

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF

WASTE MANAGEMENT)
DISPOSAL SERVICES OF MAINE,)
NORRIDGEWOCK, SOMERSET)
#S-010735-WD-YB-N)

APPLICATION FOR CROSSROADS LANDFILL EXPANSION
PERMIT, MAINE HAZARDOUS WASTE, SEPTAGE
AND SOLID WASTE MANAGEMENT ACT
PUBLIC HEARING

PRESIDING OFFICER: SUSANNE MILLER

VIDEOCONFERENCE HEARING reported by Robin J. Dostie,
a Notary Public and court reporter in and for the
State of Maine, on October 1, 2020, via live Zoom
meeting commencing at 1:00 p.m.

REPRESENTING DEP STAFF:

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1 PROCEEDINGS

2 MS. MILLER: Well, good afternoon,
3 everybody. I now call to order this public hearing
4 of the Maine Department of Environmental Protection
5 on the application for a license filed by Waste
6 Management Disposal Services of Maine for a solid
7 waste landfill expansion. The license application is
8 for the proposed Phase 14 solid waste landfill
9 expansion at the Crossroads Landfill located in
10 Norridgewock, Maine.

11 Before we get started, I'd like to just go
12 over some considerations for Zoom Etiquette. First,
13 make sure to stay muted unless you're speaking. So
14 basically everybody should be on mute unless it's
15 your turn to speak. Second, turn off your video
16 unless you're actively participating in the hearing.
17 So basically the parties, you know, can keep their
18 video on. We want to make sure that if you're just
19 kind of observing and listening in, if you can turn
20 your video off that will help with the overall, you
21 know, audio/visual presentation piece. Finally,
22 should you have any questions you can send a message
23 to Ruth Ann Burke, who is moderating this session
24 through a private chat message. To do to this just
25 go to the chat function and make sure you send a

1 message to Ruth Ann and not to the entire group
2 unless you want everybody to see what you're saying.

3 My name is Susanne Miller. I am the
4 Director for the Department's Eastern Maine Regional
5 Office and I have been designated the Presiding
6 Officer for this matter by the Commissioner of the
7 Department. This designation is limited in its scope
8 to the authority necessary to conduct a hearing and
9 administer governing procedural statutes and
10 regulations in the development of the administrative
11 record. My role does not include the ultimate
12 decision-making authority on the merits of the
13 application, which the Commissioner expressly
14 retains.

15 This hearing is to gather evidence to
16 evaluate the application submitted by Waste
17 Management pursuant to the Department's requirements
18 under Maine's Solid Waste Management Rules,
19 specifically Department Rules 400, 401, and 405, and
20 Maine's Statutes, specifically 38 M.R.S. Section
21 1310-N and 2101. The purpose of the hearing is to
22 receive testimony from the parties and the general
23 public on whether the proposed project meets these
24 requirements. The information collected from this
25 hearing process and from the administrative record as

1 a whole will help the Department make an informed
2 decision based on the facts and statutory
3 requirements.

4 Waste Management must meet all of the
5 applicable licensing criteria in its written
6 submissions, but this hearing will focus on a subset
7 of the criteria, those that are of most concern to
8 the town, the public, and the Department. The
9 criteria for consideration at the hearing are limited
10 to the following: Groundwater aquifer protection;
11 visibility of the landfill; noise; odors; the solid
12 waste hierarchy; and recycling. These hearing
13 criteria are described in more detail in the Second
14 Procedural Order, which was issued on June 9, 2020.

15 Joining us on Zoom from the Department of
16 Environmental Protection today are David Burns, the
17 Director of the Bureau of Remediation and Waste
18 Management; Victoria Eleftheriou, the Deputy Director
19 for the Bureau of Remediation and Waste Management;
20 Molly King, the Director of the Division of Technical
21 Services; Linda Butler, the Project Manager; Gail
22 Lipfert, the Environmental Hydrogeology Specialist;
23 Kathy Tarbuck, Senior Environmental Engineer; Ruth
24 Ann Burke, the Office Specialist and she's also
25 moderating this for us. And also with us are

1 Katherine Tierney and Peggy Bensinger will be joining
2 us a little bit later, Assistant Attorneys General
3 and Counsel to the Department.

4 This public hearing is being recorded and
5 will be transcribed. Copies of the transcript will
6 be available upon request once the transcript is
7 completed. Our court reporter is Robin Dostie from
8 Dostie Reporting Service. Prior to presenting your
9 direct testimony or cross-examining a witness, please
10 state your name clearly and who you are affiliated
11 with. I may need to ask questions from time to time
12 to clarify names, affiliations, and exhibits just to
13 ensure that it is clear for the transcript, so please
14 bear with me as that occurs.

15 As I mentioned, Ruth Ann Burke from the
16 Department will be moderating the hearing using the
17 Zoom platform. As we progress through the hearing,
18 please direct any questions or issues to Ruth Ann
19 through the private chat function on Zoom. As a
20 reminder, everybody should check to make sure that
21 their mute button is on when they are not speaking so
22 that any side conversations or unwanted conversations
23 are not included in the record transcript and also so
24 as not to interrupt who is speaking. The only
25 exception to this will be for a party representative

1 who wishes to voice an objection during the course of
2 the adjudicatory hearing process.

3 This hearing is being held by the Department
4 pursuant to the Maine Administrative Procedure Act,
5 Title 5, Sections 9051-9064 and Chapter 3 of the
6 Department's Rules, Rules Governing the Conduct of
7 Licensing Hearings. On May 28, 2020 and August 21,
8 2020, the Department held pre-hearing conferences
9 using Zoom in which this hearing's procedures were
10 discussed. The procedures and rulings for this
11 hearing are specified in three Procedural Orders as
12 follows: The First Procedural Order issued April 4,
13 2020; Second Procedural order June 9, 2020; the Third
14 Procedural order August 24, 2020.

15 Notice of this public hearing was published
16 in the Kennebec Journal/Maine Sentinel on September
17 1, 2020 and September 22, 2020. Notice was also sent
18 to the parties as well as those persons and entities
19 set forth in Chapter 3 and all those specifically
20 requesting notification.

21 There will be two distinct portions of the
22 hearing. During the daytime portion of the hearing,
23 the Department will receive evidence from the
24 Applicant and the Intervenor. The Intervenor in this
25 proceeding is the Town of Norridgewock and the

1 Applicant is Waste Management. During the evening
2 portion of the hearing the Department will hear
3 testimony from the general public.

4 All witnesses at this hearing will be sworn
5 including members of the general public. All
6 witnesses, including members of the public are
7 subject to cross-examination from the Applicant and
8 the Intervenor and questions from the Department
9 staff.

10 All evidence already entered into the record
11 is available on the Department's website. If you
12 have any difficulty locating a specific document or
13 need more information you may contact Linda Butler,
14 the Project Manager for the Department.

15 All participants in the public hearing are
16 expected to conduct themselves professionally and
17 respectfully in their dealings with the public and
18 the Department throughout all of these proceedings.
19 The goal is to have a fair and productive public
20 hearing and I thank you in advance for participating
21 and for your patience as we get used to doing this
22 virtually.

23 With that, we will get the proceeding
24 started beginning with the Applicant's opening
25 statement from Ms. Browne.

1 JULIET BROWNE: Thank you. Good afternoon,
2 everybody. Juliet Browne from the law firm of
3 Verrill in Portland Maine, counsel for Waste
4 Management. Also here today with me is my colleague
5 Matt Todaro. And on behalf of the entire Waste
6 Management team, I just want to express our
7 appreciation for the opportunity today to present
8 information on the Phase 14 project and answer
9 questions from the Department and the Town and then
10 hear this evening from members of the public.

11 I also want to thank the Department staff
12 for the incredible amount of work that they have done
13 to review this application. It's a highly technical
14 very voluminous application and as you can tell from
15 the number of staff that are involved, it's required
16 a great deal of effort by staff to review and we
17 appreciate the deliberate process in which that
18 review has occurred.

19 I also want to thank the Town, which is the
20 host community here. Waste Management has always
21 worked to be a partner with the Town and worked hard.
22 We want to make sure that we are very responsive to
23 questions and concerns that the Town may have, not
24 only today, but, quite frankly, every day because we
25 really value the importance of that relationship and

1 want to make sure we remain a good corporate citizen
2 with the Town.

3 We obviously, and as the Presiding Officer
4 mentioned, are not going to go through the entirety
5 of the application or all of the review criteria, so
6 we are focusing on those topics that the Department
7 and the Town identifies as of most interest. And we
8 previously provided copies of PowerPoint
9 presentations and our plan is to have our witnesses
10 present the information that's on those PowerPoint
11 presentations. And presenting today will be Jeff
12 McGown and Sherwood McKenny from Waste Management;
13 Scott Luettich from Geosyntec; Alistair Macdonald
14 from Golder Associates; Scott Bodwell from Bodwell
15 EnviroAcoustics; and Lisa Wilkinson from SCS
16 Engineers. There are some additional individuals
17 that are on the panels, they won't be presenting, but
18 they are available to answer questions on cross and
19 that includes Nick Yafrate from Geosyntec, Brendan
20 Lennon from Golder Associates, and Joe Iannuzzi from
21 Waste Management. We also have present on behalf of
22 Waste Management Chris Prucha. He is the Director of
23 Groundwater and Technical Programs for Waste
24 Management and is available to answer questions as
25 well if necessary and appropriate.

1 MS. MILLER: Juliet, can you just tell me
2 how you spell his last name?

3 JULIET BROWNE: P-R-U-C-H-A.

4 MS. MILLER: Thank you.

5 JULIET BROWNE: Not as it sounds. And I'd
6 be happy to follow-up with Robin on names and
7 spellings.

8 We obviously wish we could be presenting
9 in-person. Obviously for health reasons we can't, so
10 bear with us as we all work with the technology. I
11 hope it will be seamless, but inevitably there will
12 be technological glitches. If for some reason you
13 can't see, we'll be sharing screens a lot, if you
14 can't see slides or if you can't hear the witness,
15 you know, let us know either through the chat
16 function or interrupting if appropriate because we
17 want to make sure this is as efficient, meaningful
18 process for everybody as it can possibly be given the
19 format.

20 That's all on my end. I'll turn it over to
21 the Town and then we'll just jump right into the
22 presentations so that you can hear from Waste
23 Management and its consultants about the Phase 14
24 project and answer questions on it. And, again,
25 thank you all for your time here today and for

1 working through the virtual format. We really
2 appreciate it.

3 MS. MILLER: Thank you, Ms. Browne. So,
4 yes, now if the Town is ready to present any
5 introductory or opening statement they can go ahead
6 and do so.

