

ILLINOIS POLLUTION CONTROL BOARD
September 8, 2016

BLAKE LEASING COMPANY, LLC,	)	
	)	
Petitioner,	)	
	)	
vs	)	PCB 16-100
	)	
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY and	)	
VILLAGE OF KIRKLAND,	)	
	)	
Respondent.	)	

REPORT OF THE PROCEEDINGS had at the hearing on a motion of the above-entitled cause before the Honorable BRADLEY HALLORAN, Hearing Officer, Illinois Pollution Control Board, 100 West Randolph Street, Room 11-512, Chicago, Illinois, on the 23rd day of May, 2017, at the hour of 10:10 a.m.

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A P P E A R A N C E S:

HINSHAW & CULBERTSON, LLP
BY: MR. CHARLES F. HELSTEN
100 Park Avenue
P.O. Box 1389
Rockford, Illinois 61105
(815) 490-4900,
chelsten@hinshawlaw.com

Appeared on behalf of the Petitioner;

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BY: MS. JOANNE OLSON
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794
(217) 524-3306

Appeared on behalf of the Respondent;

BOARD MEMBERS: MS. JENNIFER BURKE
MS. CARRIE ZALEWSKI

TECHNICAL STAFF: MS. ALISA LIU
MR. ANAND RAO

ALSO PRESET: MS. MARIE TIPSORD
MR. CHAD KRUSE
MS. TANYA RABCZAK
MS. KATIE PAPADIMITRIU
MR. LYNN DUNAWAY

REPORTED BY:

Steven J. Brickey, CSR
CSR License No. 084-004675

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I N D E X

THE WITNESS: RONALD ST. JOHN

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Direct Examination by Mr. Helsten..... 21

E X H I B I T S

Marked for
Identification

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1 HEARING OFFICER HALLORAN: Good
2 morning, everybody. My name is Brad Halloran.
3 I'm a Hearing Officer with the Illinois Pollution
4 Control Board. I'm also assigned to this case
5 entitled Balke Leasing Company, LLC, petitioner,
6 versus the Illinois Environmental Protection
7 Agency and the Village of Kirkland. It's PCB
8 16-100 and it's a water well setback exception.
9 Today's May 23rd, 2017. It is approximately 10:10
10 in the morning. This hearing was noticed up
11 properly under the Board rules and will be
12 conducted in accordance to 101 and 106 of the
13 Board's procedural rules.

14 You know, with that said, I'm
15 pleased to announce that we have a few personnel
16 from the Board with us. We have Member
17 Papadimitriu, we have Member Burke, we have Member
18 Zalewski, we have Attorney Advisor Ms. Rabczak, we
19 have Technical Unit Alisa Liu, Anand Rao, Attorney
20 Advisor Chad Kruse and we have General Counsel
21 Marie Tipsord.

22 Mr. Helsten, would you like to
23 introduce yourself and then I'll have Ms. Olson.

24 MR. HELSTEN: Sure. Mr. Halloran,

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1 thank you. Chuck Helsten from Hinshaw &
2 Culbertson, attorney for the petitioner Blake
3 Leasing.

4 HEARING OFFICER HALLORAN: And we
5 have your witness.

6 MR. HELSTEN: And my witness today
7 Mr. Ron St. John of St. John Mittelhauser.

8 HEARING OFFICER HALLORAN: Thank
9 you, Mr. Helsten. Ms. Olson?

10 MS. OLSON: Hi. Good morning. My
11 name is Joanne Olson. I'm counsel at Illinois EPA
12 and I have Lynn Dunaway.

13 MR. DUNAWAY: My name is Lynn
14 Dunaway and I work in the groundwater section for
15 the Bureau of Water.

16 HEARING OFFICER HALLORAN: All
17 right. Thank you. I am told that during the
18 prehearing conference -- was that last week,
19 Mr. Helsten, that the attorney for the Village of
20 Kirkland, Mr. Bradford Stewart, will not be
21 attending today?

22 MR. HELSTEN: That's right,
23 Mr. Halloran. That's my understanding that -- and
24 what Mr. Stewart advised me as well that the

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1 Village will not be participating.

2 HEARING OFFICER HALLORAN: Okay.

3 Thank you. Mr. Helsten, you can remain seated
4 when you talk. That's fine. But thank you
5 anyway.

6 I think our plan is Mr. Helsten
7 was going to do an opening outlining where we are
8 in this matter and then afterwards Ms. Olson may
9 do so as well and then after that we're going to
10 swear Mr. St. John in and Mr. Helsten will take
11 over probably more or less like a summary of this
12 petition. So, with that said, Mr. Helsten --

13 MR. HELSTEN: Yes.

14 HEARING OFFICER HALLORAN: -- an
15 opening.

16 MR. HELSTEN: Should I stand?

17 HEARING OFFICER HALLORAN: Whatever
18 you feel like.

19 MR. HELSTEN: I think I should
20 probably stand. Good morning, everyone, Board
21 members, staff.

22 My name is Chuck Helsten. I
23 represent the petitioner in this case Blake
24 Leasing. I'll be brief with my opening statement

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1 so we can get right to Mr. St. John. This
2 facility is located in Kirkland, Illinois in
3 DeKalb County, Illinois. This is a quick stop or
4 convenience store facility. Blake Leasing I guess
5 I'd like to put it this way as I prepared the case
6 this is not a problem that Blake Leasing caused,
7 this is a problem Blake Leasing inherited. Blake
8 Leasing acquired the facility in the early 2000s.
9 It has a longstanding presence in other respects
10 in the Village of Kirkland going back almost
11 decades and decades and decades and decades, but
12 it acquired this facility in the early 2000s.

13 When it acquired it, it acquired
14 with it an open LUST incident from 1989 -- from
15 1989. It continued -- it assumed the
16 responsibility for remediating that and continued
17 with its first set of consultants. After some
18 back -- significant amount of back and forth and
19 this is in the record that I will ask the Board to
20 take administrative notice of the record that has
21 been made here and this was attached to our
22 original petition in September 2015 IEPA approved
23 a corrective action plan under the LUST program.

24 The one condition of approval

1 was since the remedial approach proposed to
2 physically go within the setback zones for the two
3 community wells in DeKalb that the petitioner,
4 Blake Leasing, obtain proper approval from the
5 appropriate agency. As luck would have it at that
6 time, Mr. St. John and I were not involved. What
7 happened at that time, and it's also appended to
8 our original petition, Blake Leasing applied for
9 approval under as I recall presumably from what I
10 could discern from the documents that were filed
11 applied to IEPA for approval either under the
12 variance provisions that EPA can grant a variance
13 or the limited adjusted standard provisions.
14 Mr. Kim at that time either in his capacity as
15 general counsel or as acting director, I can't
16 remember which, I believe it was general counsel,
17 correctly advised Blake Leasing that they needed
18 to file a petition under Section 14.2 of the
19 act -- C of the act. Ergo here we are today.

20 The first petition was filed in
21 April of 2016. That petition was supported by the
22 studies done by ECI, Environmental Contractors of
23 Illinois, and Geothink, which were Blake Leasing's
24 original consultants in this matter. The Board

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1 reviewed that consistent with -- I think it was an
2 opinion by Ms. Zalewski, Board Member Zalewski.
3 There was an instruction from the Board to amend
4 the petition.

5 At that point in time,
6 Mr. St. John was retained to -- as the consultant
7 to do a critique of what had -- what had occurred
8 and to file support for an amended petition.

9 Pursuant to Board Member Zalewski's order as I
10 recall, I think our amended petition was going to
11 be due in January -- January 6th, 2017.

12 Mr. St. John, as Hearing Officer Halloran said
13 today, will provide summary testimony. Obviously,
14 we don't want to reinvent the wheel and go through
15 the entire record that has already been made here
16 over the course of the past two years. He will
17 hit on the highlights as I will try to right now
18 in the opening statement.

19 Mr. St. John has extensive
20 experience in the area of remediation in and
21 around well fields, public and private well
22 fields. I ran into Mr. St. John in Shelbyville,
23 Indiana and then at the arsenic contamination
24 problem in Kokomo, Indiana. That's where I ran

1 into Mr. St. John.

2 The first thing that
3 Mr. St. John did was, of course, look at all the
4 historical data for the site. He also visited
5 with the Village and looked at the Village's
6 records that pertained to their community well
7 service, their system. The evidence will show and
8 as highlighted by Mr. St. John that there are
9 three wells included within the Village of
10 Kirkland's system. They have designated three
11 wells, but they use two wells.

12 Well number one is a well of
13 1896 vintage. It is leased by the Village of
14 Kirkland from the Canadian Pacific Railroad. It
15 is on Canadian Pacific Railroad property. It is
16 what I call for want of a better word, and this is
17 just my summary, nobody else's, a backup backup
18 well. As Mr. St. John learned, as he will
19 testify, during the course of his interview of the
20 manager of the water department, the Village
21 engineer and the mayor that this well is not
22 hooked up to the City of Kirkland's public water
23 system. This well is simply flushed once a year
24 and tested once a year I presume based on my

1 experience in public water cases consistent with
2 the Safe Drinking Water Act requirements and IEPA
3 and this Board's regulations as to public water
4 sources. So it is simply tested -- flushed once a
5 year and tested once a year. It is not hooked up
6 to the water tower or to the treatment system, to
7 the water treatment system. That is the first
8 well that is impacted by the proposed remediation,
9 the one that is on the railroad property.

10 The second well is well number
11 two, which I believe the vintage of well number
12 two is in the 1950s. This served for many years
13 as the primary production well for the Village of
14 Kirkland.

15 The third well is well number --
16 that well as well -- excuse me. If I can back up
17 a second. That well as well is subject to this
18 petition of late based upon comments which IEPA we
19 think wisely made that they pointed out in the
20 course of this proceeding.

21 Well number three is a well that
22 was developed in 2005. It is not within the
23 setback zone and as a matter of fact it is more
24 than a mile west of the City of Kirkland. It was

1 developed in 2000 -- I believe 2005. What
2 Mr. St. John will testify to that he learned is
3 that the well number two and well number three are
4 used alternatively in synch. One well is used and
5 then -- to fill the water tower. That well is
6 given a respite and then the other well is used
7 the next time the water tower needs to be filled
8 and so on and so on and so on.

