18	25:17 28:9
272:3,21	245:17 246:5	222:21 247:4	252:23 287:5	29:6,19 31:3
<b>manner</b> 38:17	256:16 284:8	260:10 294:4	295:21	32:11,22 50:6
101:10	286:16	294:22	<b>meant</b> 62:6	52:4 53:12
<b>manual</b> 88:4	<b>Marine</b> 163:7	<b>math</b> 233:19,19	63:14 64:2	54:22 55:11
183:11	<b>mark</b> 39:10 45:4	<b>Matt</b> 253:8	199:20 282:6	65:17 72:12
<b>manufactured</b>	136:12 263:6	<b>matter</b> 6:4 20:14	<b>measure</b> 99:2	80:22 90:17
163:1 250:10	267:6 277:4	20:19 31:3,4	107:22 185:9	94:22 105:13
<b>manufacturer</b>	<b>marked</b> 5:3	60:7,19 84:5	185:11,13	106:14,15
64:12 249:9	38:10 44:1	84:14 101:13	268:13	108:2 124:24
253:12	46:19 61:6	101:15 102:15	<b>measurement</b>	147:7 173:7
<b>Manville</b> 162:17	88:10 115:1	214:6 217:4	102:6	189:12 191:1
<b>map</b> 21:3,5	117:17 119:6	228:24	<b>measurements</b>	194:15 239:11
62:14 79:23	121:1 130:5	<b>maximum</b> 186:3	127:12	241:19 253:18
80:2 96:24	134:22 144:12	230:20 231:13	<b>measuring</b>	259:10 260:3
97:6,14,20,22	206:12 214:21	280:17,19	200:17	272:24 275:5
98:5 99:9	215:1,22 219:7	293:11,19	<b>Mechanical</b> 51:8	276:19 277:24
104:13 109:1,6	224:2 232:22	<b>MCL's</b> 230:20	<b>mechanism</b>	278:6 281:9
109:7 127:21	233:7 234:1	<b>mean</b> 11:12	81:10	283:7 292:18
129:2,10 130:9	235:11,22	13:22 15:1	<b>median</b> 102:20	295:23
132:24 133:2	248:8 262:15	17:9 29:13,22	102:22 103:3,5	<b>mentions</b> 27:22
144:8,10,20	280:22 288:21	32:7 47:17	103:7,8,11,15	283:5



<b>message</b> 51:12	118:18 119:3	<b>mind</b> 9:4 19:1,3	<b>mixture</b> 227:23	145:4,7,17
<b>met</b> 174:2 244:5	119:14 120:14	20:12,24 27:6	<b>Mm-hmm</b> 20:23	146:4,11,18,23
246:12 247:5	120:23 121:9	28:10 35:19	21:12,19 29:21	147:16,19,24
247:12 273:21	121:22 122:24	39:21 40:4,6	59:12 115:7	148:10,12,13
275:24 276:12	123:3 130:2	40:18,24 41:7	164:19 184:4	149:9,11 151:7
<b>metal</b> 91:5	132:10 134:19	42:9 44:13,16	<b>mode</b> 12:19	152:1 154:5,7
<b>metals</b> 91:4,8	135:3,11 136:1	44:17 45:4	<b>modification</b>	154:12,18,19
93:2 147:1	136:3,4 137:7	50:4 59:8,13	171:13	155:19,21,24
149:5,20	137:19 138:10	62:13,19 63:9	<b>modifications</b>	156:2 164:8
160:15 179:4	141:19 144:9	63:21 74:18,24	146:15	165:17 166:2
<b>method</b> 90:20	144:17 145:21	190:9 240:22	<b>modified</b> 171:11	181:10 190:21
150:5 168:12	147:4 148:2,5	<b>minimize</b> 125:16	173:13 174:3,8	202:17 207:11
169:17,21	148:20 149:2,5	126:21 240:23	<b>Mohawk</b> 2:3	207:22,23
170:10,21	149:8,21	<b>minimum</b> 71:4	<b>moisture</b> 32:13	208:5,13,15
171:5,18	154:11,22	251:6 290:21	32:15 225:16	217:8 231:17
173:23 176:7,8	155:15 157:18	293:11	<b>moment</b> 27:9,11	231:21,23,24
221:23	157:22 158:10	<b>minus</b> 287:6	35:24 38:24	232:11,14
<b>methodically</b>	158:16 160:17	<b>minor</b> 192:17,20	44:7 46:23	277:8
261:1	162:3,9,13	<b>minus</b> 98:12	48:16,19 64:19	<b>Monroe</b> 298:21
<b>methodology</b>	163:10 165:15	184:3 210:7	64:20 88:9	<b>months</b> 86:8
282:10	165:19 166:3,6	211:22	179:16,19	137:3,17
<b>methods</b> 220:11	166:12 169:13	<b>minute</b> 82:1	<b>Monday</b> 36:5	<b>morning</b> 6:2
257:21	171:23 175:19	161:8 212:23	<b>monitor</b> 100:12	180:13 297:10
<b>mg/L</b> 105:22,22	177:4,13 178:8	273:12 284:5	201:16	<b>motion</b> 1:12
139:1,9	179:7,8,11	286:3 292:18	<b>monitored</b> 99:23	<b>Motor</b> 163:7
<b>MGP</b> 163:1,1	182:7 206:3	<b>minutes</b> 78:20	145:3	<b>mounding</b>
<b>Michigan</b> 83:11	211:16,16	203:22 204:1	<b>monitoring</b>	141:22 142:1,6
155:7 187:16	213:5 214:6	204:11 260:3	84:11 86:20	143:22 144:2
188:9 215:14	222:2,11	262:3	89:4,20,21	<b>move</b> 43:9 46:9
215:17 217:10	227:17 228:11	<b>Mischaracteri...</b>	90:8,11 93:9	55:17 80:22
<b>middle</b> 33:8	229:11 232:21	37:12 59:22	94:6,11 95:3,9	108:21 111:3
34:1 156:21	242:24 243:9	184:8 194:17	96:23 97:22	116:22 118:18
230:8,13 252:7	245:19 248:14	202:20	100:9 101:11	120:14 121:22
<b>Midwest</b> 1:8 6:8	248:16 253:9	<b>misheard</b> 199:1	101:17,18,21	127:19 148:5
6:18 38:15	255:7,19	<b>misinterpreted</b>	102:3 106:17	157:22 160:17
82:8 84:2 85:4	256:16 258:7	258:16	109:5,10,13,16	163:10 166:6
87:20 88:7,15	259:7,22 262:4	<b>missed</b> 255:3	109:17 110:3	177:13
90:1,13,16	264:8 265:16	<b>misspoke</b> 195:6	110:15,17,23	<b>movement</b> 14:15
91:19,22 96:13	266:2 268:9	<b>misstates</b> 33:12	112:5 124:21	203:17
101:22 106:16	273:17 280:22	78:11,12,13	130:9,12,12,24	<b>moves</b> 136:3
106:20 107:1	<b>migrate</b> 24:12	<b>misstating</b> 23:12	131:3 133:11	157:2 182:20
110:21,24	<b>migrates</b> 279:14	<b>mistakes</b> 251:5	133:12,14,22	<b>moving</b> 88:17
111:3 112:11	<b>migration</b> 149:4	<b>misunderstood</b>	134:14,17,21	96:16 144:5
114:20 115:13	<b>mil</b> 243:23 256:4	172:23	135:2,16	202:16
115:22 116:5	256:6,11 290:3	<b>mix</b> 127:6	137:20 139:5,6	<b>multiple</b> 254:12
116:22 117:10	<b>million</b> 139:2,14	268:11	139:7,21 143:2	275:15,16
117:21 118:2	214:17	<b>mixed</b> 227:17,19	143:9 144:24	<b>municipal</b> 101:3

101:9,12	<b>named</b> 11:22,23	<b>neighboring</b>	282:15	131:18
102:24 103:1	165:18	177:24 178:12	<b>non-profit</b>	<b>note</b> 6:13 9:7
104:15	<b>Napoleon</b>	<b>neighbors</b> 162:1	270:17	92:8,19 93:22
<b>municipalities</b>	257:11	<b>neither</b> 203:15	<b>non-site</b> 267:22	242:13 266:15
83:22	<b>narrative</b>	<b>network</b> 1:4 6:6	<b>noncompliance</b>	291:19 292:5
<b>MW-01</b> 109:18	246:24	89:22 100:9,10	66:5	<b>noted</b> 115:20
<b>MW-08</b> 109:13	<b>natural</b> 68:8,10	129:6	<b>nonhazardous</b>	122:3 225:4,9
<b>MW-10</b> 109:13	248:13	<b>neutral</b> 159:4,15	159:23	241:13 266:18
<b>MW-11</b> 109:14	<b>navigational</b>	159:24 160:1	<b>normally</b> 96:20	292:1 293:2
133:17 207:16	125:6	160:11,14	197:14 247:11	<b>notes</b> 188:22
208:15	<b>near</b> 70:9,11	168:12	248:2 251:6,7	235:19 289:16
<b>MW-16</b> 133:14	80:23 81:1,8	<b>never</b> 16:23	252:3,5 264:24	296:15 298:11
138:18 148:18	153:23 186:19	17:18 22:2	289:3	<b>notice</b> 66:11
148:19 208:3	187:1,17	34:24 35:17	<b>north</b> 12:4,8	102:8 107:4
<b>MW-17</b> 135:8	188:16 189:14	205:3,3 263:8	13:24 14:4,19	172:7
<b>MW-18</b> 133:15	<b>nearby</b> 278:20	<b>new</b> 90:6 121:14	15:8,10,13,15	<b>notices</b> 95:11
135:8,20	280:4 295:1	135:6,9 148:16	16:3,5,9,12,19	106:16 107:4
<b>MW-19</b> 135:8	<b>nearing</b> 203:23	165:23 173:10	18:9,12 111:11	130:17
135:20,21	<b>nearly</b> 255:9	173:13,21	127:15 131:20	<b>notify</b> 66:3
<b>MW-9</b> 133:15	280:6	174:3 182:18	133:8 142:12	121:14
<b>MWG</b> 9:8,10	<b>necessarily</b>	199:12 200:1	155:6 158:22	<b>noting</b> 217:5
100:23 118:6	105:17	229:16,20,21	162:16,24	<b>November</b> 46:7
119:4 120:23	<b>necessary</b> 30:8	229:23 242:15	163:1,3 190:1	135:19,22
132:21 151:21	198:20 220:20	258:5	277:3	139:3 233:14
158:16 160:8	231:10 251:9	<b>nice</b> 68:6 288:12	<b>northeast</b> 41:8	<b>NPDES</b> 60:17
164:5 167:24	<b>neck</b> 137:1	288:19	42:24 104:23	65:14 246:7
168:15 209:18	<b>need</b> 13:16	<b>night</b> 6:20 201:2	112:21 113:1	<b>NRT</b> 245:15,20
219:6 248:8	51:18 54:13	<b>Nijman</b> 3:1,1	122:7,23	248:12
255:6 267:2	64:19 100:7,12	4:17 78:11	123:20,24	<b>number</b> 40:19
268:2	120:12 121:18	178:7 213:6,7	124:14,19	41:4 44:14,15
<b>mystery</b> 240:14	153:21 172:14	213:17 215:4	133:9 191:19	84:9 95:13
	188:1 191:17	219:12 233:3	192:8 193:16	110:2 112:5
<b>N</b>	220:4 280:7	233:10 234:11	194:9,23	126:22 128:13
<b>N</b> 2:1 4:1 7:9,9	<b>needed</b> 30:5	235:16 285:23	195:13 198:10	128:15 133:22
65:6,6 72:10	32:6,12,12	286:7 296:24	202:16 203:10	136:23 159:16
72:10 82:17,17	36:20 119:23	297:4	204:15 285:11	165:4 169:10
113:11 114:1	121:15 122:18	<b>nine</b> 50:9 236:20	<b>northeasterly</b>	171:4 186:22
180:7,7 209:13	208:3 212:12	275:8	131:19	187:4,7,18,24
209:13 211:13	223:23 236:1	<b>nitrites</b> 137:24	<b>Northeastern</b>	188:3,12,19
211:13 213:16	243:13	138:2,5	83:8	210:5,12 212:6
213:16	<b>needlessly</b>	<b>NLET</b> 267:11	<b>northerly</b>	229:10 240:21
<b>name</b> 6:2 40:9	189:10	<b>NLT</b> 159:16	131:18 133:4	245:18 249:11
40:10 48:23	<b>needs</b> 100:16	<b>No.'s</b> 5:10 88:11	<b>northside</b> 17:4	251:7 253:24
49:1 59:16	173:14 193:1	115:2	178:15	282:5,12
82:20,22 163:5	<b>neglected</b>	<b>non-detect</b>	<b>northwest</b> 155:6	286:23 296:9
163:6 213:18	100:21	138:22	189:20 190:1	<b>numbered</b> 118:6
251:17	<b>neighbor</b> 162:14	<b>non-matching</b>	<b>northwesterly</b>	<b>numbering</b>