7 RICHARD LABELLE: Thank you. My name is
8 Richard LaBelle. I'm the Town Manager for the Town
9 of Norridgewock. And just real briefly, I want to
10 thank the Department for their time and allowing us
11 the opportunity to be intervenors here and protect
12 the best interest of our community as a whole is
13 important and in order to do that we need competent
14 assistance on our end and for that we have elected
15 Bob Grillo, who is an engineer with CMA Engineers, so
16 largely he will be speaking on our behalf especially
17 for the technical items here today and so we'll be
18 deferring to him in large part.

19 We're here, as I said earlier, to protect
20 the interests of our community as a whole and our
21 ability to vet the witnesses and ask appropriate
22 questions on behalf of the residents and taxpayers.
23 We're hoping that our questions will be answered
24 satisfactorily and we'll have sufficient explanations
25 that, yes, are great for the qualified folks but also

1 the every day person to have a thorough understanding
2 of what's going on. We appreciate the index of
3 information from Waste Management that has come over
4 to us electronically and so hopefully we'll navigate
5 those and everybody will learn something today on
6 behalf of the public.

7 To give a little bit of perspective, and
8 most of you are aware of this, but we did complete
9 our host negotiations last fall and the first item
10 increase on that, which is one of three phases, took
11 place on the 1st of January, so we have already
12 benefited from this new agreement and that will
13 continue until when and if the new phase is approved
14 and they begin to landfill in that section. From our
15 perspective moving forward, we have a local site plan
16 review ordinance that they will have to comply with
17 after or maybe at the same time as the state
18 application is pending, but, again, that's of
19 interest to us here today to allow us to tune into
20 some of those preliminary interests.

21 So, again, we appreciate the Department in
22 terms of the proceeding that's here today. We thank
23 you for allowing us to participate. We thank Waste
24 Management for their courtesy of answering our
25 questions so far very clearly to date and thank you.

1 MS. MILLER: Thank you, Mr. LaBelle. Okay.
2 So the first witnesses we have on our agenda are
3 Mr. McGown and Mr. McKenny and I need to swear you
4 both in. So I see Mr. McGown. There you are, Mr.
5 McKenny. Okay. So if you can both raise your right
6 hand and do you swear or affirm that the testimony
7 you are about to give is the whole truth and nothing
8 but the truth?

9 JEFFREY MCGOWN: It is.

10 SHERWOOD MCKENNY: It is. I do.

11 MS. MILLER: Thank you. And, please, go
12 ahead.

13 JEFFREY MCGOWN: Thank you. Good afternoon.
14 My name is Jeff McGown. I am the Senior District
15 Manager for Crossroads Landfill located in
16 Norridgewock. I am just completing my 28th year with
17 Waste Management. I live in the Town of
18 Norridgewock. We work very closely with the
19 community. As Richard stated earlier, we have a new
20 host community agreement with what we feel are very
21 significant benefits to the Town of Norridgewock.

22 Crossroads provides essential and
23 cost-effective municipal solid waste disposal
24 capacity for approximately 55 communities in western
25 and central Maine. You'll see in green on the map

1 the Crossroads communities. They range from the
2 mid-coast easterly to the Newport region, north to
3 Greenville and over to Jackman and then down to
4 western Maine in the Rumford/Mexico area. We also
5 provide vital back up capacity to the communities in
6 yellow, Maine Waste to Energy in Auburn, and the
7 municipal review communities in lighter green in the
8 Bangor region.

9 For these communities Crossroads provides a
10 critical and cost-effective disposal option not
11 provided by other facilities in the state. Existing
12 capacity provided by the Phase 8 expansion will be
13 fully utilized by 2024. Phase 14 will allow the
14 facility to continue to serve the needs of Maine
15 communities and businesses for years to come. The
16 Crossroad facility is also important in keeping costs
17 stable and competitive in Maine. Without Phase 14
18 there will be a significant shortage of landfill
19 capacity in the state. Sherwood.

20 SHERWOOD MCKENNY: Good afternoon. My name
21 is Sherwood McKenny and I am the District Engineer at
22 Crossroads Landfill. I have worked for Waste
23 Management over 30 years and live locally throughout
24 that time period.

25 This slide represents an aerial photograph

1 of Crossroads facility. To help you get your
2 bearings the cursor is currently shown on a local
3 landmark known as the Central Maine Regional Airport.
4 Near the airport is a residential transfer station,
5 which is located on the Airport Road. The site
6 entrance off from Route 2 is where waste hauling
7 vehicles access the facility and proceed to the scale
8 house before traveling to the active Phase 8 landfill
9 disposal cell. This cell is projected to be filled
10 by early 2024 whereby development of the proposed
11 Phase 14 is necessary in order to continue landfill
12 disposal operations at Crossroads. The design and
13 permitting process related to the Phase 14 landfill
14 is currently under way. Approval of this landfill
15 development will provide additional capacity for
16 those municipalities and businesses within
17 Crossroads' disposal region once Phase 8 landfill has
18 been filled. Also shown on this aerial photo is the
19 landfill gas to energy plant, which will be discussed
20 in more detail in subsequent presentations as well as
21 several landfill units that have achieved final
22 permitted grades and have since been closed in
23 accordance with state regulations.

24 Next slide, please. Since a site visit was
25 not possible for COVID-19 reasons, I would like to

1 take this opportunity to walk through several
2 photographs of the Phase 14 area. For orientation
3 purposes, north is straight up on all of the aerial
4 images shown in the upper left corner, which provide
5 the location associated with each photograph which is
6 shown in the lower right corner.

7 This picture was taken from the southeast
8 end of the Phase 14 area looking northeast. This is
9 an old haul road to a previously used soil borrow
10 area that Waste Management has since reclaimed. The
11 borrow area provided soil material for former
12 landfill cell construction projects previously
13 completed at Crossroads. This slide also reflects a
14 former borrow source located along a peninsula of
15 trees that was reclaimed and vegetated when the soil
16 materials were depleted. This picture was taken from
17 the southeast corner of Phase 14 looking northwest.

18 This slide shows an embankment of stockpiled
19 soils not suitable for use in landfill cell and camp
20 projects previously completed at Crossroads. This
21 picture was taken from the northeast side of the
22 Phase 14 area looking southwest. This photo was
23 taken from a wooded area in the west portion of Phase
24 14 looking east. This photo was also taken in a
25 wooded area in the northwest portion of Phase 14

1 facing southeast.

2 Lastly, this slide presents a photo snapped
3 from the central north area of Phase 14 facing
4 southeast, which depicts a vegetated soil stockpile
5 along a woods line from previous landfill cell
6 construction events at Crossroads. That concludes
7 our photographs of the Phase 14 area.

8 Next slide, please. Prior to the solid
9 waste permit application process in this public
10 hearing, Crossroads provided a preliminary
11 information report to the Maine DEP in December 2017
12 followed by submission of a public benefit
13 determination application, which the Department
14 approved through issuance of a license in December
15 2018.

16 Next slide, please. The solid waste permit
17 application was submitted to the Department in
18 October 2019. This application includes significant
19 information relevant to the development of Phase 14.
20 This public hearing, however, is intended to focus on
21 certain topics of the application identified by the
22 parties in this process. The contents within the
23 solid waste permit application package includes six
24 volumes. Volume I consists of an application form
25 and general information requirements. The Natural

1 Resources Protection Act application report is
2 provided in Volume II. Volume III includes the
3 geologic and hydrogeologic assessment report. Volume
4 IV contains the landfill engineering report. The
5 site operations manual can be found in Volume V. And
6 Volume VI provides the draft construction bid
7 documents.

8 Next slide please. Lastly, I would like to
9 discuss the Phase 14 time line. Environmental
10 studies occurred in 2017 and 2018. These studies
11 will be discussed in detail later in the Phase 14
12 development and groundwater protection presentations.
13 As previously mentioned, the preliminary information
14 report on site suitability was accepted by the Maine
15 DEP in 2018. Also discussed earlier, the public
16 benefit determination license was obtained in 2018.
17 In 2019, Crossroads successfully worked with the Town
18 of Norridgewock to negotiate a host community
19 agreement as previously mentioned by Mr. LaBelle.
20 Crossroads submitted the Maine DEP solid waste permit
21 application in October 2019. These milestones just
22 discussed and identified with a checkmark have been
23 completed to date. Crossroads will be seeking a
24 local site plan review approval in late 2020 and
25 early 2021 with the Town of Norridgewock's Planning

1 Board. If all approvals just described are granted,
2 Waste Management will commence detailed engineering
3 design and infrastructure construction in 2021 and
4 2022. Construction of Phase 14A is projected to
5 start in 2023 followed by waste acceptance
6 thereafter.

7 This concludes my presentation. Thank you
8 for your time.

9 MS. MILLER: Thank you, very much,
10 Mr. McGown and Mr. McKenny.

11 Okay. So at this point, we have an
12 opportunity for the Town, Mr. LaBelle or Mr. Grillo,
13 to present any questions on cross-examination for
14 Mr. McGown and Mr. McKenny.

15 ROBERT GRILLO: And I have none. This is
16 Bob Grillo.

17 MS. MILLER: Okay. How about anybody here
18 from the Department? I guess just go ahead and ask
19 if you do. No questions from the Department.

20 So I guess we'll go ahead and start the next
21 witnesses, which -- and I do apologize if I
22 mispronounce anybody's name. Mr. Luetlich and
23 Mr. Yafrate to talk about visibility. Thank you.

24 SCOTT LUETTICH: Okay. This is Scott
25 Luetlich speaking. Can everybody hear me? And I

1 assume people can hear me. And can you see my
2 screen, which is the first slide? No, you cannot.
3 Hang on. Can you see the first slide now on my
4 presentation?

5 MS. MILLER: That's fine.

6 JULIET BROWNE: Yup, we see it now, Scott.

7 SCOTT Luetlich: Okay. Great. Okay, again,
8 my name is Scott Luetlich. I was born and raised
9 here in central Maine and have been the lead design
10 engineer or construction engineer for several of the
11 landfill units at the site since 1993. My
12 presentation will focus a little bit on the Phase 14
13 development, the landfill itself, the design and then
14 the second half of the presentation we'll hone in on
15 the visibility assessment that we performed.

16 Let's see. Now, if I can advance the slides
17 here. Here we go. Okay. Just qualifications of
18 Geosyntec are shown here. I wouldn't go through
19 these in detail, but I've been practicing as a
20 professional engineer for over 30 years -- 35 years
21 now, 29 years of which have been at the Crossroads
22 Landfill. Nick Yafrate, one of the key designers who
23 works on the project has been working on the
24 Crossroads project for about 10 years.