9 Mr. St. John will also testify
10 that by looking at the site he saw a curious
11 anomaly. The curious anomaly which I think
12 probably that the staff, the Board members and
13 IEPA have noted is there are certain pockets of
14 contamination in close proximity to areas that
15 have -- do not have levels of contamination that
16 exceed Class 1 groundwater standards and that's
17 what we're shooting for here is compliance with
18 Class 1 groundwater standards.

19 Mr. St. John conducted two
20 studies. One in 2016, a follow-up study in
21 2000- -- in August of 2016, a follow-up study in
22 November of 2016 to determine what caused this
23 anomaly. What he will testify to is that those
24 two studies as supplemented by some additional

1 what I call supplemental or fringe testing in
2 December 2016 to confirm certain things showed
3 that some of the elevated levels were due to
4 excess turbidity based on the way the wells had
5 been sampled for years by the prior consultants.
6 So, in other words, and I guess for want of a
7 better word as I always put it, you were sampling
8 soil -- microscopic bits of soil contamination in
9 water, not groundwater contamination. He will
10 testify as then -- that he used low level methods
11 of testing to obtain accurate groundwater levels
12 which reduced the number of points at which
13 treatment was needed.

14 The second thing that he noticed
15 was the areas of contamination that exceed Class 1
16 groundwater standards, and they are as he will
17 testify very slight, they are very slight
18 exceedances where there are exceedances, were
19 directly correlated to areas of low levels of
20 dissolved oxygen leading him to conclude that if
21 more oxygen was simply introduced into the
22 groundwater in this uppermost water bearing unit
23 that by natural attenuation, the natural microbes
24 would continue to attack the contamination and

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1 bring it down -- in those very few areas where we
2 have exceedances would bring it down below Class 1
3 standards as it had for the majority of the -- the
4 majority of the area.

5 Mr. St. John did some follow-up
6 testing in December of 2016 based upon some excess
7 turbidity that they were still dealing with.

8 Those results confirmed that, again, the elevated
9 levels of contamination seen in certain areas were
10 simply the result of excess turbidity and once an
11 adequate low level quality sample --
12 representative sample of groundwater was garnered
13 there was -- there was no exceedance of Class 1
14 standards.

15 Mr. St. John will testify that
16 he assembled a technical memorandum in support of
17 the amended petition. The amended petition was
18 filed on January 6th, 2017. Thereafter, based
19 upon inquiries both by the Board and by IEPA, he
20 filed in February, February 23rd, 2017, an
21 expanded conceptual approach where he outlined why
22 he thought air sparging was the best alternative
23 here and why it satisfied each of the four
24 criteria set forth in 14.2 of the act.

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1 Subsequent to that submission,
2 this Board submitted questions to Mr. St. John and
3 to Blake Leasing which were answered on
4 February -- I believe late February if -- my
5 memory escapes me at the time. In any event,
6 those -- those inquiries were responded to by
7 St. John on March 17th, 2017, in which he outlined
8 precisely all of the reasons why he felt that air
9 sparging was the best alternative here, why it
10 satisfied each of the criterion under 14.2 of the
11 act. He also included as he will testify today in
12 response to the Board's questions what the closure
13 plan was, what would be deemed success, mission
14 accomplished, what would be deemed a success here;
15 when the system could be closed, what the closure
16 plan would be after that, how the wells would be
17 abandoned.

18 In addition, we had --
19 Mr. St. John and I had recommended that a
20 follow-up sampling be done in March of 2017 simply
21 to make sure that the follow-up sampling confirmed
22 what we saw in August, November and December of
23 2016. Those results were also submitted as part
24 and parcel of the March 17th, 2017, submittal.

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1 Subsequent thereto, the Agency
2 reviewed the comment of this submission post its
3 own questions and we responded to those and the
4 Agency noted and we thought aptly so that, well,
5 it appears that probably you can reach the
6 contamination plume in question, which had been
7 defined by Mr. St. John by the way after his
8 studies in 2016. He had defined the nature and
9 extent of the plume and thought that air sparging
10 was the best way to address it to minimize
11 potential impacts.

12 The IEPA, the Agency pointed out
13 you may be right -- and this is in the record.
14 I'm simply paraphrasing the record. The record is
15 what the record is, but I believe the gist of the
16 comments were "You may be right that your proposed
17 air sparging will not encroach upon the setback
18 zone for well number two, but doesn't it make more
19 sense since there may be some fringe contamination
20 there, doesn't it make more sense to do everything
21 at once?" We agreed with that, filed our
22 response. In response to that -- the last
23 submission was in response to this Board's
24 questions in early May as to "What is your amended

1 sparging plan and what are the maximum feasible
2 alternative setbacks?"

3 Mr. St. John will testify as to
4 what those are and why and why he believes those
5 meet each of the four critical criteria in Section
6 14.2 of the act and Section 106.310 of the
7 regulations. I guess in summary our position is,
8 and our theme is, we inherited a problem, we're
9 trying to address the problem, we're trying to
10 address the problem in a way which does -- will
11 not expand the plume, will not increase the
12 concentration in the plume, will not exacerbate
13 the plume in any way, shape or form whatsoever.
14 It uses air, what we're all breathing in here
15 today. Oxygen in, ambient air, what we're all
16 breathing in here today and that Blake Leasing
17 wants to be part of the solution and not part of
18 the problem.

19 HEARING OFFICER HALLORAN: Thank
20 you, Mr. Helsten. Ms. Olson, any opening?

21 MS. OLSON: Hi, good morning. I
22 just want to take a minute to thank the Board for
23 holding this hearing and Mr. Helsten for being
24 here today and I just wanted to let you know that

1 during your opening statement our screen flashed
2 and a warning came up that said the computer is
3 going to restart.

4 MR. KRUSE: It did and I'm trying to
5 handle that as quickly as possible and I was given
6 no alternative. So we're just going to work with
7 that.

8 MS. OLSON: Okay. So if we
9 disappear, we're still here.

10 MR. KRUSE: Yeah, I don't think our
11 conveyance has anything to do with -- can you hear
12 me, Joanne?

13 MS. OLSON: Yeah, you guys
14 disappeared again.

15 MR. KRUSE: I don't think it has
16 anything to do with conveying the camera and
17 sound. I think what you're just seeing is the
18 one -- for the camera to show what the computer is
19 doing and I can just hide that this way.

20 MS. OLSON: Perfect. Well, I told
21 the staff out there that this might be a problem.
22 So they may come in here.

23 MR. KRUSE: Sure.

24 MS. OLSON: We're on mute. So we'll

1 be fine.

2 MR. KRUSE: Okay.

3 MS. OLSON: Thanks.

4 MR. KRUSE: So given what Joanne
5 just said and what my computer is showing, I
6 cannot pull up the Power Point right now.

7 THE WITNESS: Okay.

8 MR. KRUSE: But I am hoping we can
9 do that quickly. Is that the Power Point the very
10 beginning of your talk or do you want to go ahead
11 and get started?

12 MS. OLSON: Chad?

13 MR. KRUSE: Yeah?

14 MS. OLSON: We have the Power Point
15 on a laptop right here.

16 MR. KRUSE: Great.

17 MS. OLSON: So we're fine.

18 MR. KRUSE: How do you want to --

19 MR. ST. JOHN: I mean, this is such
20 a small community I can probably just use the
21 reports and show you guys the papers if you want
22 me to.

23 MR. RAO: Chad, is it rebooting?

24 MR. KRUSE: Yeah, it says

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1 configuring Windows update, 75 percent complete.

2 Do not turn off your computer.

3 MR. HELSTEN: Do we want to make
4 copies?

5 HEARING OFFICER HALLORAN: Let's go
6 off the record for a minute.

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

10 HEARING OFFICER HALLORAN: We're
11 back on the record. I think Mr. Helsten is going
12 to call his first and only witness and I'll have
13 Mr. Brickey swear him in and we can proceed.
14 Mr. Helsten?

15 MR. HELSTEN: Yes, Mr. Halloran. As
16 a preliminary matter before we take Mr. St. John's
17 testimony, I would ask the Board to take
18 administrative notice of the entire record made in
19 this matter to date as part of the petitioner's
20 hearing and presentation.

21 HEARING OFFICER HALLORAN: Ms.
22 Olson, any objection?

23 MS. OLSON: No objection.

24 HEARING OFFICER HALLORAN: All

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1 right. Granted. So noted.

2 MR. HELSTEN: Thank you.

3 HEARING OFFICER HALLORAN: Thank
4 you.

5 MR. HELSTEN: We would call at this
6 time, Mr. Halloran, Mr. Ron St. John.

7 HEARING OFFICER HALLORAN: Terrific.
8 Mr. St. John, if you can raise your right hand,
9 Mr. Brickey will swear you in, please.

10 WHEREUPON:

11 RONALD ST. JOHN
12 called as a witness herein, having been first duly
13 sworn, deposeth and saith as follows:

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

15 BY MR. HELSTEN

16 Q. Can you state your name for the
17 record, please?

18 A. Ronald B. St. John.

19 Q. What is your occupation,
20 Mr. St. John?

21 A. I'm a professional hydrogeologist.

22 Q. Would you briefly go into for the
23 benefit of all of us here your educational
24 background and career experience?

1 A. Sure. I have a bachelor's degree in
2 geology from Southern Illinois University. I did
3 graduate work in hydrogeology at Wright State
4 University. I worked for the Illinois EPA in the
5 groundwater section in 1980 and '81 for Dr. Ralph
6 Piskin and published some reports there related to
7 those studies. Essentially, I've been a
8 practicing hydrogeologist for the past 37 years
9 predominantly in the Midwest, but that being said
10 I'm currently working outside as far east as
11 Massachusetts and as far west as California.