171:3 <b>numbers</b> 98:10 113:7 170:24 183:11 224:10 237:12 249:11 259:3 <b>NW</b> 2:10	118:7 153:9 <b>observations</b> 131:23 132:1,4 252:21 260:15 <b>observed</b> 71:21 111:20 112:2 <b>observer</b> 57:16 <b>obtain</b> 150:20 188:11 <b>obtained</b> 245:20 <b>Obviously</b> 37:24 <b>occasionally</b> 286:22 <b>occur</b> 27:1 70:12 71:2 142:21 <b>occurred</b> 37:21 76:11 146:13 240:12 <b>occurrence</b> 281:14 292:9 <b>occurrences</b> 265:12 <b>occurring</b> 37:10 38:5 136:20 142:16 143:22 <b>October</b> 40:12 42:15 46:6 85:6 89:13 112:20 115:11 116:1,10 117:13 241:23 <b>oddly</b> 19:10 <b>offhand</b> 113:8 188:11 <b>office</b> 91:16 <b>Officer</b> 1:14 6:1 6:3,21,24 7:7 10:22 11:1 19:16 24:15 28:22 29:16 33:15 34:14 35:9 37:13,17 38:20 39:3,7 39:19 43:11,13 43:17 46:11,13 46:17 48:5 53:16 55:5,23	56:20 57:5,9 57:12 59:23 60:23 61:4 62:22 63:1,6 63:18 64:6,15 64:18,21 65:4 68:14 72:6,16 72:22 73:7,15 73:24 74:7 75:8,12,23 76:2,21 77:21 78:19 80:14 81:19,22 82:5 82:10 88:13,19 100:20 111:2,5 113:9,12,17 114:8,18 115:5 115:8 116:21 116:24 117:4,8 117:15 118:17 118:19,23 120:13,17 121:21,23 122:3 127:22 128:8,16,21 132:7,11,15 136:6,9 140:20 140:23 141:4,7 141:12 144:8 146:8 148:4,7 150:10 157:21 157:23 158:2 160:16,18,24 161:7,12,16 163:9,11,14 166:5,8 177:12 177:14,17 179:18,22 180:4 184:11 190:16 194:19 196:6 197:11 198:4 202:21 203:1,24 204:4 204:9 208:8 209:10 211:8 212:15,18,22 213:4,9 286:2	297:2,5 <b>official</b> 298:13 <b>offsite</b> 286:21 <b>oftentimes</b> 128:2 <b>oh</b> 9:15 52:23 264:14 296:11 <b>Ohio</b> 217:9,10 <b>okay</b> 6:21 9:22 9:24 17:3,20 19:6 27:13 39:19 41:24 44:9 46:8 58:16 62:22 68:2,16 75:2 75:24 79:15,17 79:21 84:1 88:19,22 89:13 90:17 91:12 93:23 96:4 101:20 104:17 108:21 110:21 112:10,20 114:11 117:15 117:23 121:5 123:6 129:4,9 135:6,12 137:23 138:19 144:15 145:6 146:11 157:3 158:7 162:5 164:23 165:16 166:24 168:14 168:16 169:14 172:21 177:17 180:9 181:3,6 181:15,22 183:12 184:1 184:23 185:6 185:20 186:2,5 186:17,23 187:6,11,14,20 188:4,14,20 189:1,5 190:2 190:23,23 192:21 193:3 193:12,15 194:12 195:2	195:12 196:2 197:3,21 198:22 199:8 199:13 200:24 201:4,14 202:2 202:13 203:13 204:14 205:23 206:9,19 207:1 207:4,10,21 208:4 209:8 212:9 216:23 219:20 224:3 224:14 232:6 232:19 233:2 235:15 238:23 249:3,22 270:11 273:11 288:7 297:5 <b>old</b> 10:20 100:14 120:7,10 179:2 199:10 226:24 227:1 239:22 240:14 263:14 284:21,21,22 <b>older</b> 176:12 177:2 277:4 <b>once</b> 84:24 86:8 87:5,13 107:18 107:23 108:12 140:12 157:18 258:11 <b>one-third</b> 53:12 53:13 54:10 <b>ones</b> 33:1 36:24 98:23 99:24 116:9 121:13 130:11 135:3 145:2 155:12 165:1 <b>online</b> 176:19 <b>onsite</b> 64:3 267:1,16,16,18 267:20,21 269:13 <b>onward</b> 244:12 <b>open</b> 8:14,21 104:2 132:22
--	--	--	---	--

207:3	<b>original</b> 161:2	14:20,21 15:1	102:23 149:24	<b>passes</b> 259:1
<b>operated</b> 287:8	208:4,23	15:1,3,7,7,13	159:4,8,19	<b>passing</b> 20:12
<b>operating</b> 71:11	268:23	<b>page</b> 4:3,9,16	231:23	<b>patched</b> 265:2
238:7 260:20	<b>originally</b>	9:8,16,19,20	<b>parcel</b> 108:8	<b>path</b> 65:15
286:17,21	176:24 234:15	20:23,24 28:10	<b>part</b> 22:4 25:17	156:19,24
288:15	288:16	31:8,9 33:20	25:24 26:23	<b>pathway</b> 239:10
<b>operation</b> 80:6	<b>out-of-service</b>	34:19 36:4	32:4,8 38:2	<b>pathways</b> 239:4
<b>operations</b>	42:19	40:5,7,19	48:8 60:6,6	<b>Patrick</b> 85:23
296:18	<b>outfall</b> 155:8	41:20 42:4	65:15 81:1	94:23,24 95:4
<b>operator</b> 40:10	<b>outfitted</b> 86:22	44:14 45:14,24	85:17 90:5,12	95:8 130:20
47:19 60:5,17	<b>outlet</b> 15:17,24	47:13 49:6	91:1 92:11	131:21
60:18	65:17,18	50:7 59:9	96:17 97:23	<b>pattern</b> 142:14
<b>operators</b> 25:19	<b>outliers</b> 168:21	61:13 63:10	98:14 99:6	<b>pavement</b>
262:11	<b>outlined</b> 239:21	66:21,22,24	102:20 103:22	289:14
<b>opinion</b> 150:8	<b>outside</b> 19:14,14	68:20 74:19,22	104:21 105:10	<b>pavements</b>
205:9 214:10	156:1 196:4	79:2,4 104:5	107:12 112:4	218:2
214:12 223:5	227:20,22	116:18 118:5,7	127:22 132:8	<b>pay</b> 170:5
225:12 227:19	<b>overall</b> 110:16	135:10 137:20	139:1,13,16	<b>PCB</b> 1:5 6:9
228:6 255:19	133:14 201:20	137:21,21,22	142:23 149:3,6	159:21
255:20,24	242:21	158:12,16,17	149:9 157:1,7	<b>PCB's</b> 179:5
256:5 258:21	<b>overflow</b> 16:22	160:7 166:1	157:16 159:19	<b>PDF</b> 88:1
259:11 261:2	17:3 65:24	168:15,15	167:4 170:4	<b>Pekin</b> 138:13,15
263:23 264:20	277:5,6	169:7 171:22	178:6,17	<b>pending</b> 36:17
265:16 276:20	<b>overflowed</b>	206:2 211:16	182:11 192:7	<b>people</b> 7:23 36:8
276:23 287:11	16:19	216:5 221:18	201:20 202:7	68:4 77:2,11
291:6 295:5	<b>overlap</b> 90:3	224:11 230:3	207:23 208:20	78:15 219:1
<b>opinions</b> 228:10	91:1	232:4 237:11	218:15 231:16	246:19 257:13
235:7 236:14	<b>overruled</b> 72:23	238:13,24	239:11 256:12	261:6,19,20,22
236:23,24	73:8 76:4,22	249:2,7,23	270:3 278:5,16	264:8 266:21
237:2 242:5	150:11 184:12	250:5 266:15	284:11 296:23	270:23 282:22
257:22 265:5	198:5 203:2	278:24 287:23	<b>participant</b>	284:16 286:15
269:15 270:5	<b>overview</b> 238:24	292:15,16,17	57:17	296:9
286:19	286:9	<b>pages</b> 66:19,21	<b>particular</b> 99:21	<b>people's</b> 220:6
<b>opossum</b> 132:9	<b>owner</b> 253:16	75:21 79:2	100:8 110:3	<b>percent</b> 217:19
<b>opportunity</b>	<b>owners</b> 83:15	250:20,21	113:4 133:2	229:9 271:23
140:22 226:20	257:17	<b>paper</b> 152:15,16	138:13 142:23	286:23
241:6 258:8,11		<b>papers</b> 257:5,22	155:12 173:17	<b>percentage</b>
<b>opposed</b> 133:1	<b>P</b>	258:22	201:12 210:11	282:5,14
<b>opposing</b> 117:12	<b>P</b> 2:1,1	<b>paragraph</b>	212:5 222:14	<b>percentages</b>
211:11 214:12	<b>package</b> 94:20	120:3 160:10	<b>particularly</b>	282:17
<b>order</b> 26:8 103:9	183:5,7 246:15	169:8 230:8,14	126:8	<b>percolate</b> 226:20
<b>organic</b> 179:4	246:16	252:8	<b>particulate</b>	<b>perfect</b> 58:22
289:2	<b>packages</b> 107:7	<b>parallel</b> 98:3	12:19	204:3
<b>organization</b>	<b>packed</b> 267:9	<b>parameter</b>	<b>parties</b> 39:8	<b>perform</b> 34:7
270:17	<b>packet</b> 40:5 42:2	160:11	<b>parts</b> 103:23	89:4
<b>organized</b> 38:15	<b>packets</b> 96:10	<b>parameters</b>	124:1 139:2,2	<b>performance</b>
256:17	<b>pad</b> 12:15,21	90:23 92:10	<b>party</b> 208:22	252:17

<b>performed</b> 47:5 115:23 118:15 173:15 242:1	<b>photographs</b> 247:1	19:8 22:4 27:20 47:19	215:24 216:5 220:14 231:1	57:24 58:3,6 58:13 63:11,15
<b>performs</b> 87:17	<b>physical</b> 198:14	104:23 155:7	237:3,5 238:2	65:10 66:1
<b>period</b> 265:24	<b>Picking</b> 220:14	163:1,2 185:19	240:16 254:18	70:8,17 72:2
<b>periradicular</b> 156:20	<b>pictures</b> 10:7	192:7 214:11	258:12,19,24	74:3 75:5
<b>peristaltic</b> 87:4	<b>pieces</b> 243:7	261:19 275:10	265:1 267:1	102:5 155:1,20
<b>permeability</b> 194:6 242:1 256:14	<b>pile</b> 151:18 158:11	275:10,11 280:6 296:8	278:15 281:7,7 283:22 286:12 293:17	157:2 158:21 158:22,24 162:20 206:12
<b>permeable</b> 73:5 194:5	<b>piles</b> 49:10,11,13 49:14 50:11,13	<b>plants</b> 84:4,7 237:20 261:22	<b>pointed</b> 66:19 66:20 74:22	226:3,7,8,9,11 227:22 228:4
<b>permeate</b> 72:13	<b>pilot</b> 79:11 80:6	278:19,21 284:21	<b>pointing</b> 96:13 104:4	242:11 243:4 243:21,23
<b>permission</b> 114:22	<b>pink</b> 98:4	<b>plastic</b> 29:24 244:18	<b>points</b> 180:24	244:3 248:1,15
<b>permit</b> 60:17 65:14,16 146:16,17,22 198:21 246:7,8 248:4	<b>pipng</b> 14:21	<b>played</b> 294:22	<b>pole</b> 72:3 192:5 192:6,9	253:11,24 256:4 263:18
<b>permits</b> 159:20	<b>pitch</b> 143:24	<b>please</b> 7:2 10:23 13:14 19:3 27:4 28:20 37:14 39:2 40:6,18,24 41:21 44:13 48:12 50:9 61:12 66:22 76:3 82:11 97:14,19 119:2 120:22 137:18 151:17,20 156:13 158:5 160:7 162:3,14 165:14 169:12 171:21 179:17 209:17 224:19 230:17	<b>poles</b> 71:24	264:15,16 271:15 274:22 277:3 282:7 287:2,2,2,3,5 288:1,2,3,4,13 288:18 291:4 291:17,22,23 292:2,3,18,19 292:22 293:2,6 294:9,9,20,21 296:18
<b>perpendicular</b> 98:6,7	<b>pitches</b> 143:1		<b>policy</b> 1:4 2:5 6:5 30:23 51:13,20,21	287:2,2,2,3,5 288:1,2,3,4,13 288:18 291:4 291:17,22,23 292:2,3,18,19 292:22 293:2,6 294:9,9,20,21 296:18
<b>person</b> 96:6 152:22 172:9 239:7 251:9 252:1 296:8,12 296:15	<b>place</b> 32:3,4 38:7 46:15 56:15 96:6 125:6 166:13 264:3,18		<b>Pollution</b> 1:1 6:3	288:1,2,3,4,13 288:18 291:4 291:17,22,23 292:2,3,18,19 292:22 293:2,6 294:9,9,20,21 296:18
<b>permits</b> 159:20	<b>placed</b> 8:11,13 40:1 95:19 140:13 254:7		<b>polyaromatic</b> 179:4	288:1,2,3,4,13 288:18 291:4 291:17,22,23 292:2,3,18,19 292:22 293:2,6 294:9,9,20,21 296:18
<b>perpendicular</b> 98:6,7	<b>placement</b> 99:7 100:14,15 108:10		<b>pond</b> 8:8,10,11 8:14,16,17,18 8:20,23,24 13:19,24 14:4 14:18,23,23,24 16:2,19 17:4,5 17:10,11 18:1 18:2 19:10,10 19:20,20 21:6 21:6 22:5 24:22,24 25:2 25:4 26:14,24 27:2 28:1,1,5 28:15 29:3 31:13 32:5,8 32:10,14,15 34:21 36:17 40:20,21 41:5 41:9,19 42:10 42:19 45:1 47:4,4,8,9 53:10,21 54:1 54:4,11 55:2,2 55:9,16 56:14	<b>pond's</b> 289:22 290:9 292:16 293:2 295:5
<b>person</b> 96:6 152:22 172:9 239:7 251:9 252:1 296:8,12 296:15	<b>places</b> 52:8 74:16			<b>ponds</b> 11:17 12:1,3,4,6,9,14 12:18,22 13:1 13:3,4,9,12 19:1,9,21,23 19:24 20:2,4,6 21:8,15,16,17 21:22,24 22:2 22:3,9,13,16 22:21,24 23:5 23:7,8,10,13 23:17,18,21 25:9 32:19 41:18 56:11 57:17 60:6 61:21,24 66:13 67:5 70:10
<b>personal</b> 298:11	<b>placing</b> 32:2 43:21			
<b>personally</b> 50:10 296:1	<b>Plaines</b> 16:23,23 17:1,2,3 98:9 98:13 110:1 124:8,23 125:1 125:21 126:2 127:16 178:16 178:18 184:24 185:4,23 190:12,14 210:4,6			
<b>perspective</b> 239:14 242:11	<b>plan</b> 9:8,12,18 10:2 19:4 151:22 152:1,3 152:23 217:6			
<b>phase</b> 19:2 151:10,14 177:23,23 178:11,12,24 189:13,14 223:20	<b>plans</b> 247:12			
<b>phenomena</b> 127:8	<b>plant</b> 17:5,7,12			
<b>phone</b> 296:15 298:22				
<b>photo</b> 63:23				
<b>photograph</b> 162:8 206:7				