25 Sherwood showed this aerial view of the

1 landfill a few minutes ago. Again, just the
2 bearings, Route 2, the site entrance and Phase 14
3 being located on this back portion of the property.
4 The footprint here is about 48.6 acres. And if we
5 zoom in on that and rotate it slightly this is the
6 grading for the liner system that will be performed.

7 MS. MILLER: Excuse me, Mr. Luettich, I just
8 realized I did not swear you in. I don't mean to
9 interrupt you.

10 SCOTT Luettich: By all means.

11 MS. MILLER: But I've got to do that -- I've
12 got to do that now.

13 SCOTT Luettich: Sure.

14 MS. MILLER: So if you wouldn't mind raising
15 your right hand, do you swear or affirm that the
16 testimony you have given and you are about to give is
17 the whole truth and nothing but the truth?

18 SCOTT Luettich: I do.

19 MS. MILLER: Thank you. Sorry about that.

20 SCOTT Luettich: Oh, that's quite all right.
21 Do you need me to go back to the beginning or are you
22 okay starting here?

23 MS. MILLER: You're okay starting where
24 you're at.

25 SCOTT Luettich: Very good. So the Phase 14

1 entire limit of waste will occupy 48.6 acres. The
2 landfill we divided into five subcells or subphases,
3 Phase 14A, B, C, D, and E. The bottom of the
4 landfill where the liner system will be established
5 will be -- will be constructed by excavating down
6 into the ground surface in this location and grading
7 the bottom of the landfill so that it drains -- the
8 liner system drains from north to south to five
9 leachate collection sumps along the south border of
10 the footprint.

11 As I mentioned, these grades will be largely
12 established by excavating down into the ground
13 surface and constructing a berm, a perimeter berm
14 around the landfill. The excavation process is --
15 will be conducted to remove -- there are several
16 stockpiles of old material in this area that will be
17 removed, but then an existing aeolian sand deposit
18 will be removed from within the footprint of the base
19 of the landfill as shown here. The shaded areas that
20 you see are areas where we will actually over
21 excavate, so excavate deeper than we have to to
22 remove all of the sand and then build back with
23 compacted clay to get to the subgrade of where the
24 liner system will start. In concept, modern day
25 waste containment systems have a few important

1 features that I'll describe. Probably the most
2 important one is the liner system. It's a
3 multi-layered liner system that meets the Maine state
4 regulations underneath the -- the waste.

5 For Phase 14, again, I mentioned it will be
6 actually up to 4 feet of compacted clay in some
7 areas, in those shaded areas ranging up to 4 feet
8 underneath the first layer of the liner system, first
9 formal layer of the liner system, which will be a
10 minimum 12 inches of compacted clay low permeability
11 soil. Above that is a geosynthetic clay liner
12 consisting of both -- a bentonite material that is
13 purposefully made to swell up when hydrated and
14 provides additional sealant. Above that a high
15 density polyethylene geomembrane liner. Polyethylene
16 geomembrane liners have been used in waste
17 containment systems, liners, and covers now for
18 several decades. And then above that are the
19 drainage layers that will convey leachate trickling
20 down through the waste off the liner system and into
21 the sumps that will be located within each cell that
22 I mentioned -- I showed before along the south end of
23 the site. From there, the leachate will be pumped
24 to, I'll get to that in the next slide, to the
25 on-site storage tanks, but cover system -- interim

1 and final cover system materials are placed over the
2 waste to shed rain water and melting snow so that it
3 never gets a chance to enter the waste to begin with.
4 All of this is a combined effect to reduce the chance
5 of impacts to the environment from liquid leaking or
6 leaving the facility.

7 As I mentioned, Waste Management will
8 install a pipeline, actually a double wall dual
9 containment pipeline from Phase 14 to the on-site
10 leachate storage tank facility. From there, the
11 leachate will be taken via tanker trucks to either
12 the Sappi Paper Mill plant or the Anson/Madison
13 sanitation treatment plant.

14 The next important part of maintaining good
15 containment of -- and protection of the environment
16 is to extract gas from the waste. Waste as it
17 degrades does create gas and that gas is actually
18 extracted from the waste with collection wells under
19 vacuum. And for Phase 14, well, actually, this is a
20 photograph of what a gas well looks like as it
21 protrudes up from a vegetated cover system. For
22 Phase 14, Waste Management intends to install a
23 pipeline from the Phase 14 area along the general
24 alignment here along their existing access road to
25 the gas to energy plant that operates at the

1 facility. Lisa Wilkinson with SCS will describe that
2 in much more detail later this afternoon.

3 The visual impact assessment report that
4 we -- and study that we did last year is governed by
5 two regulations. The first regulation in Chapter
6 400, Section 4.F(1) states that the landfill facility
7 may not unreasonably interfere with views from
8 established public viewing areas. Section 400 -- I'm
9 sorry, Chapter 400, Section 4.F(3) states that the
10 application must include evidence that affirmatively
11 demonstrates that the proposed solid waste facility
12 will not unreasonably adversely affect existing uses
13 and scenic character including the following
14 information: The nature, location, design, and site
15 of all buffers and visual screens within those
16 buffers to be established or retained.

17 These two regulations require -- the visual
18 impact assessments take on two aspects, one being a
19 regional landform assessment more from a distance and
20 then visibility from nearby -- nearby vantage points
21 on some of the surrounding roads for Phase 14 within
22 about a mile of the site. Much of the regional
23 assessment is based on previous regional assessments
24 that were done in 1996 and 2001 for previously
25 constructed units at the Crossroads facility.

1 Some of the basic input parameters, Phase 14
2 will be constructed and filled incrementally over a
3 period of about 17 years. When filled and closed it
4 will occupy 48.6 acres and with a peak height of 150
5 to 200 feet above the surrounding terrain. During
6 filling, the landfill will be covered with daily
7 cover materials. Temporary membrane covers may be
8 used to further prevent stormwater to shed that
9 stormwater prior to it leaving -- prior to it
10 entering the waste and to keep landfill odors from
11 emanating from the waste. As portions of the
12 landfill reach their final height, a final cover
13 system consisting of multiple layers similar to the
14 liner system will be placed over the waste and
15 vegetated.

16 The regional landforms, much of the
17 information here is take from within a three mile
18 radius of the site. The regional assessment consists
19 of three criteria really, one is landform, the other
20 one is land use, and the third one is vegetation.
21 When it comes to landform, to interfere with views
22 from established public viewing areas a feature must
23 have some kind of starkly distinct landform, a
24 geometric shape, for instance, that is different from
25 other landforms in the area.

1 This part of central Maine is a rural
2 landscape dominated by rolling topography. The
3 Kennebec River runs through the town here about a
4 mile or mile-and-a-half from the facility. That's
5 the topographic low at about elevation 180. The
6 topographic high is Mount Tom, which is about
7 three-and-a-half miles south of the facility, so it's
8 just off this image, but that's the topographic high
9 at elevation 740. The area contains a variety of
10 landform features, hills and valleys, that affect the
11 viewpoints and fields of vision. And as I mentioned,
12 Phase 14 will eventually extend about 150 to 200 feet
13 above the surrounding ground surface similar to these
14 other topographic landforms in the area.

15 With respect to land use, the majority of
16 the land use in this part of central Maine is
17 agricultural or wooded lots. Some industrial uses
18 include sand and gravel, borrow pits, and of course
19 the airport located west of the Crossroads facility.
20 As shown on this slide and the previous one, the land
21 use proposed by Waste Management for Phase 14 is
22 consistent with the other land uses in this part of
23 central Maine. Vegetation in this region is a mix of
24 deciduous and evergreen trees, you know, soft woods
25 and hard woods, but many of them evergreens and fir

1 trees that create a landscape pattern of open and
2 forested areas. The growth rate of trees in this
3 area is generally 1 to 2 feet per year, so the
4 younger vegetation in any of these areas but the
5 buffer areas associated with Phase 14 can be expected
6 to grow 15 to 30 feet during the period at which
7 Phase 14 is filled. This photograph was taken about
8 a year ago and as you can see the landform by the --
9 the landforms and vegetation and appearance of the
10 closed facility as well as even portions of Phase 8
11 are consistent with other landforms and visual images
12 of other parts of this part of the central Maine
13 area.

14 The visual assessment from nearby vantage
15 points require 3D modeling from specific locations.
16 One of the benefits of Phase 14 is the large setback
17 offered by this location, that the closest one from
18 Airport Road is 850 feet, and as I showed on one of
19 the previous aerials this is -- much of this area is
20 occupied by a large stand of trees. Route 2 is about
21 a little over half a mile from Phase 14 and the
22 closest boundary on the airport property is 4,000
23 feet to the west.

24 Five vantage points were modeled for the
25 visual assessment of Phase 14. A first vantage point

1 was requested by DEP was added to the study. The
2 first vantage point is down here at the site
3 entrance. It's about a half a mile from the edge of
4 Phase 14. The picture in the upper left-hand corner
5 shows a photograph of the existing condition, so
6 this -- this is what it looks like if you were to
7 drive into the facility today. The lower right-hand
8 picture shows what the landfill would look like at
9 its peak height relative to this position, this
10 vantage point.

11 Waste Management has constructed visual
12 barriers along much of Route 2 on the edge of its
13 property along much of Route 2. This is a picture of
14 what the existing visual barrier looks like. Waste
15 Management will be constructing a very similar visual
16 barrier in this location so that although without it
17 this is what one would see; with it, this is what
18 you'll see. So this is the -- the land -- the
19 landfill will be obscured from vision from vehicles
20 passing this part of Route 2 or turning into the
21 facility.

22 The second vantage point is about a quarter
23 mile further east on Route 2 next to the Baker barn.
24 The picture in the upper left-hand corner is what it
25 looks like today. The image in the lower right-hand

1 corner is what it would look like as the landfill
2 approaches peak -- peak elevation. Again, Waste
3 Management owning this property is planning to
4 install a visual barrier at this location, which will
5 render the landfill opaque from this vantage point as
6 well.

7 Vantage point three is on Airport Road about
8 three-quarters of a mile from its intersection with
9 Route 2. This is an area where there is an open
10 field immediately adjacent to the road and that field
11 is not owned by Waste Management; however, there is a
12 large stand of trees much of which is on Waste
13 Management property between this point and where the
14 landfill will be. And you can see just over here in
15 the very right-hand side as it approaches full height
16 the landfill will have some limited visibility from
17 this area, but certainly not much.