12 **Q. Okay. More specifically, could you**
13 **tell us a little bit about your experience with**
14 **remediation of well fields, both public and**
15 **private potable water sources?**

16 A. Well, aside from the two you
17 mentioned where we met, one in Kokomo, Indiana
18 related to arsenic contamination there and the
19 other one in Shelbyville, Indiana related to TCE
20 contamination I've worked quite a few public water
21 supply and private well matters. Probably the
22 highest profile one in the last 15, 20 years is
23 the Lockformer site in Lisle, Illinois. I've been
24 the project manager for the Lockformer site from

1 day one and saw through to the completion and the
2 no further action letter issued by Illinois EPA
3 earlier last year. I worked on the southeast
4 Rockford Superfund site and worked with the city
5 there in getting that whole deal struck with US
6 EPA.

7 I worked on the Frank's
8 Industrial Waste Site in Pecatonica, Illinois and
9 the groundwater contamination there impacting the
10 resident department along Ferguson Road. I'm
11 currently working in southern Indiana in Madison
12 along the Ohio River for a client named Charter
13 Oil International that has -- that operated a
14 series of bulk storage tanks and had chlorinated
15 solvent storage and has come close to impacting
16 their city well field and performing remediations
17 there and I guess I could go on if you really feel
18 the need.

19 **Q. Briefly, could you tell us about**
20 **your past experience in the area of seeking and**
21 **obtaining setback exceptions such as the one that**
22 **is the subject of this matter?**

23 A. Sure. The only other real exception
24 that I've worked on is for Paul Johnson, Inc. in

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1 Waterman, Illinois, which is a very similar
2 matter. It's hydrocarbons, benzene and PNAs
3 around a very similar sort of incident where they
4 had a deep well and we needed setback exceptions
5 to perform similar shallow remediation.

6 **Q. Mr. St. John, you've been retained**
7 **by Blake Leasing in this matter, correct?**

8 A. Correct.

9 **Q. Can you tell me approximately when**
10 **you were retained and why you were retained?**

11 A. We were -- I was re- -- we were
12 retained -- I was retained in July of 2016 and we
13 were retained to help with this setback exception
14 and review all the hydrogeology and provide
15 direction on the project.

16 **Q. Okay. Now, have you -- as a**
17 **preliminary matter, have you prepared a Power**
18 **Point presentation that you think would aid the --**
19 **everyone here and the trier of fact here?**

20 A. Yes.

21 **Q. Okay. Does the Power Point**
22 **presentation simply summarize certain contents of**
23 **submissions that you've already made so far?**

24 A. Yes, that's all I've done in terms

1 of its contents.

2 **Q. What was the first thing that you**
3 **did on this project?**

4 A. The first thing we did was to review
5 the hydrogeology and geology related to the
6 Kirkland area and the well field and the wells,
7 the publications by the Illinois State Geological
8 Survey, the Illinois State Water Survey and the
9 previous data prepared by the consultant that was
10 working on the project.

11 **Q. Okay. Did you prepare a cross**
12 **section that sets forth the data in relation to**
13 **the wells in Kirkland?**

14 A. Yes.

15 **Q. Is that included at slide three of**
16 **your Power Point presentation?**

17 A. I believe it is.

18 **Q. Could you please just basically**
19 **summarize what is included there? Slide number**
20 **three.**

21 A. He doesn't quite have it ready yet.
22 So that cross section, pardon me, runs from the
23 east of Kirkland through Kirkland and the city
24 well field well number two to the west and then

1 goes west of the city, the village, approximately
2 a mile and a quarter to municipal well number
3 three.

4 **Q. And you've set forth the location of**
5 **all three wells on this cross --**

6 A. Actually, no, only two of the city
7 wells are shown. Wells two and three are shown on
8 this cross section.

9 **Q. Okay. So you reviewed this**
10 **stratigraphy in and around this site and the**
11 **geological strata?**

12 A. Yeah, one of the nice things about
13 Kirkland well number two is that the Illinois
14 State Geological Survey took the boring log from
15 that well, which was developed or installed in
16 approximately 1950, and they did a detailed
17 geological analysis of it. So it made my job
18 pretty easy.

19 **Q. Could you summarize what the**
20 **stratigraphy is in and around well number one and**
21 **two?**

22 A. Wells one and two -- sure. You have
23 approximately in the vicinity of wells one and two
24 it might be easier actually to look at cross

1 section CC Prime, which is I believe the next one
2 you have on.

3 MR. KRUSE: If I may just for
4 clarification, it's unclear to anyone not looking
5 at this which wells are illustrated on this slide.

6 Can you just point out that this
7 is -- what we're seeing right now? Which well
8 does this depict?

9 THE WITNESS: So that was the figure
10 that I was using previously. The deeper of the
11 two wells in the middle of that cross action AA
12 Prime is city well number 2 and the one to the
13 left -- the one to the left, the left side of the
14 cross section, is city well number three. So
15 actually try -- which one is that? That's three.
16 Go back to two if you would -- sorry. Go to
17 three. Next one.

18 MR. KRUSE: This is slide three.

19 THE WITNESS: Go to four.

20 BY THE WITNESS:

21 A. So this cross section is -- is
22 simply a cross section for the city emergency
23 backup well number one, which is on the right side
24 of this drawing, and goes through -- and you can

1 see the base of the water tower in approximately
2 the center portion of that cross section, just
3 showing up, and it runs to the north to well
4 number two and related to the geology you have
5 approximately 30 feet of sand and gravel overlying
6 a silty clay glacial till unit that's also
7 approximately 30 feet in thickness.

8 Water saturates the shallow sand
9 and gravel at approximately five, six feet in
10 depth to form a water table aquifer and then below
11 the glacial till you have the Galena Dolomite, the
12 Decorah Dolomite, the Platteville Dolomite,
13 typically known as the Galena-Platteville, and
14 then an expansive shale unit identified in the
15 green as the Glenwood Shale and then below that
16 the St. Peter Sandstone.

17 BY MR. HELSTEN:

18 Q. Is the Glenwood Shale unit an
19 impermeable unit?

20 A. Yeah, typically, the Glenwood Shale
21 doesn't yield valuable quantities of water.

22 Q. Do you consider it an aquitard?

23 A. Yes.

24 Q. Okay. What was the next thing you

1 **did other than look at geological records for the**
2 **site and prepare a cross section? What did you**
3 **then do?**

4 A. Well, we reviewed the sampling
5 methodologies and the groundwater data developed
6 by Geothink and the other consultant's name that I
7 can't remember right now.

8 **Q. ECI?**

9 A. ECI. And realized that they were
10 sampling the wells by bailer method and they were
11 determining very high concentrations in the
12 laboratory determinations that identified very
13 high concentrations of iron and lead in the
14 groundwater as well as PNAs, polynuclear aromatic
15 hydrocarbons, and benzene that seemed unusual in
16 terms of their transportability, mobility and it
17 was concluded that there was a fair probability
18 that some of the groundwater data as it stood on
19 the record to that point in time had been
20 influenced by the sampling methodologies, i.e.,
21 the use of bailers and the sampling of turbid
22 groundwater and submission of that turbid
23 groundwater for analytical analysis.

24 HEARING OFFICER HALLORAN: Sorry,

1 Mr. Helsten. Ms. Olson, are you still with us?

2 MS. OLSON: Yes, we are.

3 HEARING OFFICER HALLORAN: All
4 right. Thank you.

5 MS. OLSON: Thanks.

6 BY MR. HELSTEN:

7 Q. Mr. St. John, after reviewing
8 geological data from in and around the well field
9 area and the site and after reviewing prior
10 records generated by -- and data generated by ECI
11 and Geothink, what did you then do? Did you ever
12 sit down with the Village and review the well
13 system?

14 A. Yes. So we developed a -- what I'll
15 call a conceptual site model for the site,
16 potential transport and groundwater flow based on
17 the previous data and our suspicions related to
18 the groundwater analytical data. We met with the
19 city water department, Paul Naugle, who at the
20 time was the head of the city water department and
21 outlined the performance of a hydraulic pump test
22 utilizing city well number two, the well
23 immediately north of the site, and one of the two
24 primary wells that are used in a cyclical fashion

1 to supply water to the city.

2 In meeting with Mr. Naugle, we
3 learned this information just exactly how they
4 operate their well system. They typically pump
5 the wells well two and well three on a cyclical
6 basis on five to seven days typically
7 intermittently. One well will operate for five to
8 seven days to fill the water tower and then they
9 take that one offline and then they use the other
10 well outside of town to fill the water tower and
11 then they just go back and forth like that on a
12 routine basis and we outlined the hydraulic
13 testing that we would perform to evaluate the
14 hydraulic connection between the glaciofluvial
15 sediments and the water table in the glaciofluvial
16 sediments and the bedrock aquifer and that would
17 require us to install a groundwater monitoring
18 well as close as we practically could to their
19 Village well number two and essentially it was
20 installed right outside the door of their --
21 of their well house 18 feet away from their well
22 and we outlined a procedure where we would have a
23 well that is pumping -- supplying water to the
24 city for the seven days prior to our testing the

1 one that is the west, well number three, a mile
2 away from the city, would supply all the water for
3 those seven days prior to the testing so that the
4 water level in well number two, the well we were,
5 you know, interested in and it's just immediately
6 north of the Blake site, that water level could
7 rebound and reach a static equilibrium prior to
8 our testing and then we -- during that process, we
9 also ran an antecedent trend period in our
10 monitoring well so we can monitor the water level
11 in our shallow monitoring well and our
12 glaciofluvial well. Leading up to this test, so
13 we -- and in doing that we identified diurnal
14 effects of the water level in the well and -- that
15 were primarily related to evapotranspiration
16 because the testing took place in August.

17 **Q. Let's back up for a second,**
18 **Mr. St. John. Can you just summarize for us**
19 **because we've been talking about the uppermost**
20 **water bearing unit and the glaciofluvial deposits**
21 **and the deep wells.**

22 **Can you just summarize for**
23 **everyone here what you found out from the**
24 **Village -- from the director of the water**

1 department, the Village engineer, what you found
2 out about each of the wells that are designated as
3 public supply wells by the Village of Kirkland
4 starting with well number one, for example, it's
5 age --

6 A. Sure.

7 Q. -- it's depth, how it's used?

8 A. Well number one is an emergency
9 backup well that actually is connected into the
10 city's system, but they have to go through quite a
11 bit of machination to get it to operate. To my
12 knowledge, I don't believe it's ever supplied
13 water in the near distant past.