71:7 73:12,19 74:4,16,20 76:9,17 77:5,7 77:7,11,14,17 78:16 80:7 84:12 100:11 101:19 111:11 127:14 146:14 154:13 210:3 212:8 216:20 216:20 225:14 227:20 228:11 228:20,21 229:1,3,7,8,9 229:11,13,22 229:24 238:7 238:22 240:19 240:21 243:10 243:13 255:7 255:19 256:16 260:12 262:4,5 262:18 263:19 265:9,17 267:4 268:2,9 269:4 269:15 272:6,7 272:8,10 273:17 274:15 274:18 281:16 281:17,22 283:11,20 284:1,4 285:6 286:22 287:12 287:22,23 289:9 291:7,8 292:4 293:15 294:1 295:20 296:2 <b>pool</b> 184:16 <b>pooled</b> 17:6 <b>pooling</b> 17:7 <b>pools</b> 125:12 <b>poorly</b> 104:21 <b>populated</b> 105:6 <b>portion</b> 156:22 159:18 185:23 196:19 229:12 <b>portions</b> 160:22	161:5 174:22 175:2 <b>position</b> 83:2 <b>positive</b> 242:10 242:22 264:13 273:5 <b>possibility</b> 70:13 70:14 140:14 <b>possible</b> 24:11 27:24 31:1 35:12 37:2 38:6 45:12 47:19,20 59:6 64:9,11 68:9 125:16 156:9 160:21 255:19 <b>possibly</b> 28:8 31:18 38:6 52:23 <b>Post</b> 9:6 <b>post-construct...</b> 255:22 <b>postgraduate</b> 83:10 <b>posts</b> 25:3 262:11 <b>potable</b> 108:11 108:18 140:14 157:16 167:20 278:9,14,18 <b>potential</b> 140:19 157:17 172:11 172:24 220:3 221:6 227:19 228:5 238:21 238:22 256:7 265:17 274:14 278:1,22 284:9 294:10 <b>Potentially</b> 8:6 <b>pounds</b> 241:18 <b>pour</b> 225:17 <b>poured</b> 91:9 <b>power</b> 84:1,4 214:11 215:24 216:5 237:3,5 270:14,16	280:6 <b>Powerton</b> 89:5 96:5 105:9 127:19,21 129:3,5,13,14 132:20 133:10 133:23 134:20 135:7,24 136:16,21 137:11 139:16 139:17,24 140:4,7 141:17 142:6 186:10 186:12,19 187:2,8 234:21 262:21 268:3 268:22 275:10 276:12,13,19 276:20,21,22 276:24 <b>poz-o-pac</b> 74:12 74:15 240:17 241:2,3,10,14 241:19 242:1,8 242:14 244:11 260:1 288:22 289:6,8,12,13 290:1 294:8 <b>practice</b> 13:19 56:13 213:24 239:2 243:19 244:6 246:4 247:17 255:13 255:15 260:5 279:24 <b>practices</b> 52:5 214:2,4,5 261:24 <b>Prairie</b> 1:4 6:6 <b>preamble</b> 224:8 <b>precipitation</b> 36:18 125:15 143:13 <b>precipitator</b> 51:5 <b>preclosure</b> 287:1	<b>preconversion</b> 287:1 <b>predates</b> 199:16 <b>preparation</b> 158:14 <b>prepare</b> 181:22 <b>prepared</b> 33:23 87:8 94:12 116:15 124:10 158:9 162:7,11 168:2 181:12 182:10 216:3 236:6,7 <b>preparing</b> 112:11 <b>presence</b> 97:10 <b>present</b> 128:4 206:12 222:7 222:23 245:23 282:20,22 <b>presentation</b> 216:1 <b>presented</b> 115:16 116:1 229:6 282:16 <b>preservation</b> 91:4 <b>preservative</b> 91:10 <b>pressure</b> 225:15 225:21,23 226:5,6 <b>pretty</b> 49:18 91:2 137:16 216:1 226:15 271:17 289:15 294:17 <b>prevent</b> 14:7,11 256:6 290:15 294:1 296:19 <b>preventing</b> 265:17 <b>prevents</b> 14:9 <b>previous</b> 46:6 120:3 121:17 176:2 181:17 182:18 236:18	<b>previously</b> 144:12 155:12 155:16 215:6 235:3 248:7 <b>primarily</b> 83:20 83:22 84:10 104:21 222:6 225:13 264:2 267:21 <b>principal</b> 83:3 213:24 <b>principals</b> 222:20 <b>print</b> 182:22 <b>printout</b> 47:3 216:1 224:6 <b>prior</b> 51:23 91:3 118:8 221:11 228:15 235:23 278:13 288:23 <b>prioritize</b> 245:5 <b>private</b> 83:20,22 <b>proactive</b> 179:13 240:24 245:2,8 265:21 <b>probabilistic</b> 265:7 <b>probable</b> 295:21 <b>probably</b> 27:3 33:1 34:1 49:22 50:14 58:15 68:12 191:14 192:12 223:15 263:19 <b>problem</b> 36:13 43:19 231:22 232:2 <b>problems</b> 251:5 <b>procedure</b> 171:14 173:12 175:24 <b>procedures</b> 220:1 261:3 <b>proceed</b> 6:18 19:17 114:10 196:7 <b>proceedings</b>
---	--	---	--	---

1:11 39:6 57:8 63:5 65:3 82:4 113:16 117:7 128:20 141:11 161:11 180:3 204:8 213:3 286:6 298:7,9 <b>process</b> 12:17 22:4 29:11,24 30:9 52:13 76:10,12 77:2 78:1 157:5 209:5 221:8,9 239:17 243:9 245:4 261:15 266:22 269:9 269:11 282:9 283:1 <b>processes</b> 240:12 261:3 261:24 296:2 296:20 <b>produced</b> 38:16 236:7 296:14 <b>product</b> 21:15 32:17 218:21 218:24 252:2 257:20 266:24 <b>products</b> 257:21 <b>professional</b> 247:9 263:9 <b>profiles</b> 283:18 283:20 <b>program</b> 79:11 87:9 90:9 92:12 93:21 94:17 97:24 99:6 231:17 243:12 244:22 244:23,24 245:13,13 247:11 248:4 259:7 261:9 264:7 <b>programs</b> 92:16 <b>project</b> 2:9 60:3 241:6,9 247:2	249:13,21 250:15 252:6 253:12 <b>projects</b> 84:10 84:20 241:7 243:5 265:15 <b>pronounce</b> 16:24 36:12 <b>proper</b> 45:14 262:8 <b>properly</b> 116:2 <b>properties</b> 162:9 240:1 260:17 <b>property</b> 83:24 90:13 108:14 139:12 149:3,5 149:8,21 156:10,11 157:16 162:21 163:4 177:24 178:12,15,18 178:21,23 179:2,3 240:1 <b>proposal</b> 223:16 <b>proposed</b> 223:19 <b>protect</b> 260:7,9 <b>protocol</b> 26:6 32:6 159:7,18 160:4 <b>protocols</b> 32:1 <b>protrusions</b> 252:4 <b>prove</b> 246:12 247:4 <b>provide</b> 14:5 100:10 186:13 187:15 188:15 202:10 214:10 216:24 217:3 <b>provided</b> 87:19 183:8 187:12 <b>provides</b> 15:20 221:8 223:7 242:19 250:1 250:16 289:5 291:1 <b>providing</b> 116:6	216:2 <b>provision</b> 231:2 <b>provisional</b> 129:7 <b>proximity</b> 151:4 <b>public</b> 223:19 <b>publication</b> 102:21,21 169:20 <b>publicly</b> 170:7 <b>published</b> 270:20,22 <b>pull</b> 94:1 151:17 187:18 209:15 <b>pulled</b> 170:6 174:23 176:9 176:15 <b>pulling</b> 19:1 <b>pulls</b> 175:2 <b>pulverized</b> 7:20 <b>pump</b> 15:21 31:17,18 32:2 43:1 54:13 55:17,19 86:23 87:2,4 <b>pumped</b> 56:2,5 <b>pumps</b> 15:21 32:3,4 54:17 54:19 55:8 <b>puncture</b> 258:11 290:15 <b>punctured</b> 290:20 <b>purpose</b> 100:6,8 100:9 101:16 108:15,17 126:15,19 140:16,18 202:7,9 208:6 214:8 290:13 290:16 <b>purposes</b> 101:5 101:18 107:23 125:6 181:20 182:16 200:12 200:22 208:2 219:2	<b>pursuant</b> 91:24 <b>push</b> 127:5 292:14 <b>put</b> 9:6 38:18 42:17 51:19 87:7 91:17 105:12 144:7 154:9 157:3 163:16 186:22 187:19 190:23 210:13 218:16 232:19 254:16 282:14 289:12 290:22 292:8 <b>puts</b> 103:16 <b>putting</b> 8:24 156:2 <b>pylons</b> 71:24 <hr/> <b>Q</b> <hr/> <b>QA</b> 91:16 259:4 <b>QCQA</b> 254:12 <b>qualifiers</b> 183:6 <b>qualify</b> 57:15 <b>qualifying</b> 173:5 173:5 <b>quality</b> 100:18 102:22 104:11 167:5 183:2 200:6,15,18,20 200:21 202:3 203:14 244:2 246:11,11 279:7,8 280:20 <b>quantified</b> 188:1 <b>quantify</b> 184:22 185:6 197:22 211:23 212:6 <b>quarter</b> 86:3,4,5 86:9,10 93:8 93:10,10 94:16 110:6,7,8,9,11 110:17,18 127:14,15 134:3,3,5,6,7,9 134:10,17,18 135:19,22	145:9,10,11,12 145:13,18,19 146:5,12,23 165:5,7,8,10 165:11 182:4 182:13,15,18 236:19 281:21 297:1 <b>quarterly</b> 86:6,7 89:23 182:14 182:14,17 <b>quarters</b> 86:13 93:11 94:15,18 112:6 127:11 182:19 201:23 236:20 280:18 <b>Quest</b> 289:21 <b>question</b> 7:14 8:7 18:9 21:2 21:14 30:21 33:4 34:20 37:14 45:7 58:18 76:6 79:18 127:7 172:23 180:14 180:18,21 185:5 187:15 191:18 198:9 201:3 202:22 203:4 204:14 209:4 228:2 229:17 <b>questioning</b> 23:19 189:7 <b>questions</b> 6:20 11:16 58:16 61:3 64:14 65:9 71:19 72:9 81:18 160:22 179:17 180:12,16 183:23 209:9 212:14 266:13 <b>quick</b> 126:20 <b>quickly</b> 16:18 30:24 51:19 94:13 198:23
---	---	---	---	---

233:5	175:11	264:23 275:1	21:13 31:14	<b>recycling</b> 15:19
<b>quiet</b> 197:15	<b>re-cross</b> 211:9	<b>rebuttal</b> 75:16	36:22 50:17	178:24
<b>quite</b> 95:22	<b>reach</b> 25:22	<b>recall</b> 65:10 66:1	66:7,10 67:3	<b>redacted</b> 160:22
120:11 138:21	53:24	66:14 85:11	68:24 80:11	161:5
149:23 243:6	<b>reaching</b> 222:22	94:7 106:17	85:17,24 86:10	<b>Redirect</b> 4:5,12
250:21 270:17	<b>read</b> 28:21 33:5	110:11 111:9	111:19 112:1	<b>redressed</b>
284:18 285:7	34:19 37:14,15	112:22 113:2	153:20 161:1	120:12 121:18
292:7,10	42:23 66:22	122:12 123:22	161:21 177:22	<b>redressing</b>
<b>quote</b> 275:20,22	68:22 74:21	124:12 126:2,4	178:20 186:6	119:24 120:6
279:19,20	75:16 79:14,16	126:6 130:15	<b>recollections</b>	<b>reduce</b> 265:19
	202:22,23	131:22 133:23	89:16	<b>reduced</b> 200:1
<b>R</b>	217:11 219:23	134:11,13	<b>recommend</b>	<b>reduces</b> 228:4
<b>R</b> 2:1 7:9 65:6,6	221:20 224:19	137:4 145:14	153:3	261:10
72:10,10 82:17	230:16 241:10	147:22 151:8	<b>recommendati...</b>	<b>refer</b> 208:17
180:7 209:13	252:7 279:19	151:13 165:12	123:4 253:13	232:4 291:11
209:13 211:13	<b>reading</b> 34:4	174:10,14	<b>recommended</b>	<b>reference</b> 199:9
211:13 213:16	41:7 74:24	175:23,23	222:5	199:10 241:12
<b>R-C-R-A</b> 275:14	75:20 283:4	183:21 186:10	<b>record</b> 6:12,14	248:14
<b>Race</b> 244:12,23	<b>ready</b> 27:8,13	191:3 200:7	9:23 28:21	<b>referred</b> 20:3
256:16 284:8	36:1,2 39:22	208:5 222:10	37:15 39:1,8	37:1 38:1 79:4
286:16	39:23 46:24	227:8,11	39:13 44:14	176:6 248:21
<b>Race's</b> 243:10	47:1 48:21	262:19 266:11	45:2 48:17	<b>referring</b> 13:23
<b>rail</b> 207:17	<b>realize</b> 243:8	286:23 296:6	49:6 50:23	23:17 162:18
<b>railroad</b> 207:19	<b>really</b> 26:7	<b>recalling</b> 41:2	57:4,10 62:20	255:5 284:11
<b>rain</b> 193:24	29:10 30:13,20	<b>receive</b> 13:10	63:2,7 64:22	<b>refers</b> 21:6
294:17	45:24 46:2	<b>received</b> 12:5,6	65:5 68:22	<b>reflect</b> 100:21
<b>rainwater</b> 8:17	52:1 57:1 59:7	12:9,10,14,15	71:11 81:24	200:19,24
11:10,10	68:6 103:12	13:4,7 95:18	82:6 113:13,18	288:8
123:15	132:3 152:7	<b>receives</b> 287:6	113:24 117:3,9	<b>reflected</b> 92:1
<b>raise</b> 82:11	181:19 192:10	<b>receptor</b> 108:19	119:4 127:21	92:22 94:11
213:10	212:6 220:20	108:20 140:19	128:17,22	109:6 110:23
<b>ramp</b> 53:2,6,14	223:16 236:1	157:17 167:21	141:8 161:8,13	147:3
53:21 263:2,3	240:1,2,5	239:6 278:8	164:3 179:23	<b>reflective</b> 201:12
263:5	255:23 261:7,8	<b>receptors</b> 278:1	180:5 202:23	<b>refresh</b> 21:13
<b>ran</b> 247:11	273:4 278:22	278:14 279:6	204:10 212:23	31:14 36:22
267:11	285:4	279:21 280:1,4	213:5,19 217:5	50:16 67:2
<b>range</b> 53:1	<b>reappear</b> 56:3	<b>recharge</b> 142:2	236:8,11 286:3	80:10 89:15
103:14 105:13	<b>reapproved</b>	143:19	297:6	186:6
105:17 138:21	170:24 171:7	<b>recharging</b>	<b>records</b> 237:24	<b>regard</b> 101:13
174:2 184:20	171:16 173:10	143:16	290:10	167:9
185:1 295:19	<b>reason</b> 68:11	<b>recognize</b> 138:1	<b>Recovery</b>	<b>regarding</b> 39:9
<b>ranging</b> 106:3	81:12 127:24	163:20 168:2	256:10	85:13 101:15
<b>rarely</b> 265:9	153:12 181:16	206:5 279:13	<b>Recross-Exam...</b>	112:17 124:23
<b>rate</b> 263:16	<b>reasonable</b>	<b>recognizing</b>	4:6,13	126:1 133:22
<b>RCRA</b> 256:10	271:3 293:18	226:18 237:20	<b>rectangle</b> 40:7	136:16 158:18
275:14	296:22	293:15	<b>recycle</b> 14:6	228:24 270:5
<b>re-approval</b>	<b>reasons</b> 125:7	<b>recollection</b>	15:21	284:1