18 Vantage point four is on Airport Road about
19 a half a mile east of its intersection with Childs
20 Road. The vegetation in this area shown on the upper
21 left-hand picture is very dense and as a result the
22 landfill will have virtually no visibility from this
23 vantage point.

24 Point five is about a quarter mile from the
25 intersection of Child Road and Airport Road. This is

1 an area where previous wood harvesting activities
2 have left the vegetation adjacent to the road very
3 sparse. Waste Management does not own this property
4 and as a result even though there are trees in the
5 buffer zone here, the 300 foot buffer zone between
6 the landfill edge and the property line, the landfill
7 will have some visibility as it approaches full
8 height from this location. The stretch of road here
9 is not heavily traveled. It's about -- and this part
10 of the road where there will be visibility of the
11 landfill is 4 -- 3 or 400 feet so a vehicle
12 traveling, you know, 35 miles an hour or so would
13 probably have a six or seven or eight second long
14 glimpse or snapshot of the landfill as it approaches
15 full height.

16 Vantage point six is the one that DEP asked
17 us to include. We added this. It's essentially from
18 the parking lot of the Riverview Memorial School on
19 Route 2 and is a pretty long distance, 8/10 of a mile
20 from the Phase 14 footprint. The upper left-hand
21 corner shows the existing condition. You can just
22 barely see the landfill at quite some distance here
23 in the left-hand part of this image, the 3D image.

24 Well, the conclusions of our visual impact
25 study are that Phase 14 will not have an unreasonable

1 adverse effect on the current scenic character of
2 this area. The potential visual impact of Phase 14
3 will be limited to a relatively short duration only
4 as the landfill approaches its upper and final
5 height. During filling operations the color and
6 texture of Phase 14 will be consistent with a darker
7 earthen color because of the daily cover material
8 placed over it and a vegetative cover system will be
9 incrementally installed over Phase 14 as it is
10 completed. When visible from distant locations the
11 appearance of Phase 14 will be compatible with the
12 surrounding area looking much like the other natural
13 landforms in the area. Phase 14 will not
14 unreasonably interfere with views from the
15 surrounding areas and established public viewing
16 points. Visibility of the landfill from nearby or
17 existing locations will be largely obscured by the
18 existing vegetation and Waste Management will be
19 constructing additional visual barriers at vantage
20 points one and two.

21 This come completes my presentation.

22 MS. MILLER: Thank you. Are there any
23 questions for cross-examination from Mr. LaBelle or
24 Mr. Grillo?

25 ROBERT GRILLO: Yeah, I have a couple of

1 items here. On the -- on the visibility, Scott, are
2 there areas from higher elevations that might be a
3 little farther away that will have a good look down on
4 the landfill and its operations?

5 SCOTT Luettich: We in no way claim that
6 nobody would be able to see the landfill. The
7 distance from those is quite -- quite a distance, so
8 the question becomes not would somebody be able to
9 see it, but could they be able to readily identify it
10 or distinguish it from other landforms and the
11 results of our study say no it won't be -- it won't
12 represent a stark difference to other landforms or
13 when I say activities, again, from miles away it's
14 hard -- it's hard to discern any activities.

15 ROBERT GRILLO: Okay. So nothing nearby
16 that looks down on it?

17 SCOTT LUETTICH: Correct.

18 ROBERT GRILLO: Okay. I also had -- I want
19 you to speak a little bit to the leachate collection
20 laterals. I was just wondering if you could speak to
21 how those will -- whether there is a need to clean
22 those out and how those would happen. And also you
23 have a relatively flat gradient and I'm just
24 wondering if it affects the settlement where -- are
25 looked at for those laterals.

1 SCOTT Luettich: When you mean laterals, do
2 you mean the pipes within the landfill or the pipes
3 running out to the leachate tanks?

4 ROBERT GRILLO: I'm sorry, it's the -- it's
5 the horizontals that are set 120 feet apart within
6 the landfill that connect to the central header.

7 SCOTT Luettich: I see. Okay. The
8 requirement of maintaining head off the liner system
9 or minimizing head on the liner system, in large part
10 don't rely on those laterals. The laterals are a
11 redundant feature to -- to augment the removal of
12 leachate from the liner system. The liner is in
13 areas not -- not sloped steeply but does provide the
14 resulting gradient for leachate to be removed from
15 the liner system and maintain minimal head on the
16 liner. And the -- the grade on the landfill base is
17 not just right -- set right at the minimum required,
18 but instead was graded in some areas steeper than
19 that in order to reflect and mimic the upper surface
20 of the clay out there to get right down in contact
21 with the clay. Does that answer -- well, I think you
22 asked about clean-outs of those; is that correct?

23 ROBERT GRILLO: Yes, I did. Yup.

24 SCOTT Luettich: Okay. Clean-outs will be
25 located along the headers for those. We haven't seen

1 an instance where the laterals -- clean-outs of the
2 laterals are needed. It's not to say that they
3 couldn't be provided, especially if they extend out
4 to the perimeter of the landfill, but the clean-outs
5 of where the leachate has to get conveyed down to the
6 sump will be located at the end of the pipe, both
7 ends of those pipes.

8 ROBERT GRILLO: Okay. Thank you.

9 MS. MILLER: Any other questions,
10 Mr. Grillo?

11 ROBERT GRILLO: No, thanks.

12 MS. MILLER: Okay. I'm going to call each
13 of the names of the staff and the Department to make
14 sure that if they have any questions it's a little
15 bit more efficient if I just call everyone's name out
16 because I can't see everybody. So we'll start with
17 Ms. Butler, do you have any questions for
18 Mr. Luetlich?

19 MS. BUTLER: No, I do not. Thank you.

20 MS. MILLER: Thank you. Ms. King.

21 MS. KING: No, I do not. Thank you.

22 MS. MILLER: Ms. Lipfert.

23 MS. LIPFERT: No, I do not.

24 MS. MILLER: Ms. Tarbuck.

25 MS. TARBUCK: I do. And can you hear me?

1 MS. MILLER: Yes.

2 SCOTT LUETTICH: Yes.

3 MS. TARBUCK: Okay. Thanks. And my
4 question is pertaining to visibility and it -- you
5 stated in the visual impact conclusions that the
6 potential visual impact of the Phase 14 landfill will
7 be limited to a relatively short duration only as the
8 landfill reaches its elevation and is installed with
9 a vegetative final cover system. And I was wondering
10 if you could please outline the proposed final
11 closure schedule as it relates to visibility, you
12 know, kind of defining that relatively short
13 duration.

14 SCOTT Luettich: The -- the schedule
15 foreclosure of segments of that -- of the landfill, I
16 believe, were conveyed in the permit drawings in
17 Phase 4 -- in Volume IV of the permit application.
18 The exact schedule for when that gets placed
19 incrementally hasn't been determined because as you
20 can appreciate the landfill filling sequence and
21 exactly how quickly the landfill gets filled remains
22 to be seen. It's all a function of how quickly the
23 waste comes into the site and where it makes sense to
24 deposit that landfill and reach final height. So we
25 have not developed a precise schedule for closure,

1 however, you may recall in one of the comments from
2 the Department there was a request of -- for
3 agreement by Waste Management to install the final
4 cover system incrementally, so not wait until the
5 whole landfill is full before placing the cover
6 system on it and Waste Management agreed to that. In
7 fact, Waste Management wants to do that to limit the
8 potential for more liquid getting in, you know,
9 waste -- stormwater getting into the waste and so on.
10 So it's -- it's a mutual agreement that the best
11 thing we can do is close the landfill incrementally
12 as those final heights are achieved. Sherwood, do
13 you have anything to add to scheduling on the final
14 closure?

15 SHERWOOD MCKENNY: Does that answer your
16 question, Kathy?

17 MS. TARBUCK: I think it does. I just
18 wanted to make sure that it was relative to
19 visibility that final closure, I just wanted a little
20 bit of clarification on that.

21 SCOTT Luettich: Certainly visibility plays
22 a role and it's -- there's one actually that I didn't
23 mention. I mentioned more in terms of shedding
24 stormwater and keeping liquid out of landfill, but
25 just as importantly Waste Management does not want

1 this landfill to be visible, so providing that
2 vegetated cover system in areas that are ready for it
3 they have a vested interest in doing that as well.

4 MS. TARBUCK: Thank you.

5 MS. MILLER: Anything else, Ms. Tarbuck?

6 MS. TARBUCK: None at this moment. Thanks.

7 MS. MILLER: Thank you. Ms. Eleftheriou.

8 MS. ELEFThERIOU: No comments for me. Thank
9 you.

10 MS. MILLER: Thank you. Mr. Burns.

11 MR. BURNS: Yes, I have a couple of
12 questions. With regards to Mount Tom being the
13 highest point nearby, I think you said that was about
14 three-and-a-half miles away. Can you just speak
15 towards the use of Mount Tom? Is it a hiking
16 recreational area? What would be the potential for
17 views from the top of that towards the landfill?

18 SCOTT Luetlich: I am not intimately
19 familiar with Mount Tom and its uses. I do know that
20 people hike it and at elevation 740 it wouldn't
21 surprise me on a clear day that you could see the
22 three-and-a-half miles to the Crossroads facility.
23 At three-and-a-half miles the question is could the
24 footprint, you know, of a waste placement area,
25 which, Sherwood, you might want to comment on the

1 active area of a landfill being typically the waste
2 face maybe being a couple three or four acres at any
3 given time is -- is very minimal when you're at a
4 distance of three-and-a-half miles. So the
5 likelihood of people being able to discern the
6 activities or it interfering with the view from Mount
7 Tom are not significant and it would take a lot of
8 precise looking to really even be able to understand
9 what was going on at that kind of distance especially
10 at an active working face. The rest of the landfill
11 will be covered with daily cover or final cover at
12 that point or not yet constructed; in which case,
13 you'll just see what some of the pictures showed
14 earlier. Sherwood, do you have anything to add
15 there?

16 SHERWOOD MCKENNY: I do not, Scott.
17 Hopefully that response is adequate. I would defer
18 to David and ask if he has any follow-up questions
19 relative to your response.

20 MR. BURNS: Yeah, I would like to follow-up
21 on that just a little bit more. If somebody could
22 speak towards the frequency, I am just not familiar
23 with Mount Tom. Is this a heavily used area by
24 people hiking and recreating or is this an infrequent
25 casual use. Can you speak to that nature?

1 SHERWOOD MCKENNY: I believe it is
2 infrequently used, but I'm not absolutely certain.

3 MR. BURNS: And is it wooded at the top or
4 does it have a view?

5 SHERWOOD MCKENNY: I believe it is largely
6 wooded at the top. I am a little familiar with the
7 area, but not completely.