14 Q. By distant past --

15 A. Probably the last 20 years.

16 Q. Okay.

17 A. It is a well that was drilled and
18 installed in 1896. It has a seven-inch casing and
19 this is all in the cross section that is up on the
20 screen right now. It has a seven-inch casing to
21 88-feet in depth into the upper portion of the
22 Galena Dolomite and below that it's an open hole
23 down to a total depth of 737 feet. So it collects
24 its water from the lower portion of the Galena

1 Dolomite, the Platteville and St. Peter Sandstone.

2 Well number two has a 12.5-inch
3 surface casing that goes through the glacial
4 sediments into the upper portion of the Galena
5 Dolomite and then it has installed below it an
6 eight-inch casing, a smaller diameter, eight-inch
7 casing through the 12 -- 12.5-inch casing down
8 into the Decorah Dolomite. So it cases off the
9 entirety of the Galena and then below that it is
10 open hole down to a total depth of 630 feet below
11 grade surface. And so the water it collects is
12 from the Platteville and the St. Peter Sandstone
13 and it's depicted on the left side of the cross
14 section that's on the screen right now.

15 Well number three is outside the
16 town to the west approximately a mile and a
17 quarter. It's on the -- one of the other -- it's
18 on that previous cross section. It actually is
19 drilled into the Troy Bedrock Valley, the old
20 ancient Troy River incised itself through nearly
21 all of the Galena-Platteville Dolomite. As you
22 can see on the left side of this cross section,
23 stratified fluvial sediments exist from surface
24 grade to an approximate elevation of about 500

1 feet above mean sea level and then municipal well
2 three is cased through the Glenwood Shale and it
3 receives all of its water from an open hole in the
4 St. Peter Sandstone.

5 **Q. Now, we can fast forward. You had**
6 **mentioned a site investigation, site**
7 **characterization effort that took place in August**
8 **of 2016. Was that the next thing that you did**
9 **after -- after -- number one you looked at the**
10 **geological data; number two, you looked at the**
11 **site history; number three, you looked at the**
12 **documentation and prior test done by ECI and by**
13 **Geothink; number four, you met with the Village**
14 **and thoroughly studied the well system. What was**
15 **the next thing you did?**

16 **A.** So then we developed a plan to test
17 the hydraulic connection between the glaciofluvial
18 aquifer and the bedrock aquifer which I started to
19 describe which had us installing the well
20 immediately outside well number two north of the
21 site, the well was installed approximately 18-feet
22 away from well number two, and it collected water
23 level measurements and that well was completed and
24 the glaciofluvial sediments so that for the week

1 prior to the test while the well number three
2 outside of the town was providing all the water to
3 the city and the water tower, well number two was
4 able to rebound and reach a static equilibrium for
5 our testing and gain the maximum amount of ability
6 to have any kind of an influence from the -- or
7 cause any kind of influence to our glaciofluvial
8 well.

9 So we then had well number two
10 turned back on with a pressure transducer
11 measuring the water level in the shallow
12 glaciofluvial well, operated that well for I think
13 it was about five, seven days and determined that
14 there really was no effect on the static water
15 level in the glaciofluvial sediments.

16 **Q. Why is that significant?**

17 A. Well, that's significant because it
18 shows there is no direct hydraulic connection.
19 While there was 18 feet or more of water level
20 decline in the water level in the municipal well
21 number two, there was no -- there was zero
22 observable decline in the water level in the
23 glaciofluvial aquifer well. And then in
24 conjunction with that testing to evaluate the

1 ability for the silty clay glacial till to form an
2 aquitard or impede the vertical migration of
3 groundwater, we did a sampling at the site of all
4 the groundwater monitoring wells by low flow
5 sampling methods.

6 **Q. Why did you use low flow sampling?**

7 A. So the low flow sampling was
8 performed to reduce the turbidity in the wells
9 which were believed to have caused some of the
10 previous lead exceedances and some of the
11 additional problems that were noted with some of
12 the PNAs and benzene concentrations.

13 **Q. Okay. When you were at the site in**
14 **August of 2016, did you observe any other activity**
15 **in and around well number one which is -- you**
16 **testified is located on the railroad property?**

17 A. Yes, our personnel performed the
18 sampling and in doing the testing observed a
19 contractor at the site working on the railroad and
20 drilling and installing borings on the railroad.

21 **Q. Okay. Now, did you receive findings**
22 **or sample results from your 2016 site**
23 **investigation --**

24 A. Yes.

1 **Q. -- effort? Did you review them?**

2 A. Yes.

3 **Q. Can you summarize the -- any**
4 **significant findings that you discern from a**
5 **review of those sampling results?**

6 A. The hydraulic testing indicated that
7 there was no observable drawdown on the
8 glaciofluvial well adjacent -- that was installed
9 adjacent to Village well number two and indicated
10 there was no direct hydraulic connection between
11 the bedrock aquifers and the glaciofluvial
12 aquifer.

13 **Q. Why is that important?**

14 A. Well, it's just not a direct pathway
15 from the glaciofluvial aquifer to the bedrock.

16 **Q. And the glaciofluvial aquifer is**
17 **where the groundwater contamination plume exists?**

18 A. That's correct.

19 **Q. Okay.**

20 A. And then in addition the testing
21 also indicated that there was no lead -- there was
22 no detections of lead in groundwater onsite.

23 **Q. Which had previously been noted in**
24 **elevated levels, correct?**

1 A. That's right.

2 **Q. Okay.**

3 A. And then additionally there were
4 fewer benzene and fewer and lower concentration
5 benzene and polynuclear aromatic hydrocarbon
6 detections. In addition, the -- since we did
7 sampling by low flow determinations, we're able to
8 determine the dissolved oxygen content of the
9 groundwater for the first time because it's really
10 nearly impossible to do by bailer method and
11 determine that there was -- within the area of the
12 site where organic contamination occurs, benzene
13 and the PNAs, that the dissolved oxygen was
14 depleted in that area of the glaciofluvial aquifer
15 of the site and it was basically a halo effect
16 where outside that area where the organic
17 compounds exist the dissolved oxygen
18 concentrations were background concentrations,
19 four parts per million or greater.

20 And that led to the conclusion
21 that there is this significant attenuation of the
22 organic contaminant migration at the site based on
23 the indigenous microbial population. Using that
24 dissolved oxygen which is its most fortuitous, it

1 has its greatest ability to -- and they derive the
2 greatest amount of energy by using dissolved
3 oxygen to metabolize organics that the conceptual
4 site model then had the organics -- supplying the
5 organic carbon for the microorganisms, would then
6 use that organic carbon and part of the
7 respiratory process they use dissolved oxygen to
8 aspire and metabolize the organics and that's why
9 they get depleted and one of the only reasons why
10 you -- I believe we have such low concentrations
11 of benzene and the PNAs which are just really only
12 slightly above the GROs, the Tier 1 Class 1, GROs
13 is because of the depletion of the dissolved
14 oxygen in the shallow glaciofluvial aquifer.

15 **Q. So, in summary, you saw a direct**
16 **correlation between low -- lower levels of**
17 **dissolved oxygen and lower levels of**
18 **contamination?**

19 **A.** That's right and that was
20 corroborated by dissolved iron concentrations in
21 groundwater between when the oxygen is depleted
22 the next electronic ceptor that is utilized is
23 iron. Iron -- there was an electron transfer.
24 Iron -- the iron in the formation then gets

1 reduced from the ferric iron plus three to ferrous
2 iron plus two. Ferrous iron plus two is soluble
3 in groundwater so you see elevated iron
4 concentrations in groundwater.

5 HEARING OFFICER HALLORAN: Mr.
6 Helsten, if you --

7 MR. RAO: Just a quick
8 clarification. Can you expand the abbreviation
9 GRO for the record, please?

10 THE WITNESS: The Tier 1, Class 1
11 groundwater remediation objective. Sorry.

12 MR. HELSTEN: I should have done
13 that. My apologies.

14 BY MR. HELSTEN:

15 **Q. Mr. St. John, after conducting the**
16 **August 2016 site -- investigation site**
17 **characterization study, did you conduct any**
18 **subsequent studies?**

19 A. Yes, we went back in November to
20 sample the wells again to see if we could
21 corroborate our August groundwater sampling.

22 **Q. Why?**

23 A. Just to make sure we had an accurate
24 picture of the site and conceptual site model.

1 **Q. Okay. And did you garner data from**
2 **that sampling exercise?**

3 A. Yes, essentially that data with the
4 exception of two wells that are wells 30S and 30D
5 all the data corroborated are data from August 30S
6 and 30D were sampled with elevated turbidity. We
7 had sampling issues at the site.

8 **Q. Excuse me. For purposes of**
9 **illustrating this and laying it out in clear**
10 **fashion, is the data compiled and laid out in**
11 **Power Point number eight and nine?**

12 A. I believe it is, yes.

13 **Q. Do you think that would aid the**
14 **trier of fact here in reviewing that as you give**
15 **your testimony?**

16 A. Sure. So what you see there -- I'll
17 just explain what you're looking at. You're
18 looking at dissolved oxygen concentrations. Do
19 you mind if I stand up?

20 HEARING OFFICER HALLORAN: Yes.

21 MR. HELSTEN: Permission to approach
22 the screen, Mr. Halloran?

23 HEARING OFFICER HALLORAN: I'm
24 sorry, Mr. Helsten?

1 MR. HELSTEN: Permission to approach
2 the screen?

3 HEARING OFFICER HALLORAN: Yes,
4 permission granted.

5 BY THE WITNESS:

6 A. So these are -- these are dissolved
7 oxygen concentrations with the lowest less than
8 half a part per million of dissolved oxygen in
9 groundwater in the glaciofluvial aquifer in the
10 center portion of the site and as you go away to
11 get to the periphery wells you start seeing
12 dissolved oxygen concentrations get back to
13 background. I think in this particular one the
14 highest concentration is two parts per million,
15 but on the other -- some of the other sampling
16 events the dissolved oxygen concentrations were as
17 high as four parts per million by the time you get
18 to the background.