<b>regards</b> 167:9	295:11	207:12 210:9	78:14	165:4,12
<b>Register</b> 224:5	<b>reliability</b>	242:3,16	<b>rephrase</b> 53:17	197:18 208:17
224:10	263:24	277:17 288:11	55:5,24 59:23	214:13 247:1
<b>registered</b>	<b>relied</b> 103:19	296:7	146:9 190:17	284:10
108:14	151:14 174:14	<b>remind</b> 35:16	194:18	<b>represent</b> 114:3
<b>regs</b> 207:24	270:4,13	70:4 111:16	<b>replacement</b>	185:22 206:16
<b>regular</b> 182:6	<b>relief</b> 202:10	166:24	248:16	237:8 275:17
<b>regulated</b> 99:9	<b>relies</b> 177:5	<b>reminder</b>	<b>replacing</b>	<b>representation</b>
99:22 230:1	<b>relined</b> 56:11	153:22	144:12	61:16 117:12
287:7	243:13,14,14	<b>removal</b> 54:14	<b>report</b> 1:11	118:22 120:16
<b>regulation</b> 227:5	256:4 265:11	54:16 107:24	25:18,20,21,21	122:2 200:11
228:23	287:9 288:17	262:5	26:1 94:16	223:8
<b>regulations</b> 48:9	289:17,23	<b>removals</b> 295:10	110:6,7,8,10	<b>representative</b>
179:15 207:24	<b>relining</b> 57:18	<b>remove</b> 108:19	110:11 115:18	252:11 284:23
224:24 256:12	243:4 245:13	140:18 244:3	115:20 116:8	<b>represented</b>
<b>regulators</b>	259:7 260:12	<b>removed</b> 10:9,13	119:19,22	104:22 186:3
257:18	265:15	10:17 22:8	134:3,5,6,8,9	<b>reproduced</b>
<b>regulatory</b>	<b>relinings</b> 245:6	51:19 75:5	134:10 145:9	289:20
279:23	<b>relocate</b> 51:5	114:2 230:19	145:10,11,12	<b>request</b> 139:8
<b>rehabilitation</b>	<b>rely</b> 277:18	288:17	145:14 165:6,7	<b>requested</b> 37:16
75:17	<b>relying</b> 117:11	<b>removing</b>	165:8,10,11	107:1,5 139:22
<b>reissued</b> 171:17	151:9	157:17 167:21	182:14,14,17	158:19,20
<b>rejected</b> 123:3	<b>remedial</b> 239:18	<b>render</b> 8:24	215:6 233:14	168:8 202:24
<b>relate</b> 145:7	<b>remediation</b>	<b>repair</b> 29:19	233:15,17	<b>require</b> 120:5
220:17 228:1	107:12,13	30:4 34:8	234:6,10,16	247:6 251:6
228:19 240:8	108:6 149:6	36:19 115:17	236:12 237:6,8	<b>required</b> 87:18
<b>related</b> 84:7	202:11 214:1,3	115:19 116:6	241:11,20	123:7 169:3
103:5 111:20	239:2,12	118:4,10	242:13 246:19	198:21 222:19
112:2 114:16	<b>remedy</b> 167:4	119:24 120:4	246:20 268:20	223:7,18
155:13 174:19	201:21	120:10 121:15	268:23 270:4	243:14 250:3
218:10 261:11	<b>remember</b> 26:13	123:4	280:10,13,14	253:17 268:18
261:12	27:3 31:6	<b>repaired</b> 30:1	284:14 289:21	<b>requirement</b>
<b>relates</b> 110:4	32:22,24 38:2	69:20 120:12	292:8	91:7 245:9
179:9	38:5 41:1,10	<b>repairing</b> 30:24	<b>reported</b> 3:9	<b>requirements</b>
<b>relation</b> 126:24	41:13,15 46:3	34:1 37:4	26:4 30:22	146:18,20,22
<b>relative</b> 77:14	47:24 49:7,14	<b>repairs</b> 26:9,10	142:5 296:13	168:23 174:2,8
97:3 99:9	49:20 50:1	26:12 30:10,19	298:6	174:9 224:21
104:22 150:24	51:22 59:7	33:4 34:7	<b>Reporter</b> 298:6	247:19
152:7 171:14	60:13 66:17	36:17,18,23	<b>reporting</b> 84:11	<b>requires</b> 30:1,10
217:4	81:4 85:7	38:3 115:23	<b>reports</b> 87:19,21	201:22
<b>relatively</b> 99:7	113:7 114:1,13	118:8,15 120:4	87:22,24 94:15	<b>requiring</b> 71:9
<b>relay</b> 51:12	124:1 132:3	120:7 121:16	94:19 110:3,15	<b>rerouting</b> 51:4
<b>release</b> 225:4	136:17 143:2	122:13 123:7	110:19 113:1	<b>research</b> 270:14
<b>relevant</b> 96:7	149:14,23	194:12,13,22	114:15 116:16	270:16 283:5,9
166:14 186:18	153:24 186:9	195:2,4,8	116:19 123:23	<b>reside</b> 14:22
242:18,19	186:12 187:4	<b>repeat</b> 229:17	124:9 133:22	<b>resided</b> 12:20
250:23 289:9	202:18 203:4,6	<b>repeatedly</b>	134:15 145:7	<b>Residual</b> 90:7

224:7	264:18 265:21	<b>retention</b> 12:15	<b>right</b> 9:6 10:14	265:20 278:4
<b>Residuals</b>	<b>rest</b> 239:13	15:2,3 62:18	15:14 21:19	279:22,23,24
216:12 223:11	<b>restate</b> 62:12	<b>retired</b> 14:3	29:3 33:17	280:9,15,23
<b>resist</b> 294:5	76:6,15	16:3 17:17,22	35:21 39:23	295:13
<b>resistance</b>	<b>rested</b> 6:19	<b>return</b> 43:1	51:2,21 54:5	<b>risks</b> 173:1
294:23	<b>restricted</b>	<b>reuse</b> 15:22	55:15 58:20,21	220:4 225:4,9
<b>resistant</b> 244:17	167:18	168:11,24	61:14 67:1,2	231:9 278:1
244:20 256:13	<b>restriction</b>	170:12,14	69:14 79:16	281:2
<b>Resource</b> 248:13	108:10,16	177:11 218:17	82:11 96:16	<b>risks/no</b> 278:1
256:10	140:17 157:14	220:11 221:4	100:18 114:9	<b>river</b> 16:23 17:3
<b>respect</b> 56:11	<b>restrictions</b>	221:11,12	142:24 143:17	17:8 98:4,9,13
<b>respond</b> 51:15	108:9	222:22 273:24	144:5,13 156:5	104:20 110:1
<b>respondent</b> 1:9	<b>restricts</b> 140:13	276:2,12	159:17 183:3	123:11,16,20
3:7 6:8	157:15	<b>reusable</b>	185:18 189:12	124:8,23 125:1
<b>Respondent's</b>	<b>result</b> 51:6	276:18	190:7 192:5,8	125:13,21
5:9,10,11,12	124:14 125:10	<b>reused</b> 159:6,8	201:18 204:19	126:12,17
5:13,14,15,16	138:17 205:6	159:14 217:18	209:3 211:4	127:5,16
5:17,18,19,20	235:19 284:3	217:20 219:1	213:5,11 223:1	178:16,18
5:21 58:18	<b>results</b> 87:22	273:20 274:6	223:4 224:15	184:24 185:4
88:11 111:6	92:24 93:2,4	<b>reuses</b> 220:8	225:22 230:6	185:23 190:12
115:2 117:17	94:6,11 95:4,9	<b>reversal</b> 127:10	232:11 241:15	190:14 204:18
118:24 119:6	101:20,23,24	127:13	264:9 286:8	205:2,6 210:4
120:18 121:1	106:8,17	<b>review</b> 35:24	289:24 290:1	210:6 295:2
122:4 130:5	107:19 110:15	38:24 44:7	297:6	<b>Rivers</b> 1:4 6:6
134:22 136:10	110:23 125:11	46:23 48:16	<b>right-hand</b>	<b>road</b> 2:3 70:9,11
148:8 158:3	134:14,21	95:8,12 150:22	63:22 104:12	70:15 80:24
161:17 163:15	135:3,23	153:8 192:1	<b>rill</b> 192:23 193:1	81:8 111:14,18
166:9 177:18	137:24 145:17	236:13 247:13	195:9	112:9 137:2
178:7 207:2	145:20 147:3	255:6,11,12	<b>rilling</b> 119:24	291:2
215:1 219:7	147:19,24	276:4,21	121:14	<b>roads</b> 111:17
232:22 233:7	148:19 160:11	<b>reviewed</b> 41:21	<b>rills</b> 205:8,11	<b>roadways</b>
234:1 235:11	160:13,14	153:5,14 244:5	<b>rip</b> 41:3	137:15
<b>response</b> 34:20	165:18 166:2	276:7 282:12	<b>riprap</b> 56:18	<b>robust</b> 243:23
51:15 66:7	168:14,17	<b>reviewing</b> 39:21	195:3,5	244:21
106:20 139:16	174:6,7 183:2	107:2 218:9	<b>rips</b> 27:24 28:1,4	<b>rocks</b> 252:4
166:18 203:6	236:17 247:2,4	237:24 243:5	28:4,14,18	<b>role</b> 213:23
260:19	250:1,2,16	245:12 282:10	<b>rise</b> 126:8,20	<b>roll</b> 116:14,15
<b>responsibilities</b>	267:12,13	<b>revised</b> 176:8	127:4	249:10,12
25:18	268:5 269:8	233:19	<b>rising</b> 294:11,14	<b>room</b> 1:14 6:15
<b>responsibility</b>	276:5,7 277:15	<b>revising</b> 218:9	<b>risk</b> 108:19,20	<b>root</b> 278:8
221:17	<b>resume</b> 214:24	<b>revision</b> 173:21	200:22 205:18	<b>roots</b> 11:14
<b>responsible</b> 26:9	215:5,10	<b>revisions</b> 235:6	205:22 221:6	<b>roughly</b> 32:24
26:12 30:19	<b>resumes</b> 250:21	<b>revisit</b> 114:9	221:10,13	98:6 206:11
33:3 208:22	250:21,23	<b>Rich</b> 82:9 226:6	227:19,24	207:12
220:10 245:1,7	<b>retained</b> 22:2	226:7 294:24	228:5 230:22	<b>round</b> 86:19
252:16 254:3	214:5,9	<b>Richard</b> 4:8	239:1,7 261:10	96:21 97:21
261:20 264:7	<b>retains</b> 32:13	82:14,23	265:2,6,8,13	206:11

<b>rounds</b> 86:11 126:22 127:2 127:12	269:21 297:11	158:11 159:11	<b>scientific</b> 222:20	171:21,22
<b>Route</b> 136:20	<b>safety</b> 27:23	172:13 174:19	<b>scientists</b> 223:17	172:4,5 173:4
<b>row</b> 201:23	264:10	182:1,1,13	<b>scope</b> 19:15	175:15,15,15
<b>rubber</b> 52:18	<b>saith</b> 7:6 82:16	275:6	175:15 196:5	175:19 176:12
261:2 289:5	213:15	<b>samplings</b> 93:19	<b>screen</b> 97:14,16	176:17 219:21
291:14	<b>sake</b> 49:23 50:24	<b>sand</b> 24:5,9,12	97:19 100:21	219:22 221:20
<b>Rudy</b> 257:8,11	<b>salt</b> 111:18,18	102:23,24	128:24 141:16	221:21 230:6
<b>Ruining</b> 1:5 6:7	111:21,22,24	103:21 104:11	144:10 163:16	231:16,16
<b>rule</b> 90:6,7	112:9 136:19	105:21 132:6	163:21 216:6	233:17 289:20
192:23 201:6	137:2	132:20 133:1	237:14 279:12	293:1
223:21,21,22	<b>salted</b> 137:17	141:18 142:19	<b>screened</b> 101:10	<b>sections</b> 171:18
223:24 224:6,7	<b>sample</b> 87:17	143:16,19	102:24 103:2	<b>sector</b> 83:21,23
224:22 227:13	180:22,23	254:17 263:1	129:23 130:11	83:23
228:15,18,22	181:2,5,6,9,9	290:5,16 294:8	131:4,8 153:10	<b>sedimentation</b>
228:23 230:1,6	181:11,21	<b>sands</b> 154:2,2	153:12	205:4
230:22 231:5	235:2 268:10	<b>sandy</b> 129:24	<b>screening</b> 220:1	<b>see</b> 9:11 10:2
231:11,20	268:22 269:21	131:9,15	<b>scribble</b> 45:24	19:8,11 21:5
267:22 287:6	269:22 275:15	<b>Sanitary</b> 163:4	<b>scribbled</b> 45:3	28:2 36:6,22
<b>rules</b> 71:8 135:9	276:5 277:15	<b>Saturday</b> 36:20	45:18	37:2 42:3,5,11
223:10,11,12	<b>sampled</b> 89:23	<b>saw</b> 12:18 25:19	<b>scrubber</b> 67:5	42:12 45:17,20
223:16 226:23	92:5,23 97:23	25:20 35:17	67:11 80:6,8	47:7,11 50:21
226:24 228:7	112:6 147:7,16	50:10 131:16	<b>sea</b> 97:4	56:8 57:18
228:12 229:2	<b>samples</b> 86:5,16	145:7 181:17	<b>seal</b> 288:24	59:11,15 61:24
229:14,19,24	86:17 87:5,7	181:19	289:5	62:1,4 63:10
230:3 232:5	87:15,22 91:3	<b>saying</b> 45:24	<b>seams</b> 254:14,15	63:13 64:12
<b>run</b> 200:3	91:8 92:14	73:2 78:23	<b>seasonal</b> 136:24	67:10,13 75:17
<b>running</b> 70:15	93:20 94:1	81:12 190:14	<b>second</b> 36:4 40:5	75:23 92:7
123:10	96:21 105:1,8	220:6 227:8	44:14 47:7	97:19 98:8
<b>runoff</b> 118:4	105:11 112:3	247:11	86:10 93:10	105:16 119:20
123:9 137:13	147:2 158:20	<b>says</b> 28:2,13	110:5,11,18	122:10 127:10
137:14 204:24	159:1,2,3,7,11	35:4 40:19	116:18 118:5	129:1 133:3
205:8,10	168:9 173:16	41:4,7 45:5,16	120:2 130:19	135:13 138:20
<b>runs</b> 189:23,24	267:3,4,8	47:8 63:23	134:2,3,5,6,10	142:13 143:10
226:19	268:2 269:7	91:7 216:9	134:18 135:19	143:20 144:10
<b>rush</b> 36:1	271:18 275:13	220:15 231:8	135:22 145:9	144:17 173:16
<b>RUSS</b> 2:10	275:13,15,16	234:21,21	145:11,13,19	178:17 182:16
	<b>sampling</b> 85:10	272:6 288:14	165:5,6,8,9,11	184:24 189:2
	85:14,20 86:1	288:15,16	169:8 182:3	189:19,20
	86:11,14,20,23	295:17	216:4,5 219:21	192:11 193:12
<b>S</b>	86:24 87:9	<b>scale</b> 152:3,4,19	224:18 236:19	195:8 205:5
<b>S</b> 2:1 5:1 7:9,9	91:3 93:18,21	152:24	278:12,24	206:9,10
72:10,10 180:7	93:23,24 94:17	<b>scheduled</b>	281:21 295:8	207:16 223:17
180:7 211:13	94:23,24 95:4	295:10	<b>secondary</b>	230:23 232:7
211:13	96:11 97:21	<b>Schroeder</b> 257:5	262:21	232:16 237:24
<b>S-K-A-P-S</b>	99:3 101:6	<b>science</b> 215:12	<b>seconds</b> 57:4	238:20 241:9
250:11	125:20 126:9	215:16 265:7	62:20	251:16 258:9
<b>safe</b> 217:21	126:23 127:11	<b>sciences</b> 83:8	<b>section</b> 78:8	268:4 269:1