8 SCOTT Luetlich: That's consistent with my
9 understanding. The aerial images that I've looked at
10 show it being largely wooded. Whether or not there
11 are discreet places that could be visible, I honestly
12 don't know. We could certainly investigate that and
13 return some information.

14 MR. BURNS: All right. I have one other
15 area of question and this might take Mr. McKenny as
16 well, so you might want to stay on.

17 SHERWOOD MCKENNY: Okay.

18 MR. BURNS: When you were talking about the
19 development of Phase 14 you talked about the
20 unsuitable stockpile. You talked about that in your
21 first photograph, if I recall. What is the
22 disposition of that going to be? It's fine grained
23 material. Do you have defined areas of the site that
24 you're going to utilize that on?

25 SCOTT Luetlich: Sherwood, I can take a stab

1 at that because I know you and I have talked about
2 the idea of using that material for the visual
3 barrier berms that I mentioned at vantage points one
4 and two, so moving that material out, creating the
5 berms on which the trees will be planted. I think
6 that's one intended use that you have for it; is that
7 right?

8 SHERWOOD MCKENNY: That is the primary, yes.

9 MR. BURNS: Do you have any indication of
10 how much material those berms will take or can be
11 used relative to the size of the unsuitable
12 stockpile? And ultimately where I'm heading with
13 this, just so you understand, is being a fine grain
14 material it has a high potential to be erosive --

15 SHERWOOD MCKENNY: Yes.

16 MR. BURNS: -- and I'm just trying to
17 understand where you're intending to use it.

18 SHERWOOD MCKENNY: Yes, certainly. Scott, I
19 think Geosyntec came up with back of the number
20 volumes specific to what we would need to construct
21 those berms and I don't recall what that volume was.
22 I can remember looking at those unsuitable stockpiles
23 and comparing the volume that you had provided to the
24 volume of stockpiles and it was essentially -- we
25 have essentially enough volume within those

1 stockpiles to construct those berms, but I just don't
2 remember the volume that you provided. I don't know
3 if you do off the top of your head.

4 SCOTT Luettich: I don't. Again, this is a
5 question that can easily be answered though in a
6 follow-up correspondence if that's acceptable
7 because, as you know, we did look at the volume of
8 material that would need to be moved and we looked at
9 the volume of material that we used to construct
10 these berms just to make sure we were in the right
11 ballpark and we were, so it -- but the exact numbers
12 I just don't have the off the top of my head.

13 MR. BURNS: Okay. Thank you. I have no
14 more questions.

15 MS. MILLER: Thank you, Mr. Burns. Ms.
16 Tierney.

17 MS. TIERNEY: I don't have any questions.
18 If I could just make a request though since I'm
19 unmuted that everybody refrain from using first names
20 if we could and use Mr. or Ms. just because this is a
21 formal hearing. Thank you.

22 MS. MILLER: Okay. Ms. Bensinger.

23 MS. BENSINGER: No, I don't have any
24 questions. Thanks.

25 MS. MILLER: Okay. I actually have a

1 question. So in the visuals you showed some photos
2 of what the -- what it might look like, you know, at
3 sort of its last phase when it's the highest and you
4 sort of gave us some predictive visuals and you
5 showed us what it would look like with, you know, the
6 tree buffer that you planed on planting in a couple
7 of different instances. I guess what I'm wondering
8 is would that still look similar in the wintertime?
9 Would that make a difference? Are those the kinds of
10 trees that are going to have any loss of leaves or
11 anything like that? Is that going to have an impact
12 generally on the visual that you will be seeing?

13 SCOTT Luettich: It's a good question and
14 it's one that the DEP asked us as well when they read
15 our initial visual impact study. The planted trees
16 that Waste Management uses are evergreen trees so
17 they don't lose the leaves so they stay opaque
18 throughout the year, so the barriers would not change
19 in appearance and become thinner the way that leaves
20 that lose their leaves -- trees that lose their
21 leaves in the winter would.

22 MS. MILLER: Thank you. Okay. Moving on.
23 Thanks, Mr. Luettich for your testimony. And we can
24 go ahead onto our next witness. The next set of
25 witnesses we have are from Golder Associates. We

1 have Mr. Macdonald and Mr. Lennon and I will turn it
2 over to you. I have to swear you in before I forget
3 again.

4 ALISTAIR MACDONALD: Yes, that's a spectrum
5 idea.

6 MS. MILLER: Thank you. It's good to remind
7 me because it's easy to forget. Okay. If you could
8 raise your right -- I can't see you, so if you could
9 turn your video on.

10 ALISTAIR MACDONALD: I'm sorry. I thought I
11 did.

12 MS. MILLER: You might have. It just might
13 be taking a little while. I don't see you. Now, I
14 see you.

15 ALISTAIR MACDONALD: There we go.

16 MS. MILLER: Okay. If you wouldn't mind
17 raising your right hand. Do you swear or affirm that
18 the testimony you are about to give is the whole
19 truth and nothing but the truth?

20 ALISTAIR MACDONALD: I do.

21 MS. MILLER: Thank you.

22 ALISTAIR MACDONALD: Okay. Hello, everyone.
23 I'm Alistair Macdonald. I'm a Professional Geologist
24 certified in the State of Maine and I'm speaking to
25 you today because the Phase 14 submittal that's

1 related to geology and hydrogeology were done under
2 my direction and supervision. I have been working at
3 the Waste Management Crossroads facility since the
4 late 1990s, which has allowed me to become very
5 familiar with the geologic and hydrogeologic
6 conditions of the entire Crossroads facility. I am
7 joined today by Mr. Brendan Lennon. He is also a
8 Professional Geologist and we worked closely together
9 to prepare the submittals.

10 I'm going to start my presentation today by
11 describing the site investigations we conducted and
12 then I'll walk through our interpretations of the
13 geologic and hydrogeologic conditions. I'll then
14 present our time of -- travel time calculations and
15 then wrap up by presenting the proposed water quality
16 monitoring program.

17 So the overall objective of our site
18 investigations was to meet the requirements of the
19 Chapter 401 sections I have listed here on the
20 screen. And as you might expect, the rules focus on
21 collecting data to support a detailed
22 characterization of the geology and hydrogeology and
23 that supports the time of travel calculations that is
24 needed to develop the water quality monitoring
25 program. I'd say more generally that the objective

1 of this work is to demonstrate that the proposed
2 facility meets the necessary siting criteria and that
3 the natural site conditions along with the
4 engineering controls will be protective of natural
5 resources.

6 Although the geology and hydrogeology in
7 other parts of the Crossroads facility have been
8 studied intensively there was little existing
9 subsurface information available for Phase 14 at the
10 outset of this project. So to develop the detailed
11 information that's necessary to meet the requirements
12 of the Maine Solid Waste Rules and to support the
13 permit application we conducted a series of site
14 investigations in the Phase 14 area beginning in
15 2017, which continued through the early 2020.

16 At the end of the series of investigations
17 that we completed, we had installed 36 overburden
18 piezometers within and around the perimeter of Phase
19 14 as shown here. For those who aren't familiar with
20 the terminology, a piezometer is simply a well that's
21 used specifically to measure water levels as opposed
22 to a monitoring well, which is typically to collect
23 samples for laboratory analyses. Each of the
24 piezometers we installed is screened within one of
25 three distinct overburden units that I'll describe

1 shortly. During the installation of these
2 piezometers, which for the most part were installed
3 early on in our investigation activities, we
4 collected quite a few samples to begin building our
5 understanding of the subsurface conditions. And then
6 subsequently, we used these piezometers for both
7 hydraulic testing and for water level monitoring.

8 In addition to the overburden piezometers,
9 we also installed 12 overburden monitoring wells
10 around a perimeter of Phase 14, which I have added
11 here in color. Most of these wells will become part
12 of the proposed water quality monitoring program for
13 the site that I'll describe at the end of the
14 presentation. We also installed four bedrock
15 monitoring wells, one on the north side of Phase 14
16 and three on the south side. To obtain data on the
17 interaction between groundwater and surface water, we
18 installed seven paired stream piezometers and staff
19 gauges. These are shown here by the blue triangles.

20 Golder's investigations were also
21 supplemented by the geotechnical investigations
22 conducted by Geosyntec that included 22 geotechnical
23 borings illustrated here as green squares, and the
24 installation of 14 vibrating wire piezometers and six
25 stand pipe piezometers illustrated as colored

1 circles. Geosyntec's work also included piezocone
2 testing or CPTs. These were conducted at 45
3 locations as shown by these green symbols. And the
4 CPTs provided us with useful additional lithologic or
5 subsurface information.

6 So in total, geologic and hydrogeologic data
7 were collected at almost 150 locations within and
8 around proposed Phase 14. And in addition to the
9 subsurface explorations, we also collected numerous
10 soil samples for laboratory testing including grain
11 size and permeability. We conducted slug tests or
12 hydro -- hydraulic connectivity tests with 40
13 monitoring wells and piezometers. We completed a 72
14 hour groundwater pumping test and we've collected
15 over 30 rounds of depth to water measurements in the
16 piezometer and monitoring well network.

17 We used all of the data that we collected to
18 develop a detailed characterization of the geologic
19 conditions. Here, I'm showing a generalized profile
20 of the geologic units that we encountered during our
21 investigations. Starting at the top of this profile
22 are the ground surface we first encountered what we
23 referred to in the application as undifferentiated
24 soils. This includes very shallow unsaturated
25 surface soils, but also the stockpiled fill

1 materials, which were just being discussed. These
2 materials are not present everywhere and will be
3 removed as part of landfill construction.

4 Below the undifferentiated soils we
5 typically encountered a silty fine sand, but not in
6 all locations. These sands will also be removed
7 beneath the base of the landfill as part of landfill
8 construction. The sand is underlain in all areas by
9 what we refer to as a stiff upper clay. This
10 material is a moist, gray/brown medium stiff to very
11 stiff clay, which is underlain in most areas, but not
12 all, by a relatively homogenous soft -- very soft
13 clay that's typically moist to wet. The clays are
14 underlain in all locations by a glacial till, which
15 is typically described as a gray/brown clay fine to
16 coarse sand and gravel. The till represents what we
17 refer to as the base of the overburden units, which
18 overlie the bedrock which is a dark to dark gray
19 sandy meta limestone that belongs to the same
20 formation.