19 BY MR. HELSTEN:

20 Q. Now, all of the investigation that
21 you did and the characterization and sampling you
22 did, did you reduce this to written or report form
23 and did you reduce that to the form of a technical
24 memorandum?

1 A. Yes. So Exhibit A is our January
2 5th, 2017, technical report that essentially
3 summarizes a lot of the technical content of my
4 testimony to date and includes the sampling data
5 that we're talking about that occurred in August
6 and November.

7 (Document marked as Petitioner's
8 Exhibit No. A for
9 identification.)

10 BY MR. HELSTEN:

11 **Q. Mr. St. John, you mentioned Exhibit,**
12 A. I'm showing you what's been marked as Exhibit
13 A. Can you tell me what that is?

14 A. It is the January 5th, 2017, report.

15 **Q. And was that technical memorandum**
16 **prepared as support for the amended petition that**
17 **was filed in this matter before at the Board's**
18 **request on January 6th, 2017?**

19 A. Yes, I just want to make a note that
20 the date on the front of that it says 2016, but it
21 was later corrected in correspondence to IEPA as
22 2017.

23 **Q. Okay. Now, Mr. St. John, did you**
24 **take steps to ensure that the data included in**

May 23, 2017

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1 **this report was accurate and reliable and truly**
2 **depicts and characterizes the physical conditions**
3 **that you observed and encountered?**

4 A. Yes.

5 **Q. Was the report assembled and**
6 **prepared at your direction and under your direct**
7 **supervision?**

8 A. Yes.

9 **Q. Does the study that you conducted**
10 **and the report that you assembled comport with**
11 **generally recognized scientific and technical**
12 **standards and principles?**

13 A. Yes.

14 **Q. Did you personally review and**
15 **approve of the contents of the memorandum?**

16 A. Yes.

17 **Q. Okay.**

18 MR. HELSTEN: I would offer Exhibit

19 A.

20 HEARING OFFICER HALLORAN: Mr.
21 Helsten, so it should be January 5th, 2017?

22 MR. HELSTEN: It should be January
23 6th, 2017. There is a typo. It says 2016.

24 THE WITNESS: Yeah.

1 HEARING OFFICER HALLORAN: So
2 January 5th, 2017.

3 THE WITNESS: Correct.

4 HEARING OFFICER HALLORAN: I think
5 what I'll do, and for the record, I'll just cross
6 out 2016, put in 2017.

7 Ms. Olson, do you have any
8 issues with that.

9 MS. OLSON: No, I would have no
10 objection for the exhibit to be admitted.

11 HEARING OFFICER HALLORAN: Thank
12 you. And I'm changing the January 5th, 2017. All
13 right. So admitted.

14 MR. HELSTEN: Thank you.

15 BY MR. HELSTEN:

16 Q. Now, Mr. St. John, did you come up
17 with a proposed method of remediation that's
18 included in the technical memorandum that's
19 introduced as Exhibit A?

20 A. Yes, consistent with the request by
21 IEPA and the Board, we did a best available
22 technology evaluation and I believe that's
23 contained in Appendix C of that report and
24 identify air sparging as the best available

1 technology.

2 **Q. Very briefly, could you just explain**
3 **for us, all of us here for the record actually**
4 **rather than all of us here because I think we all**
5 **here know what it is, could you explain how air**
6 **sparging works, explain why it was proposed here**
7 **as opposed to some other form of remediation?**

8 A. So air sparging just involves
9 installing a scintered diffusion point down to, in
10 this case, the base of the glaciofluvial aquifer
11 and you think of it almost like an air diffuser in
12 a fish tank really. All you're trying to do is
13 create a lot of very small bubbles and there is
14 actually a better apparatus that are developed for
15 industry to do than what you have in a fish tank.
16 You know, very small bubbles that not only
17 increase the area of the bubbles and provide a
18 better ability for them to diffuse into the
19 groundwater to create more dissolved oxygen, but
20 they all fit -- the smaller the bubbles the better
21 ability they have to fit through the pore throats
22 of the sand and gravel clasps within the aquifer.

23 So you basically drill down to
24 the base of the aquifer, about 30 feet in this

1 instance, you start sparging and these bubbles go
2 up in kind of a V upward sort of a shape and
3 proliferate through the groundwater and provide
4 dissolved oxygen diffusion into the groundwater.

5 **Q. Why did you propose that here as**
6 **opposed to bioremediation, chemical oxidation or**
7 **some other form of possible remediation?**

8 A. Because the limiting factor here
9 based on our analysis is the dissolved oxygen
10 depletion in the shallow glaciofluvial sediments,
11 all you really need is dissolved oxygen and the
12 indigenous microorganisms will take care of the
13 rest, they will use the low concentrations of
14 organic contaminants as a food source and the
15 dissolved oxygen will allow them to do that. It
16 is naturally occurring. Like you said before,
17 it's -- we're all breathing it in this room and it
18 requires -- it's simple, it's cheap, it's probably
19 the weapon of choice here.

20 **Q. As effective as bioremediation or**
21 **chemical oxidation?**

22 A. Yeah, I think the literature
23 supports -- my opinion the literature supports
24 this. If you don't need to inject any

1 microorganisms to enact a biological remediation,
2 you shouldn't. You should just use indigenous
3 populations.

4 **Q. Okay. And did you expand upon your**
5 **initial proposal in a technical memorandum later**
6 **in February, February 23rd, 2017?**

7 A. I believe we did.

8 **Q. I'm showing you what has been marked**
9 **as Exhibit B. Can you tell me what that is, if**
10 **you know, Mr. St. John?**

11 (Document marked as Petitioner's
12 Exhibit No. B for
13 identification.)

14 BY THE WITNESS:

15 A. Yes. This is our February 23rd memo
16 that responded I believe to a further questioning
17 I believe it was on the part of IEPA to provide
18 additional details on our conceptual air sparging
19 approach.

20 BY MR. HELSTEN:

21 **Q. And you thought it was appropriate**
22 **to respond to the Agency's inquiry, correct?**

23 A. Yes.

24 **Q. And what did you outline in this**

1 **conceptual report just briefly?**

2 A. That we would essentially install
3 air sparging points throughout the area of the
4 site that was depleted in dissolved oxygen. We
5 provided a schematic of what each of the air
6 sparging points would look like with the diffuser
7 and just a small system flow diagram.

8 **Q. Was the report assembled, prepared**
9 **at your direction and under your direct**
10 **supervision?**

11 A. Yes.

12 **Q. Do you believe that the principles**
13 **and the matters you set forth in the report**
14 **generally comport with generally recognized**
15 **scientific and technical principles in your field?**

16 A. Yes.

17 **Q. Did you personally review and**
18 **approve of the contents of the technical**
19 **memorandum before it was submitted?**

20 A. Yes.

21 MR. HELSTEN: Offer Exhibit B.

22 HEARING OFFICER HALLORAN: Ms.
23 Olson?

24 MS. OLSON: We have no objection.

1 HEARING OFFICER HALLORAN: All
2 right. Exhibit B is admitted. Thank you.

3 MR. HELSTEN: Thank you.

4 BY MR. HELSTEN:

5 Q. Mr. St. John, did you conduct
6 another site investigation in March of 2017?

7 A. Yes.

8 Q. Okay. Please tell us when and what
9 you did and what -- what the purpose of that site
10 investigation was?

11 A. Well, we went back to the site and
12 we sampled the wells -- all the wells at the site
13 again to further corroborate our conceptual site
14 model and, again, the data supported the other two
15 sampling events.

16 Q. Did you reduce this to memorandum
17 form?

18 A. Yes, I believe we did.

19 Q. And did you also incorporate in that
20 memorandum responses to questions which have been
21 posed by this Board?

22 A. Yes.

23 Q. Okay. Was that prepared in March of
24 2017?

1 A. Yes.

2 **Q. Showing you what has been marked as**
3 **Exhibit C, can you please take a look at that**
4 **document and tell me what it is, if you know?**

5 (Document marked as Petitioner's
6 Exhibit No. C for
7 identification.)

8 BY THE WITNESS:

9 A. Yes, this is the March 2017 -- March
10 17th, 2017, memo.

11 BY MR. HELSTEN:

12 **Q. What's included in there,**
13 **Mr. St. John, just briefly?**

14 A. It's -- it's responses to the
15 February 23rd, 2017, Pollution Control Board
16 questions.

17 **Q. So these were questions posed by the**
18 **Board on February 23rd, 2017?**

19 A. That's correct.

20 **Q. Those went to such issues as why air**
21 **sparging was selected, why it was the best**
22 **available technology, correct, other closure --**
23 **questions as to closure, questions as to how the**
24 **project would be deemed successful, correct?**

1 A. Yes.

2 Q. Did you also append to that the
3 results of your 2017 site investigation?

4 A. Yes.

5 Q. Okay. Did you take steps to ensure
6 that the data included in the report was accurate
7 and reliable and truly depicts and characterizes
8 the physical conditions you observed and
9 encountered in March of 2017?

10 A. Yes.

11 Q. Was the report assembled and
12 prepared at your direction and under your direct
13 supervision?

14 A. Yes.

15 Q. The principles that you laid out
16 there in response to the Board's inquiry, do you
17 believe that they comport with generally accepted
18 scientific and technical principles in this area?

19 A. Yes.

20 Q. Lastly, did you personally review
21 and approve of the contents of this memorandum?

22 A. Yes.

23 Q. Okay.

24 MR. HELSTEN: Offer Exhibit C.

1 HEARING OFFICER HALLORAN: Ms.

2 Olson, any objection with Exhibit C?

3 MS. OLSON: No objection. Thank
4 you.

5 HEARING OFFICER HALLORAN: Thank
6 you. Exhibit C admitted.

7 BY MR. HELSTEN:

8 Q. Okay. Now, Mr. St. John, did you
9 receive any -- any comments in response to your
10 technical submission that's been marked March of
11 2017 that has been marked Exhibit C? Did EPA
12 respond, in other words?