283:11 288:12 288:13,19 289:7,23 290:1 291:22 292:17 <b>seeing</b> 112:8 114:13 139:9 142:5,8 255:21 273:16 274:13 278:23 289:19 <b>seen</b> 10:7,12,16 11:3 22:7,19 23:2 30:16 34:24 62:10 75:3 112:6 123:19 126:24 193:20 197:8 203:9,13 205:3 234:23 235:5 255:18 257:4 260:22 262:6 274:11 <b>seep</b> 55:1 <b>sees</b> 297:9 <b>selenium</b> 276:14 276:15 <b>send</b> 182:10 <b>senior</b> 213:24 <b>sense</b> 10:21 24:18 71:6 <b>sent</b> 27:17 36:5 36:9 249:12 267:10 <b>sentence</b> 120:3 219:21,23 220:15 221:5 224:18 225:1 230:16 <b>Separate</b> 293:12 <b>separated</b> 190:6 <b>September</b> 49:4 115:18,22 116:5 118:2 <b>series</b> 90:2 94:5 94:10 96:22 102:23 104:13 <b>serve</b> 296:18 <b>service</b> 9:2 14:5	29:4 70:18 263:15 <b>Services</b> 253:23 254:4 259:5 <b>set</b> 37:7 48:3 94:1,2 103:1 129:22 270:15 <b>sets</b> 125:13 289:4 <b>settling</b> 19:24 <b>seven</b> 51:4 84:22 204:10 265:23 293:16,20 <b>Seventy-nine</b> 31:11 <b>sewage</b> 17:5,7 17:12 <b>Seymour</b> 4:15 213:8,10,13,20 235:19 <b>sf@nijmanfra...</b> 3:5 <b>shadow</b> 297:9 <b>shake</b> 176:1 268:6,8,12 <b>shallow</b> 273:3 <b>shape</b> 206:10 <b>shaped</b> 19:10 <b>share</b> 182:5 <b>sharp</b> 259:10,18 260:1 <b>sharply</b> 261:1 <b>sheet</b> 152:14,16 <b>sheets</b> 70:23 71:10 88:3 180:20 <b>shift</b> 146:21 <b>shingles</b> 218:3 <b>shop</b> 297:7 <b>Shore</b> 162:24 163:3 <b>short</b> 36:19 <b>shorthand</b> 298:5 298:7 <b>show</b> 142:3 154:1 181:11 257:17	<b>showed</b> 168:21 <b>showing</b> 132:19 <b>shown</b> 114:15 284:11 <b>shows</b> 139:11 142:11 144:19 151:23 <b>side</b> 14:23,24 15:6 25:9 104:12 142:24 142:24 143:5 154:21 226:19 287:24 <b>sides</b> 24:23 25:2 25:14 27:2 35:15 71:22 72:3 262:13 <b>Sierra</b> 1:3 2:14 6:5 <b>sign</b> 247:10 <b>signature</b> 116:19,20 119:16 298:13 <b>signed</b> 116:19 121:19 158:12 <b>significance</b> 171:22 172:2 176:17 <b>significant</b> 160:15 176:10 192:11 229:12 287:15 <b>significantly</b> 225:5,10 <b>signify</b> 62:6 63:15 64:2 <b>signs</b> 184:3 <b>silt</b> 129:3 131:17 <b>siltation</b> 205:4 <b>silty</b> 127:20 129:10,18 130:4,11 131:5 131:11 133:1 142:18,19 143:1,3,11,14 143:18,24 144:3 154:2	<b>similar</b> 98:20 114:19 121:13 124:17 146:19 216:14 237:21 255:6 256:2 267:14 269:8 271:8,9 289:5 291:1 292:22 293:1 <b>similarly</b> 187:14 224:19,21 272:9 <b>simple</b> 282:22 <b>simply</b> 69:15 282:14 <b>single</b> 273:2 <b>sir</b> 10:22 21:4,22 43:16 213:19 <b>site</b> 9:8,12,18 10:2 19:2,4 90:14,16 124:15 130:1 149:2,13 151:22 152:1,3 152:23 156:23 157:1 162:17 162:17,18 163:2,7,8 189:14 190:6 190:21 193:17 195:23 196:20 202:14,17 208:13,22 209:6 237:17 238:3,8 239:3 239:15 249:12 269:12 270:6,9 270:12,24,24 272:1 275:3 276:19,22,24 277:23 279:23 282:11 283:8 283:11 286:10 287:22 <b>sited</b> 209:6 <b>sites</b> 104:23 106:7 161:6	162:22 191:1,6 214:11 217:10 227:17 239:22 240:3,9,11,15 261:10 265:15 267:14 270:8 271:13 276:16 278:11 282:12 283:21 284:4 284:24 295:24 <b>sits</b> 142:19 <b>situation</b> 26:11 76:13 276:18 294:13 295:14 <b>six</b> 49:10,11,18 49:22 50:14,22 84:22 192:24 239:21 262:10 266:14 290:7 <b>size</b> 41:6,11,13 43:2 <b>SKAPS</b> 250:9 250:12 <b>skills</b> 251:9 <b>skip</b> 13:16 <b>sky</b> 8:14,21 194:3 <b>slag</b> 7:15,17,17 12:20 14:21 18:3 62:18 <b>slag/fly</b> 10:3 62:10,15 <b>slam@enviro...</b> 2:13 <b>slide</b> 216:19,21 216:22,24 237:9 239:21 242:24 243:2 265:23 266:14 267:23 273:11 275:7,8,21 278:2 279:19 281:6,10 283:5 286:18 287:20 287:20,21 288:5,6 289:7 289:16,18,18
--	--	--	---	--

291:19 295:9	154:7 157:18	46:7 51:24	111:17 289:4	221:7 222:5
<b>slides</b> 237:7	172:22 176:6	52:1 133:20	<b>spreading</b> 112:9	229:16,20
<b>slight</b> 90:23	178:8 181:4	186:1 197:15	<b>spreadsheet</b>	243:19 244:6
171:13	183:4,15	220:7 229:22	89:10 145:23	247:16 255:13
<b>slightly</b> 154:21	184:12,13	284:12 296:5	165:19 183:9	255:15 258:24
231:23	192:15 197:13	<b>speaking</b> 88:24	245:21	273:21 274:2,3
<b>slope</b> 226:19	199:19 201:9	89:16 94:4,10	<b>spreadsheets</b>	274:5,7 276:12
262:13,15,16	229:18 246:14	277:16 295:24	94:12 95:5	277:12,13
<b>slurry</b> 20:4	259:21 272:13	<b>spec</b> 252:2	96:2 134:20	282:10 283:2
<b>small</b> 17:6 31:12	281:11 296:12	<b>specializes</b> 83:16	182:22	<b>standards</b> 102:1
69:7 142:22	<b>sort</b> 19:9 23:18	<b>specific</b> 41:6	<b>spring</b> 122:18	167:5 171:3
175:14 226:16	26:5 78:6	94:15 116:7	122:20,21	172:6 176:13
237:10	103:17 151:1	146:17 151:5	192:13 193:9	200:15,19,20
<b>snow</b> 70:13	180:11 182:10	185:18 186:15	<b>square</b> 251:7	200:21 205:13
122:20 123:15	225:21 240:5	232:1 260:16	SS 298:2	205:14,17
192:13	245:3 271:1	267:18,22	<b>stable</b> 125:11,12	218:5 220:12
<b>SO2</b> 20:1 66:13	<b>sound</b> 241:15	270:9,12,24,24	<b>stack</b> 217:18	229:16 273:23
74:20 77:7	243:19,21	272:2 275:3	<b>stacked</b> 49:11	273:24 279:7,9
<b>Society</b> 218:6	296:10	277:23 283:8	<b>stage</b> 223:19	279:23,24
<b>soft</b> 263:9,10	<b>source</b> 238:21	283:11 296:4	239:15	280:20
<b>soil</b> 11:12 83:16	238:22 282:8	<b>specifically</b> 37:5	<b>staged</b> 158:22	<b>standpoint</b>
151:24 158:11	287:12	183:15,18	<b>stamp</b> 39:11	81:10
179:1 193:23	<b>sources</b> 185:21	191:3 228:17	<b>stamped</b> 236:8	<b>start</b> 32:14
193:24 194:1,3	188:2,5	<b>specification</b>	<b>stand</b> 6:17	33:21 50:9
194:4,5,7,9	<b>south</b> 3:3 12:4,8	250:3 252:5	141:14 204:11	85:2 86:1
195:3,11 211:5	13:4,4,12,12	<b>specifications</b>	<b>standard</b> 102:9	141:2 180:11
225:18 247:3	15:8 17:16,17	247:2,5,6	106:12 107:16	205:24 240:3
252:15 263:12	18:17,18	250:17 251:6	107:20,21,24	297:3
263:14,15,19	127:16 162:24	252:18 253:12	138:4 149:22	<b>started</b> 71:9
289:24	163:3,6 205:1	<b>specified</b> 92:12	159:15,16	85:4 131:1
<b>soils</b> 227:18,20	248:15 253:11	92:13 160:5	160:1 169:16	146:23 240:7
<b>sold</b> 219:1	253:24	168:13 169:17	170:1,3,5	244:24 283:7
<b>somebody</b> 26:9	<b>southeast</b> 155:1	170:11 173:13	171:10,11,12	<b>starting</b> 34:20
259:23	207:15	177:8	171:14 172:10	66:23 79:18
<b>somewhat</b> 102:4	<b>southerly</b>	<b>specs</b> 247:12	172:16 173:8	138:22 219:22
265:21 271:22	109:21	<b>speculate</b> 26:21	174:3,3,8,8,12	224:18,19
273:3	<b>southern</b> 104:21	47:18	174:19 175:10	230:7,8 244:12
<b>soon</b> 30:24	<b>southside</b> 143:7	<b>speculation</b>	175:13 177:6,7	245:10 286:12
<b>sorry</b> 6:23 10:16	<b>southwest</b>	24:14 70:16	198:24 199:4,4	<b>starts</b> 31:10 72:4
12:22 27:10	195:23 196:3	<b>spell</b> 82:20	199:6,12,15,17	137:20,21
43:18 56:21,22	196:18,19	257:10	199:18,19	167:24 195:9
58:22 75:9	210:15,21	<b>spent</b> 20:4	200:2 201:5,6	245:15
76:14 80:1	<b>spaces</b> 225:18	<b>split</b> 113:10	201:8,11,17,17	<b>state</b> 43:2 82:19
108:13 111:13	<b>SPD</b> 79:23 80:1	<b>spoke</b> 60:9 81:3	202:1,11	103:23,24
116:12,14	80:2,4	262:17 284:5	205:18,19,21	104:13,21
128:10 133:6	<b>speak</b> 11:8	296:12	218:9,17	105:7,10 160:5
142:18 146:1	30:20 37:4	<b>spread</b> 50:19	219:13 220:16	177:8 188:22

199:9 201:22	84:23 85:2,10	<b>stream</b> 127:6	<b>subset</b> 90:10	14:17 16:13
213:18 219:24	85:14 86:12	<b>Street</b> 2:15 3:3	94:19 131:3	18:9,10 21:4
220:16,17,18	87:1 89:15,19	298:21	<b>substance</b> 74:13	23:11 24:3
220:20,23	96:4 98:22	<b>strength</b> 235:1	74:14	25:10,12 27:12
246:6 267:7	101:14 102:14	<b>stretch</b> 125:12	<b>subsurface</b>	30:6 31:10
298:1	102:15 222:2	<b>strictly</b> 205:7,10	150:6 151:11	32:17 35:22
<b>stated</b> 30:9	222:11 228:12	<b>Strike</b> 111:21	<b>suction</b> 15:21	36:14,16 38:16
34:10 60:16	242:16 269:2,3	153:3	<b>sufficient</b>	39:3,14 45:8
71:23 105:15	273:17 285:24	<b>strong</b> 290:24	150:14	45:14 46:1,1
118:9 137:11	<b>statistical</b>	<b>structural</b> 218:1	<b>sufficiently</b>	50:18 53:18
151:13 223:3	168:22 275:22	218:18 220:5	150:23 151:2	54:9 55:6 57:5
227:16 231:1	<b>status</b> 95:13	226:21 274:1	<b>suggested</b> 200:9	58:1,4,11
241:24 256:24	<b>statute</b> 169:4,9	<b>structure</b> 15:18	231:15	59:15 62:4,13
259:6 260:11	169:11 199:9	<b>structured</b>	<b>suggesting</b> 112:7	63:17 64:21
<b>statement</b> 34:18	221:1,2,3	273:18	<b>suitability</b>	70:17 71:5
124:16 225:7	222:19 223:7	<b>struggle</b> 288:10	252:16	75:18,19 76:8
226:22 229:5	268:18	<b>studies</b> 258:22	<b>suite</b> 2:7,11,15	76:11 77:24,24
231:18 257:1,2	<b>statutes</b> 160:5	267:21	3:3 149:23	79:19 80:15,16
257:4 281:6	168:13	<b>study</b> 100:6	298:21	89:19 99:16
<b>statements</b>	<b>stay</b> 71:21 72:2	101:16 104:16	<b>sulfate</b> 269:18	104:10,19
259:15 266:7	261:7	129:20 142:23	269:20 271:20	105:20 107:21
<b>states</b> 36:11 40:9	<b>stenographic</b>	190:20	273:1 281:23	115:15 117:4
46:2 160:13	298:10	<b>stuff</b> 127:9	<b>sulfide</b> 230:19	122:19 127:2
247:18 253:10	<b>step</b> 96:21	217:2	<b>summarize</b>	138:16 141:6
276:13	155:23	<b>subcontracted</b>	94:18	156:14 161:5
<b>statewide</b>	<b>step-wise</b> 221:9	51:9	<b>summarized</b>	188:19 189:19
103:19 200:10	<b>Steven</b> 3:10	<b>subcontractor</b>	92:6 280:12	191:24 192:4
<b>stating</b> 21:9	298:5,20	51:13 251:22	<b>summary</b> 89:2	198:19 208:10
260:20	<b>stick</b> 200:17	253:23	118:3 119:13	220:9 226:15
<b>station</b> 9:9 66:3	<b>sticking</b> 189:21	<b>subcontracts</b>	121:10 158:11	240:19 251:24
77:8 78:15	202:14	52:12	268:19 276:3,4	261:4 294:16
84:21 89:6,6,7	<b>stocked</b> 68:4	<b>subgrade</b> 251:15	280:1 288:12	<b>surface</b> 97:1,10
89:18 104:24	<b>stone</b> 263:1	251:21 252:1,6	288:18	98:18,21 99:2
105:4,5,9	294:8	252:12,15,21	<b>Superfund</b>	99:7,11 123:9
108:22,22	<b>stones</b> 259:20	259:10,17,18	162:17 163:2,8	123:10,11,13
123:19 127:14	<b>stop</b> 47:20	259:23 260:8	<b>supplement</b>	126:18 185:10
129:3,5,14	262:16 297:4	262:8 289:11	233:15	185:11 186:13
146:13,14	<b>stopped</b> 67:20	290:1	<b>supply</b> 103:18	186:19 187:1,9
152:11,15	<b>storage</b> 10:3	<b>subgrades</b>	104:15	187:15,17,21
161:22 162:1	62:10,15	243:21	<b>support</b> 35:13	188:15 189:2
162:10,15	<b>store</b> 20:7,9	<b>subject</b> 60:7,18	135:9 168:1	190:7 204:23
177:21 178:15	<b>stored</b> 75:4,15	84:5,14 101:14	242:20 260:18	205:7,10 212:3
185:18 206:7	76:9 77:11	102:15	<b>suppose</b> 45:11	212:10 217:6,7
209:23,24	281:16 284:4	<b>submit</b> 75:20	<b>supposed</b> 7:24	225:6,10
242:2 248:17	<b>stories</b> 264:17	<b>submittal</b> 107:6	26:8 221:7	229:23,23
255:8	<b>storms</b> 294:17	<b>submitted</b> 65:16	<b>sure</b> 8:23 10:24	239:9 252:12
<b>stations</b> 84:14	<b>straight</b> 205:1	246:13	11:18 12:13	252:13,21,23