21 Here, we're looking at a geologic
22 cross-section oriented northeast through southwest
23 across Phase 14, which I'm using to illustrate a few
24 key items. The first is just the slope of the ground
25 surface or the topography from northeast to

1 southwest. And similarly, you see the top of bedrock
2 surface also dips from northeast to south southwest
3 and actually dips a little more steeply. Next,
4 you'll note that the dip and overall thickening of
5 the overlying overburden sequence. And in a few
6 minutes we'll discuss how this topography and
7 geologic structure influences groundwater flow
8 direction. And last, you'll note the absence of soft
9 clay beneath the northwest corner of Phase 14, but
10 you'll also note how the soft clay thickens to the
11 southwest.

12 This slide shows a conceptualization of the
13 landfill base liner and cross-section. As you can
14 see, the landfill is designed to take advantage of
15 the natural topography and subsurface conditions. As
16 I previously mentioned, the fill and fine sand that
17 were present beneath the base liner will be removed
18 prior to liner construction. As Mr. Luettich
19 described earlier, imported fill will be placed and
20 compacted after removal of the sand to achieve the
21 required baseline elevations in some locations.
22 Where there is no soft clay this imported and
23 compacted fill will be tested to ensure that it has
24 hydraulic conductivity of less than 1 times 10 to the
25 minus 5 centimeters per second. In other locations

1 where there is no soft clay but fill placement isn't
2 required to achieve base grades the existing clay
3 surface will be scarified and then recompact and
4 again tested to confirm that the in situ clay has a
5 hydraulic conductivity of 10 to the minus 5 or less
6 and that will be done, again, prior to liner
7 construction.

8 So now I'm going to move onto a discussion
9 of the hydrogeologic conditions. We identify four
10 hydrostratigraphic units as shown conceptually in
11 this diagram. The uppermost unit is the silty fine
12 sand, which depending on the location is continuously
13 saturated, seasonally saturated or dry year-round.
14 The blue line conceptually represents the phreatic
15 surface, which rises and falls seasonally. So if you
16 imagine this line moving up or down you can visualize
17 how the areas of sand saturation increase and
18 decrease seasonally. But as I mentioned in a
19 previous slide, the fine sand will be removed beneath
20 the base liner and the landfill base subgrades will
21 be within or at the top of the clay surface or on top
22 of the compacted fill brought in to raise the
23 subgrade elevation after sand removal.

24 The second hydrostratigraphic unit is the
25 upper and lower clays. Due to the low hydraulic

1 conductivity these units primarily function as an
2 aquitard, meaning that while the primary groundwater
3 flow direction through the clay is downwards into the
4 till, the overall volume of flow through the clay is
5 very low.

6 The clays are both underlain by the glacial
7 till, which relative to the other unit is a bit more
8 permeable. Groundwater in this unit is confined
9 beneath the clays with artesian conditions in most
10 areas meaning that the potentiometric surface in the
11 till, which I'm illustrating here with the dashed
12 line rises above the top of the till surface, but
13 because it's confined groundwater flow directions in
14 the till are primarily horizontal. The
15 potentiometric surface in the bedrock is similar to
16 that of the till and also like the till the overall
17 groundwater flow direction is horizontal. There is
18 no zone of strong permeability contrast between the
19 till and the bedrock, so the two units are in direct
20 hydraulic communication meaning that groundwater can
21 flow from one unit to the other with little
22 resistance. However, the vertical gradients or the
23 driving force between the till and the bedrock are
24 weak and they're directly variable, i.e., sometimes
25 these gradients are upwards and sometimes they're

1 downwards, which means the groundwater sometimes
2 flows from the till to the bedrock and sometimes
3 flows from the bedrock to the till, but because these
4 gradients are weak the predominate flow direction in
5 both units is horizontal.

6 This table summarizes the average vertical
7 and horizontal hydraulic conductivity values measured
8 in the various hydrostratigraphic units using
9 different testing methods. The unit with the overall
10 lowest hydraulic conductivity as you might expect is
11 the clay. Golder estimated hydraulic conductivity
12 for the clay using three methods, laboratory testing
13 of clay samples, slug testing of wells and
14 piezometers screened into clay and the 72-hour
15 pumping test. The laboratory soil test and the
16 pumping test measure vertical hydraulic conductivity
17 or what we refer to as KV are shown in the two
18 right-hand columns. Both of these testing methods
19 yielded an average hydraulic conductivity in the low
20 10 to the minus 7 range. And I'll note that these
21 values are 10 to 100 times lower than the siting
22 requirement of 1 times 10 to the minus 5 centimeters
23 per second. Also shown are the horizontal hydraulic
24 conductivity values for the clay till into bedrock.
25 As I mentioned earlier, the values for the till into

1 the bedrock are very similar, which is why I say
2 there is not a strong permeability contrast between
3 these two units.

4 So earlier I mentioned that there are
5 locations beneath Phase 14 where there is no soft
6 lower clay. The 10 area on this slide illustrates
7 these locations. Our testing indicates that the
8 stiff upper clay meets to the 10 to the minus 5
9 centimeters per second standard. However, in
10 locations beneath clay -- I'm sorry. In locations
11 where there is no soft clay beneath the baseline of
12 the landfill the following has been incorporated into
13 the design: Where fill is required to achieve the
14 subgrade elevations the silty clay fill will be
15 compacted and tested to demonstrate that the
16 compacted fill has a maximum vertical hydraulic
17 conductivity of 1 times 10 to the minus 5. If fill
18 placement isn't necessary to meet the base grade
19 elevations, the in-place stiff upper clay will be
20 scarified and recompactd and again tested to
21 demonstrate that the clay has a maximum vertical
22 hydraulic conductivity of 1 times 10 to minus 5. All
23 this testing obviously will be conducted prior to
24 liner construction.

25 These next few slides illustrate the

1 potentiometric surfaces measured at the site, the
2 first being a phreatic surface. As shown, the
3 elevation of the phreatic surface is highest on the
4 north side of Phase 14 and decreases to the
5 southwest, south, and southeast consistent with the
6 topography in the geologic structure. Because
7 groundwater flows from higher elevation to lower
8 elevation, the phreatic groundwater in the Phase 14
9 area flows to the southwest, south, and southeast.

10 As previously mentioned, the groundwater in
11 the glacial till is confined beneath the clays and
12 consistent with the geologic structure the overall
13 direction of groundwater flow in a glacial till is
14 towards the southwest, south, and southeast. And
15 like the other units and again consistent with the
16 geologic structure, the elevation of the
17 potentiometric surface in the bedrock generally
18 decreases from north to south once again resulting in
19 an overall groundwater flow direction to the
20 southwest, south, and southeast. So we generally
21 refer to the north side of Phase 14 as being the
22 upgradient side of the landfill and the south side as
23 being the downgradient side of the landfill.

24 I think it's always helpful to look at
25 groundwater flow more regionally to make sure our

1 local interpretations are consistent with regional
2 conditions. So here I'm showing the Waste Management
3 facility boundary in Phase 14 on a regional
4 topographic map. When we look at the topography
5 carefully, we see that most of the Waste Management
6 property and all of the landfilled areas are located
7 within a topographic basin that slopes to the south.
8 The green lines represent topographic ridges or
9 highs. As we just discussed, the topography and
10 geologic structure strongly control the influence of
11 groundwater flow directions. So these green lines
12 represent what we refer to as groundwater divides and
13 consistent with the topography or the ground surface
14 that slopes downward in opposite directions on each
15 side of these lines so does groundwater flow in
16 opposite directions on each side of these lines.

17 This slide illustrates the location of a
18 sand and gravel aquifer as met by the Maine
19 Geological Survey along the banks of the Kennebec
20 River and the Town of Norridgewock water supply well
21 is located within this aquifer, but it's on the far
22 side of the groundwater divide between the Waste
23 Management facility and the Kennebec River. The
24 presence of this divide precludes the flow of
25 groundwater from Phase 14 to the sand and gravel

1 aquifer, the town water supply well, and the Kennebec
2 River. Groundwater flow directions as determined
3 from site wells and piezometers are consistent with
4 the regional groundwater flow conditions indicating
5 groundwater flow to the south and not towards the
6 aquifer, the water supply well or the Kennebec River.

7 So this slide just summarizes the key
8 findings that I just described, that being that
9 groundwater flow direction in the Phase 14 area are
10 to the southwest, south, and southeast consistent
11 with the topography and the geologic structure and
12 regionally not towards the sand and gravel aquifer or
13 the town water supply.

14 Next, I'm going to describe our time of
15 travel calculations. These are an important
16 component of the permitting process. The regulations
17 require that we assume that a release occurs from the
18 landfill and then demonstrate that it would take at
19 least six years for this release to reach what is
20 referring to as a sensitive receptor. This
21 demonstration ensures that there is ample time to
22 detect and correct a release if it were to occur.
23 The Maine Solid Waste Rules generally define
24 sensitive receptors as water supply wells and
25 aquifers, recharge areas and various types of surface

1 waterbodies. So the first step in the process is to
2 identify any potential sensitive receptors, which we
3 did by reviewing regional and local information. And
4 we identified two small streams and Waste
5 Management's office water supply well as the closest
6 potential sensitive receptors for Phase 14.

7 The next step is to identify pathways to the
8 potential receptors, which start with identifying a
9 point of origin or what we refer to as a theoretical
10 release point. We identify the proposed sumps on the
11 downgradient side of the landfill as the theoretical
12 release points for all of the pathways that we
13 evaluated because they're the lowest point in the
14 landfill cells and represent locations where liquid
15 could conceivably accumulate and create a head to
16 result in a release. We also identified the sumps
17 because, like I said, they're on the downgradient
18 side of the landfill and so they represent the
19 shortest distance between the landfill and the
20 sensitive receptors. I should point out that the
21 accumulation of the liquid in a sump in and of itself
22 does not mean that a release would occur. In fact, a
23 leak from a sump is quite unlikely because the sumps
24 will be constructed with two layers of very low
25 hydraulic conductivity, a GCL, a geosynthetic clay

1 liner, and that's also overlain by a 60 mil
2 geomembrane. In fact, a release from anywhere in the
3 landfill is unlikely due to the number of redundant
4 systems that are incorporated into the landfill
5 design.