13 A. I believe they did.

14 Q. Okay. I'm going to show you, to
15 refresh your recollection, what has been marked as
16 Exhibit E. Is this a report that you prepared?

17 (Document marked as Petitioner's
18 Exhibit No. E for
19 identification.)

20 BY THE WITNESS:

21 A. Yes.

22 BY MR. HELSTEN:

23 Q. Okay. Could you tell us what that
24 report is, what it's intended to do? Take your

1 **time if you need to review it.**

2 A. So the Illinois EPA submitted
3 questions to us and these are our responses on
4 February 23rd of 2017 and these -- pardon me --
5 were our responses.

6 **Q. Okay. Did the questions posed by**
7 **the Agency include possible expansion of the air**
8 **sparging regimen?**

9 A. Yes.

10 **Q. Okay. Did you respond in this**
11 **technical memorandum to those comments or those**
12 **observations by the Agency?**

13 A. We did.

14 **Q. Okay. How did -- in what way?**

15 A. We -- we agreed with the Agency's
16 comments and agreed to expand the air sparging
17 system to include portions or include sparging
18 within the setback of village well number two.

19 **Q. Why did you agree with Agency's**
20 **observations?**

21 A. Because it really only made sense
22 if -- to not only -- not only from a technical
23 standpoint, but also to avoid any potential
24 additional exceptions for setback related to

1 village well number two.

2 Q. You're there -- do it once rather
3 than come back and do it again, correct?

4 A. Exactly.

5 Q. And I think you just said you
6 proposed additional air sparging wells, correct?

7 A. That's correct.

8 Q. Are those depicted in Power Point
9 number 12? I would like you for the benefit of
10 all us just briefly review those.

11 A. I believe they are, yes.

12 Q. Okay. Can you just briefly
13 summarize how this plan, your amended plan, the
14 most recent plan, differs from the original plan?

15 A. I think if you go back to the
16 previous slide you can see up in --

17 Q. Previous slide is 11.

18 A. You can see in the upper portion
19 where it says zone one in the northern portion we
20 only had five sparge points. Now, if you go back
21 into this -- into the slide number 12, which is
22 the attachment to this April 21st submittal, we've
23 significantly augmented the number of sparge
24 points up in zone one and actually zone one is now

1 even further north and instead of having five we
2 have something on the order of -- there is 15. So
3 we went from five sparge points to 15 sparge
4 points in the northern portion of the site.

5 Q. Okay. Mr. St. John, did you take --
6 was a report assembled and prepared at your
7 direction and under your direct supervision?

8 A. The April 21st report?

9 Q. Yes, the one that is in your hands.

10 A. Yes.

11 Q. And does the study that you put
12 together and the submission you put together
13 generally comport with recognized scientific and
14 technical principles in this area?

15 A. I believe it does.

16 Q. Okay. Did you personally review and
17 approve of the contents of this memorandum before
18 it was submitted?

19 A. Yes.

20 Q. Okay.

21 MR. HELSTEN: I offer.

22 HEARING OFFICER HALLORAN: Thank
23 you. Ms. Olson, any objection to Petitioner's
24 Exhibit E?

1 MS. OLSON: No objection.

2 HEARING OFFICER HALLORAN: Thank
3 you.

4 BY MR. HELSTEN:

5 Q. And did the Board, thereafter, pose
6 additional questions to you, Mr. St. John, about
7 the calculation of the maximum alternate setback?

8 A. I think this was attached.

9 Q. Okay. Alternate setback -- and ask
10 you to submit some additional information
11 concerning your sparging proposal?

12 A. Yes.

13 Q. I'm handing you what has been marked
14 Exhibit F and asking if you're familiar with that
15 document?

16 (Document marked as Petitioner's
17 Exhibit No. F for
18 identification.)

19 BY THE WITNESS:

20 A. I am.

21 BY MR. HELSTEN:

22 Q. What is that document?

23 A. It is our response to the Pollution
24 Control Board's questions of May 9th, 2017.

1 Q. Okay. And was this -- again, was
2 this assembled at your direction and under your
3 supervision?

4 A. Yes.

5 Q. And the matters set forth in there
6 generally comport with recognized scientific and
7 technical standards in your field?

8 A. Yes.

9 Q. Do you feel the information included
10 in there is accurate and reliable and truly
11 depicts and characterizes what you propose to do?

12 A. Yes.

13 Q. Okay. Did you personally review and
14 approve of the contents of the memorandum before
15 it was submitted to the Board?

16 A. Yes.

17 MR. HELSTEN: Offer F.

18 HEARING OFFICER HALLORAN: Ms.
19 Olson, any objection -- excuse me. Any objection
20 to Exhibit F?

21 MS. OLSON: No objection.

22 HEARING OFFICER HALLORAN: Thank
23 you.

24 BY MR. HELSTEN:

1 Q. One last question, Mr. St. John, as
2 a matter of housekeeping. Did you put -- assemble
3 costs associated with your efforts in this -- in
4 this case to date and also detail the effort that
5 you have gone to to ensure that the remedial
6 proposal that is being -- that's being requested
7 here for approval is accurate and reliable? Did
8 you put together an itemization of your cost and
9 your efforts?

10 A. Yes.

11 Q. I'm showing you what has been marked
12 as Exhibit D. Can you tell me what that is?

13 (Document marked as Hearing
14 Exhibit No. D for
15 identification.)

16 BY THE WITNESS:

17 A. It is the cost associated with the
18 amended petition that we prepared on April 19th,
19 2017.

20 BY MR. HELSTEN:

21 Q. Does it -- and it outlines the
22 effort that has gone into this project by St. John
23 Mittelhauser to date as well, all of the steps and
24 the detail, correct?

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1 A. That's correct.

2 **Q. Okay.**

3 MR. HELSTEN: Offer Exhibit D.

4 HEARING OFFICER HALLORAN: Ms.
5 Olson, any objection?

6 MS. OLSON: No objection, but I have
7 a question. I just want to make sure that my
8 Exhibit D is the same as yours and the last page
9 is the owner/operator and licensed professional
10 engineer geologist budget certification form?

11 HEARING OFFICER HALLORAN: That's
12 mine.

13 THE WITNESS: That's what is on
14 here.

15 MR. HELSTEN: Yes. That's right,
16 Joanne.

17 MS. OLSON: Okay. Thank you. No
18 objection.

19 MR. HELSTEN: Thank you.

20 HEARING OFFICER HALLORAN: Admitted.
21 How much longer do you have?

22 MR. HELSTEN: I think I have
23 about --

24 HEARING OFFICER HALLORAN: We can go

1 off the record.

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

5 HEARING OFFICER HALLORAN: Mr.
6 Helsten.

7 MR. HELSTEN: Thank you,
8 Mr. Halloran.

9 BY MR. HELSTEN:

10 **Q. Mr. St. John, consistent with your**
11 **amended sparging plan, did you calculate the**
12 **maximum feasible alternative setbacks for wells**
13 **number one and two?**

14 A. Yes.

15 **Q. Okay. How did you do that? Just**
16 **tell us briefly how you did and tell us what they**
17 **are.**

18 A. They're outlined in our May 12th,
19 2017, memo. Simply the closest sparging point to
20 each of the two municipal wells, the -- the
21 distance from municipal well two is 370 feet and
22 the distant from the emergency backup well number
23 one was 30 feet.

24 **Q. Okay. And well number one is the**

1 **well that is not currently utilized for potable**
2 **water service, correct?**

3 A. That's correct.

4 **Q. Why, in your opinion, could these**
5 **alternative setbacks not be increased to a greater**
6 **distance?**

7 A. Well, because the area where the
8 dissolved oxygen is depleted is around the area
9 where the previous releases occurred from the
10 underground storage tanks from the 1989 release.
11 That's where the contamination exists. It would
12 do no good to sparge air up gradient of this site
13 to provide dissolved oxygen to further reduce this
14 contamination because the dissolved oxygen up
15 gradient of the site presumably is at about its
16 solubility limit because this is a sand gravel
17 aquifer.

18 It's receiving direct
19 precipitation infiltration and probably has -- as
20 that precipitation infiltration enters the aquifer
21 about 11 parts per million of dissolved oxygen and
22 it -- you know, the highest we've seen in
23 background concentrations is about four parts per
24 million and so there is a lot of other organic

1 matter, fertilizers, you know, and various other
2 organic matters that microorganisms are using
3 dissolved oxygen to metabolize on the way to get
4 into the site and it wouldn't do any good to
5 sparge any place else.

6 **Q. How long is it anticipated that your**
7 **air sparging remediation exercise will take?**

8 A. I believe we estimated from --

9 **Q. Is that figure included in your**
10 **March 17th, 2017, response to the Board's**
11 **questions?**

12 A. It is, I believe.

13 **Q. Okay.**

14 A. I believe we estimated a total
15 duration of the remediation process, including
16 demonstration of plume stability and reaching the
17 GROs I should say, of 24 to 30 months.

18 **Q. Okay. And is reaching the GROs in**
19 **this case the measure of success --**

20 A. Yes.

21 **Q. -- that defines mission**
22 **accomplished?**

23 A. Yes.

24 **Q. Okay. Just very briefly, does your**

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1 **proposal or your responses to the Pollution**
2 **Control Board's questions of February 23rd, 2017,**
3 **include a proposal as to how the air sparging**
4 **wells will be closed and abandoned, how this site**
5 **will be wrapped up?**

6 A. Actually, that's not in the February
7 23rd. I believe that's in the March 17th.

8 **Q. I'm sorry. March.**

9 A. March 17th memo. It's under item
10 9A. When we get the ball across the goal line, so
11 to speak, the wells will be abandoned, the
12 wells -- modern wells and air sparging wells will
13 be abandoned according to the Illinois Department
14 of Public Health and DeKalb County Health
15 Department requirements.