271:15 278:23	265:18,21	140:22 146:3	<b>tear</b> 30:16 35:7	<b>tend</b> 55:16
279:2,5,15,21	292:11 295:1	186:21 188:9	37:9,21 41:3	<b>term</b> 7:15,15,19
279:22 280:1,3	<b>systems</b> 56:11	204:2 250:2	41:11,14 42:14	8:1,8 141:22
280:7 289:4	57:1,21 86:23	268:10 273:6	42:15 43:3	216:13 217:13
291:1,3	101:12 126:19	<b>taken</b> 39:4 57:6	46:3,6 48:1	218:19,23
<b>surge</b> 133:19	217:8 244:16	63:3 65:1 82:2	70:12,18 81:10	239:12 249:14
142:10 143:6,7	253:9 257:15	113:14 117:5	264:5	249:18
<b>surprise</b> 244:1		128:18 141:9	<b>tears</b> 25:20 26:1	<b>termed</b> 169:4
<b>surprised</b>	<b>T</b>	161:9 180:1	26:18,20,24	<b>terminology</b>
227:13	<b>T</b> 3:1 5:1 7:9	195:12 196:16	27:1 29:20	7:13
<b>surrounding</b>	65:6,6 72:10	196:17,22	30:22 31:7	<b>test</b> 159:15
97:1 162:9	82:17,17 180:7	204:6 213:1	36:23 37:24	160:12,14
<b>survey</b> 187:23	209:13,13	254:7 268:2,16	38:1,3,5 69:18	170:9,10 172:8
211:19 254:6	211:13 213:16	286:4 298:11	80:23 260:21	173:1,6,13
254:22 258:16	213:16	<b>takes</b> 29:7	262:1 263:21	176:1,7,8
259:5 278:18	<b>T-H-O-N-G</b>	156:22 157:1	264:12,19,22	221:23 222:1,4
<b>surveyed</b> 188:8	252:8	<b>talk</b> 106:13	<b>technical</b> 6:15	222:11,15
188:13	<b>tab</b> 219:5 224:2	108:22 266:5	83:3 215:17	223:4,4 247:3
<b>surveys</b> 187:22	232:21 233:15	<b>talked</b> 126:4	245:16,17	247:4 250:1,2
244:7 258:5,23	233:18,22,23	146:20 169:1	<b>techniques</b>	254:13,18
278:15	235:9 236:13	169:18 173:22	220:2	258:13 259:2
<b>SUSAN</b> 3:2	237:2 280:21	176:11,12	<b>Technology</b>	267:11 268:6,8
<b>suspicion</b> 21:23	<b>table</b> 27:6 59:11	186:8 191:20	248:13	268:12,16
22:1	59:14,17 92:12	244:10,22	<b>tell</b> 11:15 16:7	273:18
<b>sustained</b> 28:23	92:13,19 93:12	261:22 262:3	28:15 81:15	<b>tested</b> 180:22
33:15 34:15	94:7 113:21	273:12 294:4	104:8 115:13	254:16
53:17 63:19	167:22 182:2	<b>talker</b> 197:14	152:7,20 169:9	<b>testified</b> 78:9,14
74:1	182:20 234:12	<b>talking</b> 21:4	187:4 240:20	79:10 80:20
<b>sways</b> 126:13	234:13,15,19	39:11 60:13	251:8 262:14	102:11 126:1,6
<b>swear</b> 7:1 82:12	268:19 273:15	69:6 91:18	273:15 274:14	136:13 191:4
213:11	<b>tables</b> 89:2	98:18 124:7	276:8	191:22 198:18
<b>switching</b>	91:14,15,17	157:4 168:3	<b>telling</b> 249:8,23	198:23 204:16
189:11	92:2,4,6 94:17	175:10 177:20	249:24 250:13	209:3 244:13
<b>sworn</b> 7:6 20:21	95:19 96:10	189:10 190:3	253:7,16	246:5
82:16 213:15	110:19 166:17	216:16 219:14	<b>tells</b> 241:21	<b>testify</b> 284:8
<b>synopsis</b> 175:14	180:16,24	240:18 248:19	247:16	<b>testifying</b> 80:13
<b>system</b> 14:6 18:3	181:12 182:16	249:15 284:7	<b>temperature</b>	150:8 165:12
56:13,17 57:24	<b>take</b> 9:7,19 10:1	<b>talks</b> 257:6	29:11,14,20,23	<b>testimony</b> 23:12
58:2,6,9,12	13:14,17 19:7	<b>Tannery</b> 64:13	30:1,5,11 34:7	33:13 37:12
60:7 77:15	20:13 29:12	148:1 149:1,13	34:9 173:13	71:24 106:18
98:14,16,24	31:22 33:14	162:18,19	174:2 199:24	110:12 111:10
125:1,4,5	36:3 39:16	208:22 209:5	<b>temperatures</b>	112:22 113:2
126:12,16	48:12 56:15	<b>targets</b> 276:17	30:2,3,8,12,12	123:22 124:2
130:21 132:3	61:12 98:20,24	<b>TCL</b> 159:20	<b>temporal</b> 112:7	124:12 126:1,3
171:3 184:17	103:8,10	<b>TCLP</b> 159:21	136:24 235:18	133:23 134:11
202:12 256:13	106:21 111:21	<b>TDS</b> 269:18,20	<b>ten</b> 229:12	136:15 145:14
264:3,18	128:3,7 130:19	281:24	236:20	147:22 151:9

174:12,16	183:14 190:24	154:3 163:5	268:4 275:9	237:4 270:5
175:24 181:17	193:15 194:8	165:22 180:14	287:3 288:3	285:11
184:8 189:13	195:6 198:22	198:16,24	292:18 295:6	<b>Todd</b> 27:24
194:17 202:20	200:5 204:4	203:22 204:16	<b>thumb</b> 192:23	<b>toe</b> 262:15
214:12 216:2	209:8,10	204:16,21	<b>time</b> 15:9 16:19	<b>told</b> 34:23,24
222:8,24 227:7	210:13 211:8	208:14 218:24	17:24 18:1	35:1,16 112:21
237:4 242:7	211:11 212:13	221:3 223:6	22:6 26:19	237:3
260:22 261:13	212:15,18,19	229:10 230:11	27:21 28:12	<b>tomorrow</b> 297:7
263:20 264:4	212:21 214:19	239:12 240:24	29:9 30:15	297:9
266:1,7,9	232:19 239:19	242:6 244:6,24	31:7 33:1,2,6	<b>tons</b> 263:13
286:15 287:21	281:12 296:12	245:17 248:21	37:6 41:2 46:4	<b>tool</b> 107:12,14
288:23 294:24	297:10	251:18 255:15	46:4 48:1	108:5,6 201:20
296:16	<b>thanks</b> 11:1 82:1	256:8 257:3,7	49:23 51:3	<b>tools</b> 290:20
<b>testing</b> 168:12	190:17 194:19	259:2 260:17	55:19 58:5,8	<b>top</b> 8:11,14 9:6
198:24 218:6	239:16	261:8,17 264:6	64:17 95:17	49:1 70:8,9,12
222:21 235:19	<b>thick</b> 289:8,13	264:13 265:20	118:13 130:21	170:23 254:7
247:1,7 250:16	289:15,15	272:4 274:19	181:10 202:3,5	254:16 260:8
253:19,24	290:2,6,7,17	277:4,22 285:5	236:9 239:9	262:23 264:22
267:10	<b>thing</b> 21:5 46:2	286:22 287:14	241:1,24	290:4,5,6,21
<b>tests</b> 195:15	86:18 235:21	289:13 292:21	254:18 258:24	<b>topographic</b>
197:4 268:15	237:19 239:3	295:15 296:20	263:22,22	185:16 186:21
276:8	240:22 242:22	297:6	264:15,21,21	<b>topographical</b>
<b>thank</b> 6:24 7:7	247:21 258:6	<b>thinking</b> 81:9	265:24 286:23	186:24
7:11 19:17,18	258:13 277:1	<b>third</b> 54:3 110:7	287:2 288:20	<b>topsoil</b> 195:11
38:20 39:24	<b>things</b> 9:2 35:17	120:3 145:9	293:17	<b>total</b> 91:7 147:1
43:13 46:13,17	37:3 57:19	230:5 238:13	<b>timeframe</b> 85:5	164:8
48:5 51:17	127:3 216:13	<b>Thompson</b> 1:14	110:14,16	<b>totally</b> 42:8
53:17 55:24	220:19,22	<b>Thong</b> 251:17	134:13,16	<b>track</b> 188:11,11
57:12 62:23,24	234:6 244:4	252:8,10	135:17,18	<b>tracks</b> 207:19
64:15,17,18	246:23 258:4	<b>thought</b> 17:2	145:16 193:8	<b>trademark</b>
72:6 79:17	258:10 259:13	33:7 64:11	<b>timeline</b> 240:2	74:14
81:19,22 88:20	261:8 269:5	223:4 236:16	<b>times</b> 8:5 29:12	<b>trailer</b> 54:8
105:12 109:1	272:19 273:8	<b>thoughts</b> 179:20	71:4 84:22,23	<b>transactions</b>
111:5 114:9	285:10 286:9	<b>thousands</b> 71:16	93:18 105:24	83:24
115:9 117:16	293:24 294:3	279:15	169:1 216:15	<b>transcribed</b>
117:16 118:23	<b>think</b> 21:18 25:7	<b>three</b> 11:24	242:14 265:7	95:19 298:11
120:17,20	26:22 29:11	12:23 13:2,3,4	282:5	<b>transcript</b> 78:8
128:22 132:15	37:22 41:3	13:5,7,12	<b>timing</b> 248:3	298:9
139:15 144:5	45:11,23 49:18	31:12 37:8	<b>tire</b> 291:14	<b>transcription</b>
146:1 147:15	55:23 58:7	43:6 44:22	<b>tired</b> 261:2	88:4 95:13,15
148:7 154:6,9	66:16 67:14	52:24 69:8	<b>tires</b> 52:18 81:11	95:21 183:11
154:14 158:2	73:16 75:14	71:3 86:8	<b>title</b> 63:22 104:9	<b>transmittal</b>
161:16,20	78:13 79:11,12	105:6,23	<b>titled</b> 104:10	248:15
163:14 166:8	80:5,19 81:23	201:23 216:22	<b>today</b> 6:11 69:19	<b>transported</b>
166:18 177:18	92:20 106:4,15	216:24 232:8	78:13 106:7	87:10
179:18 182:5	111:14 124:24	232:10 245:17	183:23 191:21	<b>trapped</b> 56:4,8
182:24 183:12	127:3 147:6	245:18 261:22	207:8 216:2	<b>travel</b> 239:6



<b>treat</b> 114:20	175:7 183:12	278:15 281:24	<b>understand</b> 8:23	100:19 129:3
<b>treatment</b> 17:7	183:18 188:21	284:13 287:2	23:20 30:18	129:19,19,23
17:12 179:9	188:24 191:16	288:2 289:22	56:15 92:21	129:24 130:4
<b>trench</b> 14:22	198:22 205:23	290:9 291:23	100:17 103:8	130:11 131:5,7
<b>trend</b> 235:19	207:1 209:17	292:17 293:2	103:12,13	131:9,12,15
<b>trends</b> 236:1	211:15 214:20	295:6,16,18	131:11 172:10	132:7,20 133:1
<b>trial</b> 298:7,10	216:21 219:5	<b>type</b> 52:7,21	172:24 185:21	133:2,13
<b>triangle</b> 189:21	219:18 221:18	86:24 94:16	198:16 201:4	141:18 142:19
189:22	224:9 230:3	142:14 194:9	225:20 239:4	142:20 143:1,3
<b>tried</b> 195:18	232:20 237:1,9	205:7 226:11	240:2 241:8	143:10,12,15
197:9	243:1 249:1,1	282:16 289:5	243:18 257:23	143:17 144:1,3
<b>trouble</b> 131:22	249:7 250:5,18	291:14	282:23 287:7	243:18
<b>trough</b> 15:4,6,13	253:19 261:1	<b>types</b> 128:5	295:16	<b>units</b> 11:20,22
15:17,24 65:17	267:23 275:7	217:24 256:1	<b>understanding</b>	14:3 99:10,22
65:18	278:2 280:21	264:23 271:13	8:12 23:15,24	129:16,17
<b>troughs</b> 72:12	281:10 286:11	271:16	24:10 28:17	130:16 225:5
<b>truck</b> 32:18 54:7	288:5 292:15	<b>typically</b> 138:6	31:16 42:7,14	230:23
54:8 70:14	292:17 295:2	251:15	61:20 62:8	<b>University</b> 83:8
<b>trucks</b> 52:17,19	<b>turning</b> 20:24		64:1 102:19	83:9,12 215:13
52:21,22 53:7	28:10 40:4	<u>U</u>	103:4 114:22	215:18
53:8,14,20,20	110:21 118:5	<b>Uh-huh</b> 40:8	124:3,5 130:21	<b>unlined</b> 10:19
53:24 56:6	134:19 168:14	43:7	131:22 175:1	240:21
254:21 255:3	265:23 287:20	<b>ultraviolet</b>	183:7 199:23	<b>unpermitted</b>
260:20 291:13	<b>two</b> 11:23 12:4,7	244:17,18	200:4,21	17:13 66:5
<b>true</b> 8:15 112:12	12:9,9,11,17	<b>un-</b> 181:11	205:16,22	<b>unrepaired</b>
246:5 260:2	13:4,12 14:3	<b>unacceptable</b>	212:7 236:3	30:17
298:8	18:3 19:2,9,10	221:9,13	245:3 287:3	<b>unusual</b> 240:24
<b>truly</b> 187:24	19:20 21:6	274:18 280:2	291:16	244:11,13
188:12 194:6	22:13 28:1,14	<b>unaware</b> 20:11	<b>understands</b>	<b>update</b> 217:3
<b>try</b> 32:4 54:5	28:18,19 29:7	<b>uncertainty</b>	261:5	218:16 236:14
71:5 125:16,17	45:13 47:22	184:6,21 185:1	<b>understood</b>	280:15,18
126:16,20	58:16 90:22,24	185:7 211:23	92:20 203:20	<b>updated</b> 182:2
150:22 186:6	92:16 105:1	<b>unclear</b> 45:22	<b>undertake</b> 31:22	182:11 233:19
187:21 236:6	125:13 129:16	<b>underdrain</b>	<b>underwent</b>	237:6,8 238:11
<b>trying</b> 37:22	129:16 130:16	56:24 57:21	146:15	268:21 280:14
76:14 100:19	151:10,14	<b>undergone</b>	<b>undetermined</b>	280:23 281:1
130:22 179:14	154:3 162:21	118:10	45:11,23	293:6
257:19	165:22 174:15	<b>undergraduate</b>	<b>unfiltered</b> 87:9	<b>updating</b> 233:16
<b>TSS</b> 281:23	176:15 177:24	83:7	94:3 180:23	<b>upgrade</b> 251:23
<b>tucking</b> 143:6	178:12,24	<b>underground</b>	181:2,9,11,19	<b>uplift</b> 292:9,12
<b>turn</b> 25:16 27:4	180:23 189:14	21:24	<b>unit</b> 6:15 11:23	293:23 294:2,5
51:9 60:20	201:23 207:19	<b>underlying</b>	11:23,24,24	294:10,23
117:21 119:2	216:19 248:15	131:15 143:16	12:2,5,7,9,11	295:5
120:22 135:10	253:11 254:1	143:19	12:23 13:1,3,5	<b>upper</b> 81:1
137:18 153:21	261:21 263:13	<b>underneath</b>	13:7,9,10,11	<b>upwards</b> 25:5
158:5,16 160:7	264:5 268:4	35:13 42:10	13:11 18:3,3	72:1
162:3 169:7	271:1 274:4,5	259:11 289:11	51:4 100:1,16	<b>use</b> 8:3 16:12