6 So my next few slides conceptually
7 illustrate the pathways we evaluated including three
8 originally identified by Golder and two that were
9 theorized by Maine DEP. The first two pathways we
10 evaluated are shown conceptually here. Both evaluate
11 a release from a sump and horizontal flow to a
12 stream. Because the sumps will be directly underlain
13 by the stiff upper clay, these pathways evaluate a
14 release from the sump that would theoretically
15 migrate horizontally through the stiff clay to the
16 stream. Maine DEP hypothesized alternative pathways
17 for pathways one and two and theorized vertical flow
18 through the clay beneath the sumps, then horizontal
19 flow through the till, and then upward vertical flow
20 through the clay to a downgradient stream. Pathway
21 three evaluates a release from the cell 14A sump to
22 Waste Management's water supply well located a little
23 over 1,500 feet from Phase 14. This pathway assumes
24 that the theoretical release migrates vertically
25 downward through the stiff upper and soft lower clays

1 through the underlying glacial till. And while the
2 Waste Management supply well is a bedrock well, the
3 evaluation conservatively assumes that the horizontal
4 flow pathway is through the glacial till, which has a
5 higher average hydraulic conductivity than the
6 bedrock.

7 The time of travel calculations for each of
8 the flow paths I just described were made by
9 calculating a seepage velocity for each component of
10 the flow pathway then multiplying the seepage
11 velocity by the length of the pathway. We first
12 calculated a time of travel for each pathway based on
13 average input parameters and then calculated time of
14 travel using what we termed high end input
15 parameters, which allows for an evaluation of the
16 sensitivity of the calculations to the potential
17 range of input parameters. This table summarizes the
18 calculated travel times for each pathway based on
19 average input parameters. Golder considers these
20 results to best represent the expected travel times
21 and is shown they all greatly exceed the minimum six
22 year travel time requirement.

23 This table summarizes the calculated travel
24 times using the high end input parameters. Golder
25 considers these results to be less representative

1 because of the approach unrealistically combines
2 certain input parameters resulting in unrealistically
3 short time frames. Regardless, all of the calculated
4 travel times even using these high input parameters
5 exceed and in most cases greatly exceed the six year
6 minimum travel time requirement.

7 So lastly, I want to present the proposed
8 water quality monitoring program. Water quality
9 monitoring will begin prior to waste placement to
10 characterize the existing groundwater and surface
11 water quality. And then after waste placement
12 detection monitoring will begin, which is designed to
13 monitor water quality throughout the active life of
14 the facility. The water quality monitoring program
15 is designed based on the groundwater flow directions
16 that we -- that I discussed earlier. This slide
17 illustrates the generalized groundwater flow
18 direction based on the potentiometric surfaces we
19 looked at. And as I mentioned previously, the north
20 side of the landfill is identified as the upgradient
21 side and the south side is identified as the
22 downgradient side. The groundwater monitoring
23 program includes four upgradient monitoring locations
24 as depicted here and includes both overburden and
25 bedrock. On the downgradient side of the landfill or

1 the south side groundwater will be monitored at 10
2 overburden monitoring wells and two bedrock
3 monitoring wells. And last but not least, we'll also
4 monitor surface water at the four locations here
5 illustrated by the blue symbols.

6 This slide summarizes the expected timing of
7 water quality monitoring. Site characterization
8 monitoring is expected to begin in the summer of
9 2021. The rules require a minimum of four site
10 characterization monitoring events. Given the
11 current schedule, we'll likely complete eight
12 characterization monitoring events prior to waste
13 placement. And then detection monitoring is
14 anticipated to begin in 2024 and will be conducted
15 tri-annually or three times a year thereafter.

16 So in summary, the investigations we've
17 conducted demonstrate favorable hydrogeologic
18 conditions in the Phase 14 area. The presence of the
19 clays provide a nice natural barrier to flow to the
20 underlying units. The prevailing natural groundwater
21 flow directions are not towards the sand and gravel
22 aquifer or the town water supply. And the
23 combination of the natural site conditions and the
24 engineered systems along with long-term water quality
25 monitoring will ensure that Phase 14 as sited and

1 designed won't pose a risk to sensitive receptors or
2 natural resources. And that concludes my
3 presentation.

4 MS. MILLER: Thank you, Mr. Macdonald. Does
5 the Town, Mr. LaBelle or Mr. Grillo, have any
6 questions for Mr. Macdonald on cross-examination?
7 Okay. I will go through the list of Department staff
8 in that case. Ms. Butler.

9 MS. BUTLER: This is Ms. Butler. A question
10 for Mr. Macdonald. Can you explain why it was not
11 necessary or is not necessary to explore downgradient
12 locations beyond the office well of Waste Management
13 for the purpose of defining sensitive receptors?

14 SHERWOOD MCKENNY: Well, any travel times
15 beyond that -- beyond the Waste Management well will
16 actually have longer travel times, so the greater the
17 distance, the longer those travel times would be.
18 Does that answer your question?

19 MS. BUTLER: Well, excuse me, in follow-up,
20 I would ask you to further explain what the proposed
21 monitoring network would do relative to any sensitive
22 receptor regardless of travel time in the direction
23 of groundwater flow.

24 ALISTAIR MACDONALD: Yeah, so certainly
25 we've -- we've set up a network of monitoring wells

1 on the downgradient side of the landfill, which get
2 monitored three times a year and, you know, as
3 required by the Maine Rules, so we collect samples
4 from those wells, we evaluate the chemistry of those
5 samples. They are statistically evaluated to
6 determine whether or not there is any changes in that
7 water quality because if there were a release from
8 the landfill then that would be indicated by a change
9 in water quality with time and so those locations are
10 close to the landfill. And so if a -- if anything
11 was detected in that monitoring well network then,
12 again, as required by the rules you would immediately
13 go into assessment to identify what is the cause of
14 those changes in water quality so that that can be
15 rectified very quickly. And -- and that's why the
16 six year travel time is so important is because it
17 does give you that length of time to those closest
18 sensitive receptors to identify a problem and correct
19 it before it ever reaches those sensitive receptors.

20 MS. BUTLER: That answers my question.
21 Thank you.

22 MS. MILLER: Thank you. Okay. Ms. King.

23 MS. KING: I do not have any questions at
24 this time. Thank you.

25 MS. MILLER: Ms. Lipfert.

1 MS. LIPFERT: Yes, I have some questions.
2 Mr. Macdonald, I had a question about the phreatic
3 surface. I don't know if it's possible for you to
4 put the image back up. It might be easier to -- if
5 we all looked at it.

6 ALISTAIR MACDONALD: Yeah, just give me a
7 minute.

8 MS. LIPFERT: Sure.

9 ALISTAIR MACDONALD: I have to find the
10 right button now. Are you seeing my screen now?

11 MS. LIPFERT: Not yet.

12 ALISTAIR MACDONALD: How about now?

13 MS. LIPFERT: Yes. To the phreatic
14 groundwater surface slide.

15 ALISTAIR MACDONALD: This slide.

16 MS. LIPFERT: Yes. Yes. I was noticing it
17 appears that water going from the northern part of
18 the landfill towards the southwest appears like it
19 discharges to that stream and yet I know in your
20 report you indicated that there are -- the stream
21 piezometer at that location indicated the water flows
22 the other way. There wasn't discharge of groundwater
23 to the stream but rather the stream is going down
24 into the groundwater. And I'm curious what
25 explanation you have for this and how do you think

1 the water is actually traveling through that area?

2 ALISTAIR MACDONALD: Yeah, so we did install
3 these paired staff cages and piezometers in the
4 streams and so that gives us a water level in the
5 stream and then a water level in the groundwater --
6 potentiometric level of groundwater at the same
7 location and at these locations we always observed
8 downward hydraulic gradients from the streams into
9 the material right below that. You know, so -- so
10 these gradients are depict -- developed -- I'm sorry,
11 the surface is developed based on those measurements.
12 The -- so it does show general groundwater flow from
13 the footprint of Phase 14 to the southwest, but, you
14 know, if you follow those back, you know, groundwater
15 flows perpendicular to those potentiometric surface
16 lines. They actually don't end up in the streams,
17 but I think what you do have is shallow groundwater
18 flowing basically beneath the stream parallel to the
19 direction of the stream. You know, we do evaluate
20 those in our time of travel calculations as if the
21 groundwater does discharge to those locations and
22 it's possible there is some discharge perhaps during
23 drier time of the year, although a lot of times those
24 streams will dry up particularly this time of year.
25 So, yeah, I think what you're really seeing is

1 groundwater flow beneath the streams but parallel to
2 those streams.

3 MS. LIPFERT: Okay. Could it just be that
4 the groundwater is below the level of the stream
5 there?

6 ALISTAIR MACDONALD: Correct.

7 MS. LIPFERT: Okay. I have another question
8 about the character of the bedrock. Could you please
9 describe the fracturing patterns and orientations and
10 style of the bedrock and how it might be controlling
11 the flow of groundwater?

12 ALISTAIR MACDONALD: Yeah, so the upper part
13 of the bedrock is -- is relatively fractured. Those
14 fractures are oriented as two kind of main
15 orientations from north northeast to south southwest
16 and then a conjugate set from northwest to southeast.
17 Where the -- where the fracture density -- and, I'm
18 sorry, most of those are vertical or near vertical.
19 So where the fracture density is high, particularly
20 in the shallower bedrock, the bedrock responds more
21 like a porous media and you don't see a lot of
22 influence from that fracture network or the
23 orientation of those fractures. In pump tests that
24 have been completed at the site, particularly those
25 where groundwater was pumped from -- from deeper

1 horizons you do see some anisotropy in terms of
2 groundwater or the -- the influence from pumping is
3 anisotropic so you'll see greater draw down along
4 those two orientations that I just spoke of, so
5 northeast southwest and northwest to southeast, but
6 overall they don't appear to have a real strong
7 influence on non-pumped groundwater flow direction.
8 There, the topography really controls the direction
9 of groundwater flow.

10 MS. LIPFERT: Thank you. I don't have any
11 more questions.

12 MS. MILLER: Thank you. Ms. Tarbuck.

13 MS. TARBUCK: Yes, I do have one question.

14 ALISTAIR MACDONALD: Mmm Hmm.

15 MS. TARBUCK: And so my question is since a
16 single liner system is proposed, could you further
17 expand on the existing base material and the base
18 material proposed to be imported, which is required
19 for the foundation and other requirements of our
20 rules? Specifically, can you expand upon the range
21 of the depth of clay and the depth to bedrock of
22 undisturbed soil across the footprint?

23 ALISTAIR MACDONALD: So I want to make sure
24 I understand exactly what you're asking. So when you
25 say the range of depth to clay --

1 MS. TARBUCK: Of clay. Maybe I said to
2 clay. But you are -- you've stated clay is a good --
3 has a good hydraulic conductivity and is good base
4 soil and what is that range of depth throughout the
5 whole...