16 **Q. In its March -- in its February**
17 **23rd, 2017, questions posed to Blake Leasing, the**
18 **Board asked if you took into consideration the**
19 **potential for contaminate rebound once the system**
20 **has been turned off --**

21 A. Yes.

22 **Q. -- have you done that?**

23 A. Yes, we did.

24 **Q. In what regard? How did you take**

1 **that into consideration?**

2 A. Yeah, we -- yes, we did and we
3 indicated we would continue to operate the
4 sparging system.

5 **Q. If -- if what?**

6 A. If the GROs weren't met.

7 **Q. We're almost done, Mr. St. John.**

8 **Mr. St. John, do you have an opinion to a**
9 **reasonable degree of scientific and technical**
10 **certainty as to whether the amended petition as**
11 **supported by your plan will utilize the best**
12 **available technology?**

13 A. Yes.

14 **Q. Okay. What is your opinion?**

15 A. My opinion is that the air sparging
16 system that we've outlined would be the best
17 available technology.

18 **Q. And what's the basis for your**
19 **opinion?**

20 A. The basis is the fact that the
21 organics, the benzene and the PNAs are only
22 occurring at the very low concentrations just
23 barely above the GROs right now because there is
24 insufficient dissolved oxygen for the

1 microorganisms to continue to metabolize them and
2 basically get rid of them.

3 Q. Okay. By the way, one question, you
4 have defined the nature and extent of this plume,
5 correct?

6 A. Yes.

7 Q. And that was submitted in one of
8 your prior technical submissions to the Board,
9 correct?

10 A. Yes.

11 Q. Okay. And your plan applied -- is
12 applied to that plume and its location, correct?

13 A. Correct.

14 Q. So when you answer all these
15 questions, it includes a reference -- an implied
16 reference to the location of that plume, correct?

17 A. Yes.

18 Q. Okay. Mr. St. John, do you have an
19 opinion to a reasonable degree of scientific and
20 technical certainty as to whether the remedial
21 approach that you're proposing will minimize the
22 likelihood of contamination of well one and two?

23 A. Yes.

24 Q. And what is your opinion?

1 A. I believe it is the best remedial
2 measure to minimize the contamination -- the
3 potential contamination on wells one and two.

4 **Q. Why? What's the basis for your**
5 **opinion?**

6 A. Well, currently the contamination
7 isn't migrating across the property boundary. The
8 dissolved oxygen is depleted within the aquifer,
9 which is the only reason why these minor
10 concentrations of benzene and PNAs even show up in
11 the onsite modern wells right in and around the
12 area where the previous releases occurred and it
13 is my opinion that once we provide the dissolved
14 oxygen to the microorganisms the remainder of the
15 organics will be attenuated.

16 **Q. So you don't think your proposal in**
17 **any way will exacerbate the nature, extent or**
18 **concentration of the plume of contamination or in**
19 **any way threaten wells one or two?**

20 A. No. No, I do not.

21 **Q. Okay. Mr. St. John, do you have an**
22 **opinion to a reasonable degree of scientific and**
23 **technical certainty as to whether your proposal**
24 **will constitute a hazard to these two potable**

1 **wells?**

2 A. I do not believe it will pose a
3 hazard, no.

4 **Q. Why? What's your basis?**

5 A. Well, all we're doing is introducing
6 ambient air oxygen, compressed air to the
7 groundwater system and resupplying the dissolved
8 oxygen that would otherwise be in the groundwater
9 system if it weren't for the microbial activity.
10 These are all indigenous microbial populations
11 that are performing all this. We're not -- you
12 know, we're not augmenting them in any way. So
13 this is simply -- it's about as natural as a
14 remediation would get.

15 **Q. And you've touched on this before,**
16 **but just to be safe, do you have an opinion as to**
17 **whether the maximum feasible alternative setback**
18 **is being utilized in connection with your**
19 **remediation proposal in wells number one and two?**

20 A. Yes, I believe the outlined
21 distances that we previously provided in our May
22 12th memorandum summarizes those maximum
23 distances.

24 **Q. Okay. And you think those are the**

1 **maximum setback distances you can achieve?**

2 A. Yes.

3 **Q. Why can't you go further out?**

4 A. Well, as I touched on this before, I
5 don't believe it would do any good. We need to
6 provide the dissolved oxygen to the indigenous
7 microorganism population in or around where these
8 organic contaminants currently occur on the site.

9 **Q. Okay. And, lastly, do you have an**
10 **opinion to a reasonable degree of scientific and**
11 **technical certainty as to whether strict**
12 **application of the setback requirement would pose**
13 **an arbitrary and unreasonable hardship upon Blake**
14 **Leasing in its efforts to remediate?**

15 A. Yes.

16 **Q. Okay. What is your opinion?**

17 A. Well, it would -- it would render
18 the remedial measures ineffective, number one.

19 **Q. You mean if you were to remediate**
20 **outside the setback zone?**

21 A. Correct, the 400-foot setback.

22 **Q. Please continue.**

23 A. And it would be -- it would be --
24 and any other -- it may require other remedial

1 measures to be employed and they would certainly
2 be more costly and potentially even more -- not as
3 natural so to speak as the air sparging
4 remediation.

5 Q. So you're saying any other -- so
6 you've looked at other proposals and they would
7 cost a lot more money, correct?

8 A. That's correct.

9 Q. And they may not be as effective,
10 correct?

11 A. That's correct.

12 Q. Okay. And you think the only
13 effective way from a physical and cost point of
14 view to address the -- the contamination is to go
15 within the setback zones?

16 A. That's correct.

17 Q. And you -- you believe you have put
18 into place all of the protections that are
19 necessary to comport with the requirements of
20 Section 14.2 of the act?

21 A. I believe we have.

22 Q. Okay.

23 MR. HELSTEN: That's all.

24 HEARING OFFICER HALLORAN: Thank

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1 you, Mr. Helsten.

2 MR. HELSTEN: I tender the witness.

3 HEARING OFFICER HALLORAN: Ms.

4 Olson, any questions for Mr. St. John?

5 MS. OLSON: No. No, we don't have
6 any questions at this time. Thank you.

7 HEARING OFFICER HALLORAN: All
8 right. Thank you. I think what we'll do is take
9 about a 15-minute break and we'll meet back here
10 at, I don't know, what do you think ten to 12:00?
11 Around there.

12 MR. HELSTEN: Sure.

13 HEARING OFFICER HALLORAN: Thank
14 you.

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

18 HEARING OFFICER HALLORAN: It's
19 about 12:05 and I think Member Zalewski has a
20 question for Mr. Helsten. Member Zalewski?

21 MS. ZALEWSKI: Yes, thank you. Just
22 a question regarding the filing receipts on May
23 18th. That was the notice that you mailed to CT
24 Corporation System. So just a couple of questions

1 mostly -- I guess first most about the timing of
2 the letter sent five days before the hearing, if
3 you can speak to that, and I'm also going to ask
4 you -- we're trying to fully understand who is at
5 play here. I know you addressed it to CT
6 Corporation and it says -- you mentioned a
7 registered agent of Soo Line, doing business as
8 Canadian Pacific Railway. So just making sure the
9 right person is served. So do you want to speak
10 to that?

11 MR. HELSTEN: Sure. So as you get
12 ready, I'm going to be very candid, we have
13 dialogued with Canadian Pacific Railway and I can
14 in a post-hearing brief submit e-mail
15 communications with them. They were aware of this
16 for some time. We've had other communications
17 with them, but as you get ready, like everything
18 else, you know, one time I had to present -- a
19 ceiling of 100 days prior to trial and I said for
20 the 90 days prior to trial you do nothing and the
21 last 10 days you go full bore.

22 I looked at 14.2 in pari materia
23 with 14.3. Okay. The reason we have always
24 noticed from the get-go on this case, simply the

1 Village of Kirkland, is the reference in 14.3 I
2 always thought was instructive, Ms. Zalewski, that
3 talked about either the owner of the well field or
4 the county or municipality that used the well
5 field. Okay. Focusing on that language.

6 In this particular case, the
7 municipality which uses well number one to the
8 extent they use it as reflected in Mr. St. John's
9 testimony is the Village of Kirkland. This well
10 is on the railroad's property. It's leased as we
11 indicated in one of our submissions by the Village
12 of Kirkland from the railroad. Erring on the side
13 of caution, even though I have always thought that
14 the intent of the notice provision to give notice
15 to owners and operators in 14.2 is to give it to
16 the impacted or affected entity which would be the
17 Village of Kirkland because they designated it as
18 a potable water service well. We from the get-go
19 gave notice to them.

20 I thought why not give notice as
21 well to the owner so that we have complied in all
22 respects with the notice provisions of 14.2 when
23 read in pari materia with 14.3. The notice
24 provisions -- I understand the timeliness issues,

1 but the notice provisions unlike all those other
2 ones that you are intimately familiar like I am in
3 the act that describe a minimum date period, there
4 is no minimum date period for the notice
5 provisions in 14.2 unlike citing statute, unlike
6 other statutes where they say it must be served
7 you know, X days before the hearing.

8 So I figured let's err on the
9 side of caution. Let's submit to the registered
10 agent for Canadian Pacific a notice of this
11 hearing. That's why I did it. Now, do they have
12 actual notice as opposed to legal notice? Yes,
13 and we can submit e-mails in a post-hearing
14 submission that we were dialoging with them last
15 year on a possibility of lifting the designation
16 of this well. Very candidly lifting -- I'm going
17 to tell you very candidly. Lifting the
18 designation of a community water supply well for
19 well number one, lifting that designation because
20 we asked the Village and the Village said "Well,
21 no, we don't think so, but you can talk to the
22 owner as well." So we were dialoging with the
23 owner.

24 I sent it to the registered

1 agent because I think that's who I should have
2 sent it to. It's the Soo -- Canadian Pacific is
3 shown as the owner of the parcel upon which the
4 well is located, but of course as you aptly
5 pointed out our search of the Secretary of State's
6 record indicated that Canadian Pacific Railroad is
7 simply a business dial, it's a d/b/a for Soo Line.