17:21 21:3,16	<b>valuating</b>	151:7	141:1,6 144:11	149:6 166:13
22:3 34:8 52:7	100:17	<b>vertically</b> 8:18	144:15 146:7	234:24 283:10
55:8 60:8,19	<b>valuation</b>	11:11	148:6 150:7	<b>wants</b> 79:14
67:17 70:19	221:11 285:9	<b>vicinity</b> 153:13	157:24 158:1	96:6 226:9
80:9 99:22	<b>value</b> 102:20	<b>view</b> 156:20	160:19,20	251:21 272:4,4
101:3 107:8	103:3,6,8,11	<b>violation</b> 66:10	161:4,14,17	<b>warn</b> 262:11
108:3,9,10,15	184:18,24	95:10 106:16	163:12,13	<b>warning</b> 23:22
137:2 138:8	185:2 255:20	107:5 130:17	166:7 177:15	24:4,6 25:11
139:20 157:9	<b>values</b> 105:13,16	<b>violations</b> 102:8	177:16 179:19	254:7 290:7
157:14 166:23	106:2 107:23	107:4	179:21 180:5,8	<b>Washington</b>
170:17 171:22	201:24	<b>Virginia</b> 217:10	184:9,19	2:11
172:2,10,15	<b>variation</b> 112:7	<b>visible</b> 40:19	190:18 194:18	<b>wasn't</b> 17:22
176:10,17	137:1	47:8,9	194:20,21	148:13 176:20
177:9 178:22	<b>various</b> 54:19,22	<b>visited</b> 84:16	196:11 197:12	176:22 192:10
179:2 199:6	54:24,24 55:12	161:21	197:13,20	231:2 271:8
218:3,22	89:3 92:16	<b>visiting</b> 85:2	198:2,8 203:5	<b>waste</b> 159:23
222:14 239:12	94:5 102:23	152:10	203:21 204:3	170:20,22
241:6 244:15	104:20 113:1	<b>visual</b> 29:2	204:12,13	177:10 224:23
249:14,18	128:1 142:3	198:12,14,14	208:10,11	227:4 256:12
256:18 258:18	145:7 149:5,20	198:15,18	209:9,11 211:9	256:18 275:17
261:2 266:4,6	151:23 154:1	<b>visually</b> 35:17	211:10,14	<b>wastewater</b> 60:5
270:20 272:4,4	179:1,4 185:17	252:11	212:13,16	60:17
273:9 287:2	217:19	<b>voice</b> 10:23	<b>want</b> 6:13 7:12	<b>water</b> 6:10 9:1
<b>useful</b> 172:17,19	<b>Veenbaas</b> 4:2	197:12	8:22 14:11,14	11:13 14:9,12
172:20,23	6:17 7:1,4,12	<b>volatile</b> 179:3	18:8 21:3	14:14,18,20
<b>usefulness</b>	65:8 69:11	<b>volume</b> 95:20	27:14 35:15	15:7,22,23
172:13	76:3 81:23	195:19 197:10	36:14 39:13,16	22:2 26:2 27:2
<b>useless</b> 8:24	212:20 266:21	<b>vs</b> 1:7	53:11,13 66:13	29:3 35:1 41:9
<b>users</b> 278:10,20	267:7		66:21 68:19	41:17 42:20
<b>uses</b> 172:8	<b>vegetation</b> 34:11	<b>W</b>	79:22 88:6	54:13,23 55:1
217:14,24	35:2,6,14	<b>Wacker</b> 2:6	97:8 106:13	55:16,20,20
220:8	195:3	<b>wait</b> 116:11	108:22 114:5	56:2,3,8 68:23
<b>USGS</b> 186:20,24	<b>vehicles</b> 261:2	188:22	140:22 161:4	68:24 69:3,5,5
187:22,23	<b>vendor</b> 33:2	<b>waiting</b> 41:19	179:19 186:6	69:23,24 70:6
211:20	<b>Veolia</b> 51:9	<b>walk</b> 297:10	188:21 204:2	70:20,21 81:16
<b>usually</b> 56:4	<b>verbiage</b> 177:1,3	<b>walked</b> 198:13	208:24 220:9	86:19 87:1
107:13 137:1	<b>verify</b> 33:6	211:1 281:4	230:2 238:19	96:22,23 97:3
195:10	94:14 261:23	<b>Wannier</b> 2:14	238:20 239:4	97:10,24 98:18
<b>V</b>	<b>Vermont</b> 2:10	4:11,13 111:4	243:18 246:7	98:21 99:2,10
<b>vague</b> 34:13	<b>version</b> 171:8	113:23 114:7	251:24 254:17	99:19,23,24
53:15 55:3,4	175:13 176:2	115:4 117:1,2	257:14 261:7	100:1,18 101:3
55:22 73:16,20	176:13,16,21	117:9,11	284:6,20	101:9,11,12
74:6 146:7	176:22,24	118:20,21	286:13 290:20	102:1,9,22
190:15	177:2	120:15,18	292:5	103:18 104:11
<b>valleys</b> 104:20	<b>versions</b> 182:11	121:24 122:1	<b>wanted</b> 9:3	104:15 106:12
<b>valuable</b> 257:23	<b>versus</b> 6:8 90:18	128:9,10,14	13:18 36:21	108:11,11,18
	91:23 92:18	136:7,8 140:24	38:16 75:17	123:9,10,11,13

123:16,20	48:9 52:5	93:21 101:6,6	164:12,16,16	164:24 165:1
125:8,12,14	57:24 61:16,21	108:21 112:8	165:2,24 166:2	165:23 190:21
126:17,20	62:11 70:24	117:8 124:7	208:15 277:8	202:17 208:16
127:4,5 129:22	89:6,18 90:9	127:19 128:21	<b>well-known</b>	208:18,20,23
130:10,23	96:5 104:24	132:11,13	127:8	209:6 277:10
131:6,12,14,15	144:6,7,22	140:21 141:1	<b>well-represent...</b>	277:11 278:20
138:4 140:14	145:8,22	141:12 142:8	105:10	278:22 279:3,4
143:2,12,13,15	146:13,14	161:12 179:22	<b>wells</b> 86:20,21	<b>went</b> 12:17
155:24 156:4,6	147:6 148:17	180:4 189:9	86:24 89:15,17	13:12 15:9
156:9 157:1,16	152:11,16	203:22 204:9	89:20,21 90:2	16:22 17:3,5,6
167:19,20	154:12 157:7,7	213:5 216:11	90:3,4,5,10,10	17:10,11 76:12
185:10,11	161:21 162:1	216:16 249:15	90:11,18,18,20	122:20 173:23
186:13 187:1	162:10,15	271:10 278:23	92:10,16 93:7	173:24 191:23
187:16,21	186:9 187:15	284:7 285:1,4	96:11,12,23	192:13 193:7,8
188:15 189:2	187:17 188:8	297:6,6	97:22 98:1	193:9 244:6
190:7 194:2	206:7 207:7	<b>we've</b> 102:7	99:16,19,19,20	245:4,18
200:21 201:10	208:12 268:3	112:6 148:10	101:9,11,15,17	246:10 259:22
202:3 204:24	274:4	157:4 162:18	101:21 102:4	263:7 275:12
205:8,10,17	<b>way</b> 7:23 13:13	166:19 169:1	102:24 103:1	275:12 277:15
212:3,10	18:6 42:17	175:10 191:19	103:18,22	286:21
225:13,14,17	52:11 54:4,10	204:1 216:15	104:15 108:11	<b>weren't</b> 67:23
225:18,19,22	61:22 66:23	221:2,24 223:9	108:18,23	176:1 207:11
225:24 226:1,8	69:13 70:16	256:3 260:22	109:3,5,11,13	258:5
226:10,16,17	75:21 81:12	262:6 266:1,21	109:16,17	<b>west</b> 14:24 23:8
226:19 239:9	122:19 127:17	274:10 281:4	124:13,21	23:18 28:1,5
264:22 268:5	129:11 142:17	287:21 290:12	128:4,5,7	28:15 58:3
268:12,13	152:7 202:12	291:12 294:17	129:4,7,7,23	61:21 62:17,17
278:9,14,18	250:22 281:20	296:17	130:4,9,24	63:11 90:13
279:3,6,7,7,9	282:14,20,22	<b>weather</b> 29:10	131:3,4,6,8	133:9 142:13
279:15,21,22	288:19 291:17	30:2 264:6	133:11,12,14	143:4 149:2
280:1,3,7,7,20	295:16	<b>weathering</b>	133:16,19	155:2 162:18
287:12,16,17	<b>Wayne</b> 27:17	242:10	135:7,16,24	162:20 164:22
292:13 293:5	<b>ways</b> 217:19	<b>Webster</b> 2:15	136:23 143:2,5	178:16 208:23
294:8,14,20	282:14	<b>week</b> 71:4	143:9 144:22	210:2 217:10
295:1,3	<b>we'll</b> 33:21 37:7	127:23 128:6	144:23,24	277:3 288:1
<b>waterbodies</b>	49:23 50:9	<b>weeks</b> 29:7	145:1,2 147:7	298:21
97:1 126:18	52:3 79:16	264:5	147:11,19	<b>westerly</b> 131:13
188:16	96:22 164:19	<b>weight</b> 225:21	148:1,22,23,24	<b>western</b> 143:5
<b>waterbody</b> 99:8	175:7 186:6	225:24 294:4,7	149:9,12 150:2	156:9
99:11 187:10	237:16 272:18	294:9	150:6 151:11	<b>wet</b> 14:6 15:20
210:2	<b>we're</b> 13:16,24	<b>weird</b> 294:12	151:15 153:10	<b>white</b> 24:7
<b>waters</b> 186:19	21:21 28:12	<b>well's</b> 130:12	153:14,17,23	<b>wide</b> 70:15
187:17	39:7,10,17	135:8 145:4	154:5,7,12,18	<b>Wilmette</b> 2:3
<b>Waukegan</b> 9:9	43:21 46:1	147:11,16	154:20 155:13	<b>window</b> 173:13
23:8,14,17,22	49:7 57:9,11	148:1,11	155:21,22	199:22,24
27:20 30:16	63:6 65:4	154:15,20	156:1,6 164:7	200:3
31:7 32:20	80:16 82:5,6	156:23,24	164:9,11,12,15	<b>winter</b> 111:16

137:3,3,17 <b>Wisconsin</b> 159:7 159:18 <b>withdraw</b> 48:4 <b>withdrawing</b> 132:12,13 <b>withdrawn</b> 56:22 144:13 <b>witness</b> 4:2,8,15 7:5 10:24 24:17 35:11 45:9 56:23 57:14 61:9 64:8 73:1,9 74:10 76:5,23 77:23 78:14 80:17 82:15 88:21 119:9 121:4 130:8 150:12 184:13 184:14 196:9 197:16 198:6 203:3 212:21 213:6,7,14 219:10 233:1 234:4 235:14 298:13 <b>woods</b> 137:2 <b>word</b> 17:21 177:3,3 230:9 267:15 <b>words</b> 98:8 175:16 259:19 259:21 260:24 269:7 <b>work</b> 27:19 34:9 47:22 51:9 52:12 77:14 82:24 83:19,20 83:21 85:3,15 85:16 149:1 178:24 179:12 182:12 220:20 261:23 270:17 280:6 <b>worked</b> 77:2 78:1 217:9	219:16 245:2 261:21 <b>working</b> 47:21 51:11 179:7 202:11 208:21 291:3 <b>world</b> 73:10 <b>wouldn't</b> 93:13 186:2 187:3 201:7 287:15 <b>wrapping</b> 297:3 <b>write</b> 66:4 <b>writing</b> 27:22 60:10 <b>written</b> 171:6 <b>wrong</b> 15:12 132:8 184:10 191:4 <b>Wyoming</b> 266:16 271:11 <hr/> <b>X</b> x 4:1 5:1 7:9 45:3 65:6 72:10 82:17 152:14,16 180:7 209:13 211:13 213:16 230:23 <b>XI</b> 230:23 <hr/> <b>Y</b> <b>Yakima</b> 254:1 <b>yard</b> 137:5,13 207:17 <b>yards</b> 52:24 <b>yeah</b> 9:11 20:12 20:15 34:11 45:11 48:20 53:16 58:21 59:5 71:15 94:13 114:7 115:9 132:13 135:21 171:2 190:16 192:19 203:1,24 209:1 211:10 247:15	248:10 264:24 271:10 280:5 282:21 284:12 291:8 293:14 296:12 297:2 <b>year</b> 29:10,12 78:3 84:19,22 84:23,24 115:24 116:1,9 118:4 120:1 171:5 263:14 <b>year-old</b> 285:3 <b>years</b> 16:7 18:7 22:18 37:9,24 43:6 44:22 79:10 118:11 121:17 122:22 123:6,7 179:7 194:14 216:10 243:13 245:6 251:2 257:4,20 284:22 286:17 293:16,21 294:19 295:15 295:16,18,20 <b>yellow</b> 156:18 156:21 <b>yesterday</b> 6:12 23:8 25:17 29:6 37:8,23 52:4 53:12 262:18 <b>youngest</b> 240:4 <hr/> <b>Z</b> <b>Zone</b> 107:10,11 108:1 139:19 166:22 167:2 202:4,8,10 <b>Zones</b> 107:7 <hr/> <b>0</b> <b>0.12</b> 105:21 <b>0.13</b> 138:23 <b>0.36</b> 105:22 <b>0.7</b> 106:3 <b>01</b> 41:22	<b>02</b> 109:18 <b>03</b> 109:18 <b>04</b> 109:18 <b>05</b> 109:18 <b>06</b> 109:18 <b>07</b> 109:18 <b>084-004675</b> 3:10 298:23 <b>09</b> 109:18 <hr/> <b>1</b> <b>1</b> 102:1,9 106:12 107:16,19,21 107:24 138:3 145:4 148:11 154:20 164:12 165:2 167:5 175:15 200:15 201:10,17,24 202:11 205:12 205:16 273:23 277:12 279:9 <b>1.0</b> 139:1,9 <b>1:10</b> 141:5 <b>1:15</b> 141:13 <b>10</b> 3:3 147:12 154:15 156:23 156:24 165:2 208:16,19 <b>1000</b> 2:10 <b>1004</b> 2:3 <b>103</b> 27:5 <b>105</b> 35:20 <b>106</b> 48:13 50:8 <b>11</b> 31:11 33:20 109:5 147:12 152:14,16 154:15 164:16 165:24 166:2 208:15 281:6 <b>11/1/15</b> 42:6 <b>1100</b> 2:11 <b>115</b> 5:10 <b>117</b> 5:11 <b>119</b> 5:12 <b>12</b> 21:1 28:13 33:21 50:8	66:24 130:13 147:14,15 148:11 154:15 164:8,16,17 165:24 166:2 208:16,19 281:10 283:5 289:8,14 290:1 290:5,17 <b>12-inch</b> 289:13 <b>121</b> 5:13 <b>12812</b> 158:12 <b>12th</b> 49:4 <b>13</b> 9:17 50:8 75:1 148:12,13 207:11 208:5 208:13,19,20 <b>13-15</b> 1:5 6:9 9:10 <b>13-15_12811</b> 158:17 <b>13-15_12812</b> 160:8 <b>13-15_19475</b> 118:6 <b>13-15_19483</b> 119:5 <b>13-15_44147</b> 120:24 <b>13-15_45817</b> 151:21 <b>13-15_49565</b> 168:1 <b>13-15_49568</b> 168:15 <b>13-15_62326</b> 100:23 <b>13-15_62473</b> 164:5 <b>13-15_62538</b> 132:10 <b>13-15_62540</b> 132:21 141:19 <b>13-15_6675</b> 209:18 <b>130</b> 5:14 <b>1300</b> 2:15
--	--	--	---	--

<b>134</b> 5:15	<b>1977</b> 240:20	199:15,17,19	<b>202</b> 2:12	<b>256-O</b> 134:4
<b>136.9</b> 241:14,17	<b>1978</b> 240:17	218:13	<b>209</b> 4:12	<b>257-O</b> 134:6
<b>149</b> :20 21:1	<b>1985</b> 171:17	<b>2013</b> 26:14	<b>20th</b> 20:19 31:4	<b>258-O</b> 134:7
34:20 68:21	<b>1994</b> 257:6	110:7 119:13	<b>21</b> 66:24 74:19	<b>259-O</b> 134:8
130:13 147:12	258:1	119:15,21	75:1 79:2	<b>26</b> 20:24 66:21
148:11 154:15	<b>1998</b> 284:14	121:13 134:5	166:1,1	183:21
156:23,24	<b>1999</b> 67:16	145:10 162:12	<b>2101</b> 2:15	<b>260-O</b> 132:9,21
206:8 208:16	243:1	165:7 206:8	<b>211</b> 4:13	134:10 141:18
216:9 266:2	<b>1N</b> 65:10 66:1	209:21 243:1	<b>213</b> 4:17	<b>263-4453</b> 2:12
286:18	<b>1st</b> 1:15 6:11	265:24 266:1	<b>21342</b> 224:11,12	<b>264</b> 5:8 60:22
<b>14527</b> 61:13		<b>2014</b> 49:4 121:9	<b>21404</b> 230:3	61:2,7 206:1
<b>14528</b> 63:10	<b>2</b>	121:10 175:11	<b>215</b> 5:16	<b>267-P</b> 145:9
206:3	<b>2</b> 175:15,15	236:17	<b>21500</b> 232:5	<b>268-P</b> 145:10
<b>15</b> 130:13	209:17 277:8	<b>2015</b> 20:19 31:4	<b>216-I</b> 147:20	<b>269-P</b> 145:12
147:12 154:16	<b>2,500</b> 278:18	36:6 40:13	<b>219</b> 5:17	<b>26th</b> 115:18
208:16 287:20	<b>20</b> 66:22,23	44:18 46:4	<b>21st</b> 119:15	118:2
<b>15-minute</b> 204:2	68:22 79:2	110:8 122:7,11	<b>22</b> 79:2	<b>27</b> 66:21 86:13
<b>16</b> 28:13 38:2	204:1	134:6 135:19	<b>220-I</b> 147:20	93:11 126:23
40:19 41:5	<b>20005</b> 2:11	139:3 145:11	<b>229-K</b> 147:21	127:2,11,12
42:10 44:24	<b>2002</b> 85:4	165:8 223:10	<b>22nd</b> 116:5	<b>270-P</b> 145:13
47:6 137:20	<b>2003</b> 85:5	228:8 229:2,15	158:10	<b>278-Q</b> 165:6
139:5,6 144:24	244:12 245:10	229:20 233:14	<b>23</b> 75:1	209:16 211:15
148:11 154:21	<b>2004</b> 158:10	236:23 241:11	<b>232</b> 5:18	<b>279-Q</b> 165:7
207:22,23	170:24 171:7	280:10 288:14	<b>233</b> 5:19	<b>280-Q</b> 165:9
288:6 289:7	171:16 173:10	<b>2016</b> 110:10	<b>234</b> 5:20	<b>281-Q</b> 163:17
295:9	176:15,21	122:14,17	<b>235</b> 5:21	164:4 165:11
<b>1600</b> 2:7	234:21 268:22	134:8 135:22	<b>235.5-K</b> 147:21	188:22
<b>16th</b> 115:22	<b>2007</b> 298:21	145:12 165:10	<b>23620</b> 59:9	<b>282-9119</b> 2:4
<b>17</b> 41:4,7 42:22	<b>2008</b> 289:23	191:22 235:20	<b>23rd</b> 44:18 46:4	<b>284</b> 167:23,24
45:4,16 135:18	<b>2009</b> 115:12,19	286:17	<b>24.5-E</b> 134:2	168:7 169:8
289:18 291:19	115:20 223:15	<b>2017</b> 1:1 38:2	<b>243-M</b> 110:6	173:17
<b>18</b> 66:23 68:21	278:16	86:10 93:10	<b>244-M</b> 110:8	<b>28th</b> 40:12 42:15
79:18	<b>2010</b> 86:3,5,9	97:21 110:11	<b>245-M</b> 110:9	121:9
<b>18-D</b> 19:2	93:8,10 110:18	110:18 132:24	<b>246-M</b> 100:23	<b>29</b> 47:13 84:21
<b>180</b> 4:11	115:12,22	134:9,10,18	109:8 110:10	89:5 96:5
<b>18th</b> 47:6	125:20 134:17	135:19,22	183:13	97:13 108:23
<b>19</b> 68:22 129:7	145:19 223:16	144:20 145:14	<b>248</b> 113:5 114:3	108:24 109:3
<b>19-D</b> 9:5 13:15	<b>2011</b> 110:6	145:19 146:5	<b>248-N</b> 113:20	109:20 110:4
13:17 151:18	115:12 116:6	146:12,23	114:4	111:12,13
153:6	171:17 218:13	164:1,2 165:11	<b>249</b> 113:5	112:3,12,22
<b>1920s</b> 240:3	<b>2012</b> 85:17 95:7	182:4 193:4,9	<b>249-N</b> 113:20	122:8,24
<b>1960's</b> 10:8	118:2 134:3	193:11,13	<b>25-E</b> 110:5	123:19 124:13
<b>1961</b> 63:15,23	145:9 165:5	236:19 237:6	<b>250</b> 113:5	124:20 127:1
206:6,23	171:10,17	238:11 281:21	<b>250-N</b> 113:20	127:19 136:19
<b>1965</b> 240:4	173:8,20,21	<b>2018</b> 1:16 6:11	<b>251</b> 113:6	183:22 202:17
<b>1970s</b> 240:7	175:24 176:9	6:13 297:8	<b>251-5255</b> 3:4	210:14 235:19
<b>1974</b> 162:8	176:18 199:3,7	298:15	<b>251-N</b> 113:21	269:2,4 275:10

275:21 286:12 286:16 296:18 <b>29-E</b> 145:8 <b>2nd</b> 297:8 <b>2S</b> 58:13	175:7,18 <b>410</b> 174:16 176:7 <b>415</b> 2:16 169:11 221:2 275:23 275:24 <b>419-9292</b> 298:22 <b>44</b> 5:6 <b>4458</b> 49:7 <b>447</b> 142:9 <b>45813</b> 9:8,11 <b>45814</b> 9:23 <b>46</b> 5:7	<u>6</u> <b>6</b> 111:15,15 130:13 145:5 154:15 164:13 <b>60</b> 40:5 243:22 256:3,5,11 290:3 <b>60091</b> 2:3 <b>605</b> 58:18,20 <b>60601</b> 2:7 <b>60603</b> 3:4 298:22 <b>60892</b> 39:11,15 <b>60899</b> 39:18 <b>60900</b> 39:18 40:5 <b>60901</b> 39:18 41:23 <b>60902</b> 39:18 41:23 42:2 <b>60942</b> 44:15 <b>60943</b> 44:16,17 <b>61</b> 5:8 <b>620</b> 43:14 <b>62326</b> 183:19,20 <b>62473</b> 188:24 <b>62539</b> 132:10 <b>62540</b> 132:17 <b>65</b> 4:5 <b>667</b> 178:6,9 <b>6675</b> 211:16,16 <b>6th</b> 36:6	<b>722</b> 5:7 46:16,20 48:4 <b>75</b> 241:13 <b>78</b> 240:20 287:9 <b>79</b> 31:9 34:19 68:20 <b>795-3712</b> 2:8	110:24 111:3,6 166:12 180:15 181:23 <b>809-812</b> 5:9 88:12 <b>810</b> 5:15 88:8,16 89:5 91:19 96:14 134:20 134:23 135:4 135:11 136:1,5 136:10 137:19 166:13 <b>811</b> 88:8,16 89:6 91:19 96:14 145:24 146:1 147:4 148:2,5 148:8,20 166:13 <b>812</b> 88:8,16 89:1 89:6 91:19,23 96:14 145:22 165:15,20 166:3,6,9,13 180:15 181:23 <b>813</b> 5:14 9:13 130:3,6 132:14 144:9,13,18 154:11,23 155:15 157:19 157:22 158:3 207:2,2 <b>82</b> 4:10 <b>85</b> 171:5,7,8,15 173:18 175:11 199:4 <b>87</b> 28:10 199:4 199:15,18 <b>88</b> 5:9
<u>3</u> <b>3</b> 221:23 277:8 <b>3:00</b> 204:11 <b>30</b> 47:12,12,13 57:4 62:20,20 286:17 <b>30-E</b> 165:5 <b>31</b> 1:1 47:13 137:21,21 <b>312</b> 2:4,8 3:4 298:22 <b>31st</b> 6:13 <b>32</b> 137:21,22 <b>33</b> 135:10 <b>34362</b> 249:2,23 <b>34370</b> 250:5 <b>34378</b> 250:18 <b>34388</b> 250:23 <b>34389</b> 251:11 <b>34392</b> 253:1 <b>34393</b> 253:3 <b>34422</b> 253:19 <b>35</b> 2:6 135:11 <b>3600</b> 3:3 <b>362</b> 249:3 <b>38</b> 5:5 <b>3987</b> 169:2 171:4 <b>3987-12</b> 173:10 <b>3987-85</b> 173:9 <b>3S</b> 58:6	<u>5</u> <b>5</b> 67:15 80:1,2,4 145:5 151:20 154:15 219:21 219:22 <b>5-1</b> 234:13,15,19 268:19 <b>5.4.2</b> 221:20 <b>5/3.135</b> 169:11 221:3 275:23 <b>5/3.94)a-5(B)</b> 275:24 <b>50</b> 284:22 285:2 <b>50-year</b> 284:19 <b>500-year</b> 294:13 <b>50260</b> 219:18 <b>50263</b> 221:18 <b>504</b> 184:18 <b>505</b> 98:12 291:23 <b>505.5</b> 293:6 <b>506</b> 291:23 <b>510</b> 248:8 255:6 255:6 259:22 <b>516</b> 292:4 <b>517.5</b> 293:7 <b>55-gallon</b> 178:23 <b>552</b> 233:17 <b>5739</b> 19:4 <b>579</b> 210:7 211:17 <b>5th</b> 144:20	<u>7</u> <b>7</b> 4:4 21:2,2 104:5 145:5 154:20 164:16 <b>70s</b> 76:11 77:3 79:11 80:5 <b>711</b> 137:8 <b>72</b> 4:6 <b>720</b> 5:5 38:9,11 39:9 43:10,16 43:18 <b>721</b> 5:6 43:22 44:2,15 46:10 46:14	<u>8</u> <b>8</b> 67:15 79:23 130:12 147:16 148:1 152:14 152:16 154:15 298:21 <b>80</b> 33:20 284:22 285:3 <b>800</b> 114:21 115:5,14,15 116:13,16,22 117:10 <b>800-802</b> 5:10 115:3 <b>801</b> 114:21 115:5,14,21 116:16,23 117:10 <b>802</b> 114:21 115:6,14 116:4 116:13,16,23 117:10 <b>803</b> 5:11 116:10 117:18,22 118:18,24 <b>804</b> 5:12 119:3,7 120:14,18 <b>805</b> 5:13 120:23 121:2,22 122:4 <b>806</b> 158:6 160:17 161:17 <b>807</b> 162:4,13 163:10,15 <b>808</b> 169:13 171:23 175:20 177:5,13,18 <b>809</b> 88:8,16 89:1 89:5 91:19,23 96:14 110:22	<u>9</u> <b>9</b> 33:21 136:20 147:16 148:1 154:15 <b>9-040</b> 1:14 <b>9:00</b> 1:16 297:8 <b>900</b> 5:16 214:21 215:2
<u>4</u> <b>4</b> 79:3 104:5,10 145:5 154:20 171:21 175:19 176:12 277:8 <b>40</b> 217:19 229:9 <b>405</b> 104:3,6 <b>406</b> 224:2 <b>409</b> 174:16				

<p><b>901</b> 215:22 237:2 <b>902</b> 5:17 219:5,6 219:8 <b>903</b> 5:18 232:21 232:21,23 233:20 236:13 241:12 <b>904</b> 5:19 233:5,8 233:15,18 <b>905</b> 5:20 233:22 233:23 234:2 <b>906</b> 5:21 235:9 235:12 <b>907</b> 280:21,22 <b>94612</b> 2:16 <b>977-5637</b> 2:16</p>				
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