8 MS. ZALEWSKI: Okay. If you could
9 submit a post-hearing brief, I would appreciate
10 that.

11 MS. OLSON: Yeah, sure.

12 MS. ZALEWSKI: I think that would be
13 helpful.

14 MR. HELSTEN: Sure.

15 HEARING OFFICER HALLORAN: Also in
16 the interim I may put CT Corp on the service list.

17 MR. HELSTEN: Yes, and we have been
18 sending things to them.

19 HEARING OFFICER HALLORAN: Correct.

20 MS. ZALEWSKI: But it's your
21 understanding they were aware of today's hearing
22 in advance of today's hearing?

23 MR. HELSTEN: In advance of today's
24 hearing?

1 MS. ZALEWSKI: Yes. So CT
2 Corporation knew about today's hearing? It's your
3 understanding they were aware?

4 MR. HELSTEN: They knew about it as
5 of last year because I thought I better tell them
6 about the hearing, but they knew we were going to
7 a hearing. They did not know the specific date
8 until last Wednesday or Thursday.

9 MS. ZALEWSKI: Okay.

10 MR. RAO: Just for point of
11 clarification when you mentioned that you had
12 prior correspondence with them, you used the word
13 them, is that with the --

14 MR. HELSTEN: Canadian Pacific.

15 MR. RAO: Not CT Corporation?

16 MR. HELSTEN: Not CT. That's an
17 important point because we were talking to people
18 in the real estate and acquisitions and
19 divestiture group at that point in time, which was
20 outside Illinois. So I figured for purposes under
21 the service provisions and requirements generally
22 of the Illinois Administrative Code I served the
23 registered agent in Illinois for these purposes
24 even though we have dialog in the past with

1 headquarters.

2 MR. RAO: Okay. Thank you.

3 MR. HELSTEN: That took place last
4 summer or last fall. We will submit that in a --
5 those e-mail.

6 MR. RAO: Did they express any
7 concern or any interest?

8 MR. HELSTEN: They just said no.
9 That's it.

10 MR. KRUSE: No to --

11 MS. ZALEWSKI: They said no to what?

12 MR. HELSTEN: No, we don't want to
13 drop the designated --

14 MS. ZALEWSKI: Okay.

15 MR. HELSTEN: Go forward with your
16 petition.

17 MR. RAO: Thank you.

18 MS. OLSON: The Agency would just
19 like to note that Section 14.2(c) of the statute
20 requires notice on the owner of the well and
21 Section 106.302 of the Board's procedural rules
22 only require notice on the owner of the potable
23 water supply.

24 So there was some confusion I

1 think about proper service and this issue came up
2 as we were preparing and we realized that the well
3 is actually owned by someone other than the
4 supply.

5 MR. HELSTEN: Well one.

6 MS. OLSON: So that's just our two
7 cents on this matter.

8 MR. HELSTEN: Well one is --
9 Ms. Zalewski, well one is owned by the railroad
10 leased to the village, but as Mr. St. John said he
11 doesn't -- it's pumped once a year, you know, just
12 to flush it. He doesn't believe it's been used
13 for decades.

14 MS. ZALEWSKI: At least wells two
15 and three you've confirmed is owned by the
16 village?

17 MR. HELSTEN: Yes.

18 MS. ZALEWSKI: Okay. And there is
19 no other owner or operator?

20 MR. HELSTEN: There is no other.
21 And that's in our original technical submission --
22 the first technical memorandum that is appended to
23 our amended petition. It outlines who owns the
24 wells and who operates. Wells two and three are

1 owned and operated solely by the Village.

2 MS. ZALEWSKI: Okay.

3 HEARING OFFICER HALLORAN: For the
4 record, Mr. Helsten isn't sworn in, but --

5 MR. HELSTEN: Everything I said I
6 would say consistent with my -- I would make a
7 professional statement consistent with my oath to
8 tell the truth as an officer of the court.

9 HEARING OFFICER HALLORAN: All
10 right.

11 MS. ZALEWSKI: I think a post
12 hearing brief will be helpful, though, to shed
13 light on these issues. So, thank you.

14 HEARING OFFICER HALLORAN: Member
15 Zalewski, any further questions?

16 MS. ZALEWSKI: I think that's all I
17 have.

18 MR. KRUSE: I wanted to add one
19 clarification.

20 HEARING OFFICER HALLORAN: Ms. Liu,
21 any questions of Mr. St. John?

22 MS. LIU: Member Zalewski asked
23 mine.

24 MS. ZALEWSKI: I'm sorry.

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1 HEARING OFFICER HALLORAN: Mr.
2 Kruse?

3 MR. KRUSE: So I think this question
4 is for Mr. St. John. As you were going through
5 your presentation regarding the wells and the
6 geology of the site, I believe I heard you say
7 that well number two has the capability of drawing
8 water from above the aquitard, so that's the
9 Glenwood Shale layer, and you also mentioned that
10 the Village alternates between well number two and
11 well number three.

12 I'm interested in detail about
13 that schedule of alternating. You touched on it a
14 little bit with your testing, but I'm interested
15 in more detail about the alternating, but I'm also
16 interested in what would -- some clarification
17 about whether well two can draw from above the
18 shale aquitard and in what cases it would do so.

19 THE WITNESS: Okay. So that
20 Glenwood Shale is a shale that separates the
21 bedrock units, the Galena-Platteville Dolomites
22 above from the St. Peter Sandstone --

23 MR. KRUSE: Sure.

24 THE WITNESS: But above the bedrock

1 is the silty clay glacial till, you know, deposit
2 from the continental glacials. So it's silty --
3 that's really what our testing involved. Our
4 testing was above that silty clay glacial till in
5 the sand and gravel glaciofluvial sediments where
6 the contamination exists from the KQS site and we
7 installed a monitor -- monitoring well in the
8 glaciofluvial sand and gravel aquifer and watch to
9 see if there was any sort of a water level decline
10 in reaction to pumping well number two, which is
11 completed in those bedrock units.

12 MR. KRUSE: So in no case would
13 water be drawn from above the Glenwood Shale for
14 drinking purposes?

15 THE WITNESS: Well, no. Well,
16 number two does have portions of its intake above
17 the Glenwood Shale in the Galena-Platteville
18 bedrock, but it's still all bedrock. I think we
19 might be making too big of a deal about the
20 Glenwood Shale.

21 MR. KRUSE: Okay.

22 THE WITNESS: It really -- it really
23 is -- in terms of separation of the bedrock
24 aquifers, it's a good aquitard. There is not a

1 lot of vertical conductance between the
2 Galena-Platteville bedrock unit, the dolomites
3 above it, and the St. Peter Sandstone below. That
4 Glenwood Shale for the most part inhibits that
5 vertical connection between those bedrock units.

6 Okay?

7 MR. KRUSE: Mm-hmm.

8 THE WITNESS: But the well -- well
9 number two actually, you know, is drilled through
10 all those units. So it's getting water from, you
11 know, both the Galena-Platteville and the
12 St. Peter Sandstone. All right?

13 MR. KRUSE: Mm-hmm.

14 THE WITNESS: And then it's the
15 glacial till silty clay that sits on top of all
16 that bedrock that separates the shale sand and
17 gravel aquifer from a direct height vertical
18 hydraulic connection to the bedrock aquifers.

19 MR. KRUSE: And the sand and
20 shale -- or the sand and gravel is where the
21 contamination is?

22 THE WITNESS: That's correct.

23 MR. KRUSE: Got it. And just
24 alternating between well number two and well

1 number three if you have any idea what that is.

2 THE WITNESS: They typically pump --
3 there is not -- it's not like it's on a timer or
4 anything, but it typically pumps -- they cycle
5 between wells two and wells -- the third well that
6 is outside of the town to the west they pump them
7 for about five to seven days at a time and then,
8 you know, they -- and those really actually
9 perform a backup for each other because if
10 something -- you know, if something needs to get
11 serviced on well three maybe it's going to take
12 two weeks, they just, you know, run well two for
13 that entire period of time and if they need to do
14 any work to the infrastructure and the piping, the
15 distribution system, same -- same answer.

16 I mean, those two wells really
17 just provide a backup for one another and they're
18 capable of producing -- when they pump them,
19 they'll pump them for three or four hours at a
20 time to fill up the water tower and they're
21 pumping somewhere between, you know, 200 -- it's
22 in my report 275 to 340 gallons per minute. It's
23 a lot of water. They're very prolific yielders.

24 MR. KRUSE: Thank you.

1 HEARING OFFICER HALLORAN: Any
2 further questions from Chicago? Ms. Olson, you
3 know Mr. Helsten rested. Any questions of this
4 witness?

5 MS. OLSON: No, your Honor.

6 HEARING OFFICER HALLORAN: Okay.
7 Any closing arguments or do you want to reserve
8 for post hearing?

9 MR. HELSTEN: I would reserve as we
10 usually do, Mr. Halloran, for post-hearing brief.

11 HEARING OFFICER HALLORAN: Ms.
12 Olson?

13 MS. OLSON: The Agency probably will
14 not be filing a post-hearing brief. At this time
15 we would just like to restate what we said in our
16 response filed in January that the Agency
17 recommends that the Illinois Pollution Control
18 Board grant the relief.

19 HEARING OFFICER HALLORAN: Okay.
20 For the record, May 29, I think the transcript
21 Mr. Brickey will have it ready and filed with the
22 Board. Let's go off the record for a minute.

23 (Whereupon, a discussion was had
24 off the record.)

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1 HEARING OFFICER HALLORAN: We're
2 back on the record. We have decided that the
3 transcript will be due May 30th and there is going
4 to be simultaneous briefs due on June 30th, 2017.
5 Public comment is due on June 16th, 2017, and any
6 reply from Mr. Helsten is due July 7th and the
7 record will close on July 7th. Anything else?

8 Okay. Thank you, counsel.
9 Thank you everyone in Springfield and Chicago.
10 Until next time.

11 MR. HELSTEN: Thank you.

12 MS. OLSON: Thanks.
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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., 2017.
16
17
18
19
20

21 _____
STEVEN BRICKEY, CSR
22 8 West Monroe Street
Suite 2007
Chicago, Illinois 60603
23 Phone: (312) 419-9292
CSR No. 084-004675
24

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