6 ALISTAIR MACDONALD: Okay. So do you want
7 to know the depth or the thickness?

8 MS. TARBUCK: Thickness, I'm sorry.

9 ALISTAIR MACDONALD: Okay.

10 MR. TARBUCK: My apologies. Then depth to
11 bedrock. Sorry, I was confusing the two.

12 ALISTAIR MACDONALD: Sure. Yup. No
13 problem. So the thickness of clay ranges from a
14 little over 2 feet in the northeast corner of Phase
15 14 to, and I may misspeak here, but I know it's up
16 close to 20 feet, possibly more, on the south side of
17 the landfill. And then your next question was the
18 thickness of undisturbed soil from the base of the
19 liner to the top of bedrock?

20 MS. TARBUCK: That's correct.

21 ALISTAIR MACDONALD: Yes, so I haven't
22 calculated that directly although I -- I know that
23 Mr. Luettich was looking at that the other day, but I
24 believe the minimum thickness of undisturbed soils
25 will be about 7 feet. Did I say that correctly,

1 Mr. Luettich?

2 SCOTT Luettich: Yes. The thickness of
3 undisturbed soil below the bottom of the deepest part
4 of excavation where we over excavate the sand, that
5 thickness between the bottom of that excavation and
6 the top of bedrock is 7 feet or greater throughout
7 the whole footprint of Phase 14.

8 MS. TARBUCK: Okay. Thank you. I
9 appreciate that clarification.

10 MS. MILLER: Anything else, Ms. Tarbuck?

11 MS. TARBUCK: No, thanks.

12 MS. MILLER: Thank you. Ms. Eleftheriou.

13 MS. ELEFThERIOU: No questions from me.

14 Thank you.

15 MS. MILLER: Thank you. Mr. Burns.

16 MR. BURNS: Just one area of questioning. I
17 just want to make sure that I'm clear on your
18 testimony. Now, Mr. Macdonald, are you familiar with
19 the historic use of the property to the northwest of
20 the property boundary adjacent to Phase 14?

21 ALISTAIR MACDONALD: To the northwest, I
22 can't say -- no, I'm not familiar with the use of
23 that property.

24 MR. BURNS: Okay. Given that, let's accept
25 what I'm about to say as a hypothesis and I just want

1 to verify something. So if -- if you were to be
2 aware that that property at one point was an auto
3 salvage yard and an auto salvage yard has the
4 potential to release contaminants based on the
5 groundwater flow, is there any potential for
6 groundwater flow from that auto salvage yard area to
7 cause difficulties in monitoring the Phase 14
8 footprint if there was to be a release?

9 ALISTAIR MACDONALD: A release from the
10 landfill?

11 MR. BURNS: Yes. Could you distinguish the
12 two is the real question.

13 ALISTAIR MACDONALD: I think you absolutely
14 could. You know, releases from facilities like --
15 like you described are typically petroleum type
16 releases, which are readily identifiable and I'd
17 characterize as being easy to fingerprint through the
18 appropriate analytical methods. You know, landfills
19 have a very distinct fingerprint as well, you know,
20 and that would be dominated by, you know, your common
21 cations and anions, things like chloride and sodium
22 and things like ammonia which you would not see --
23 you wouldn't see those in a release from an auto
24 salvage facility.

25 MR. BURNS: Based on your work at the site

1 from what you've said would the concern potentially
2 only relate to bedrock flow? I think you had
3 indicated there was a component of fracturing that
4 was northwest to southeast.

5 ALISTAIR MACDONALD: You know, I would
6 just -- again, are you talking about the auto salvage
7 yard?

8 MR. BURNS: Correct.

9 ALISTAIR MACDONALD: Yeah, I think anything
10 like that whether it be from the auto salvage yard or
11 from the landfill would most readily be identified in
12 the -- in the till. You know, and also I mentioned
13 earlier groundwater flow direction from the till into
14 bedrock are primarily horizontal and we don't see
15 strong gradients going from the till down into the
16 bedrock, so I would expect to see any groundwater
17 changes first in the till long before we'd see
18 anything in the bedrock.

19 MR. BURNS: Okay. Thank you. I have no
20 more questions.

21 MS. MILLER: Thank you. Ms. Tierney.

22 MS. TIERNEY: I don't have any questions.
23 Thank you.

24 MS. MILLER: Ms. Bensinger.

25 MS. BENSINGER: Yes, I do have a question.

1 Thank you. I -- my question is in your
2 calculations -- in your assessment, do you consider
3 the possibility of prolonged severe drought or
4 serious -- seriously heavy rainfall over an extended
5 period and would that change your calculations with
6 regard to the interaction between groundwater and the
7 landfill?

8 ALISTAIR MACDONALD: Yeah, so what droughts
9 and increased precipitation tend to do is change one
10 of the values in our calculations, which is the
11 hydraulic gradient. The -- which probably the
12 parameter which our calculations are least sensitive
13 to, but I will say, you know, that we've monitored --
14 I think I mentioned this earlier in my presentation,
15 we've monitored water levels at the site for over 30
16 months now. So and we don't see huge swings in those
17 gradients because typically what happens is the
18 potentiometric surface will rise and fall as a
19 surface, which doesn't increase or decrease those
20 gradients that significantly. So I would not expect
21 that to have a -- a very large influence in our time
22 of travel calculations. And, again, remember, you
23 know, the results of those calculations really exceed
24 pretty significantly the required six year time
25 frame.

1 MS. BENSINGER: Thank you.

2 MS. MILLER: Any other questions, Ms.
3 Bensinger?

4 MS. BENSINGER: No, thanks.

5 MS. MILLER: Okay. I don't have any
6 questions on this presentation, so thank you,
7 Mr. Macdonald.

8 ALISTAIR MACDONALD: Thank you.

9 MS. MILLER: So I'm looking at our agenda.
10 We're a little bit ahead of schedule by about 10
11 minutes, which is nice. And the next thing we have
12 scheduled is a break and I would like to take a break
13 right now. So Ruth Ann, do you normally shout this
14 whole thing down and have everyone join back in when
15 there is a break or? No. Okay. So we'll go ahead
16 and break for 15 minutes as originally planned and
17 we'll start up -- instead of 3:20, we'll start up at
18 3:10 and we will start with Mr. Bodwell from Bodwell
19 EnviroAcousics to talk about sound, so we will see
20 you then. Thank you.

21 (Break.)

22 MS. MILLER: Okay. It's 3:10. Hopefully
23 everybody is back. As a reminder, if you are not
24 actively speaking right now, just make sure to mute
25 your -- you're put on mute button and I see that Mr.

1 -- is it Bodwell? Am I pronouncing your name
2 correctly, Mr. Bodwell?

3 SCOTT BODWELL: Yes.

4 MS. MILLER: Yes, okay. Mr. Bodwell is
5 ready to go with his presentation and so we'll go
6 ahead and get started with that and I will turn it
7 over to you then. Thank you, Mr. Bodwell.

8 JULIET BROWNE: This is Juliet. Do you want
9 to swear him in?

10 MS. MILLER: Again, I forgot. Thank you
11 very much. Yes, I do. Mr. Bodwell, can you raise
12 your right-hand, please? Do you swear or affirm that
13 the testimony you are about to give is the whole
14 truth and nothing but the truth?

15 SCOTT BODWELL: I do.

16 MS. MILLER: Thank you very much.

17 SCOTT BODWELL: So are we ready to go?
18 Everybody is back that needs to be?

19 MS. MILLER: I am going to assume so.

20 SCOTT BODWELL: Okay.

21 MS. MILLER: Yeah, let's go ahead.

22 SCOTT BODWELL: Okay. Yeah, good afternoon.
23 My name is Scott Bodwell. I'm with Bodwell
24 EnvoroAcoustics and I conducted a sound level
25 assessment of the Phase 14 landfill and my report was

1 submitted as part of the solid waste permit
2 application.

3 Next slide, please. Just a little
4 background about me. I have been doing acoustical
5 consulting in Maine for well over 30 years, over 300
6 acoustic studies -- sound studies in Maine alone,
7 participated in most of the major rulemaking about
8 noise rules in Maine in mostly major industrial and
9 energy projects as well as sound analysis work for
10 Crossroads Landfill since 2001.

11 The noise standards and sound level limits
12 that applied to Phase 14 are established in the Solid
13 Waste Management Rules in Chapter 400, the existing
14 uses in scenic character. The sound level limits are
15 in terms of hourly equivalent sound levels, which is
16 similar to an hourly average, just a little different
17 math, and designed to protect noise sensitive land
18 uses and other private off-site properties. These
19 limits are as follows: 75 dBA for all hours at the
20 facility property line. The dBA unit is a measure of
21 audible sound that's common for environmental noise
22 standards as to simulate human hearing. For areas
23 that -- for protected locations in areas that are not
24 predominantly commercial or industrial the limits are
25 60 dBA daytime and 50 dBA nighttime. And for

1 protected locations areas that are predominantly
2 commercial/industrial, 70 daytime, 60 dBA nighttime.
3 Daytime being 7 a.m. to 7 p.m. and nighttime being 7
4 p.m. to 7 a.m. The protected locations are the
5 sensitive -- noise sensitive land uses and in this
6 case are all residential. Properties and the limits
7 apply to the entire parcel upon which the residence
8 sits. There is mix of uses in the area of the
9 project, but we apply the quieter limits to the Phase
10 14. To give some -- put some of these sound levels
11 into context, 70 dBA is approximately an automobile
12 at 45 miles an hour about 50 feet away. 60 dBA would
13 be strong wind in the trees or a small plane flying
14 over low. And 50 dBA would be moderate wind in the
15 trees and perhaps small to mid-size waves on a
16 shoreline.

17 Next slide, please. This is an aerial map
18 that we've shown a lot today. You can see the Waste
19 Management project area is in red, the big bold red,
20 those are Waste Management project area lines. Other
21 Waste Management properties are shown in the hatching
22 orange, yellow-orangish hatching. You can see some
23 of the other landfill phases within that red
24 boundary. Phase 14 in this case is shown as yellow
25 boundary. The Central Maine Regional Airport is

1 located to the northwest of the project site and the
2 nearest -- most of the nearest dwellings or the --
3 all the nearest dwellings are located on Airport Road
4 to the northeast of Phase 14. One thing you can see
5 from this is there is an extensive forested buffer
6 around Phase 14 to the nearest dwellings.

7 Next slide, please. How does this equate to
8 sound level limits that we just went through? Again,
9 the Waste Management property is in red, bold red,
10 landfilled phases are shown, surrounding properties
11 are shown from the tax maps and the dwellings are
12 shown on this map as small orangish-pinkish dots. So
13 whenever there is a property not owned by Waste
14 Management that has a dwelling on it that property is
15 a protected location and the sound level limits are
16 60/50 as shown on this map and they -- those sound
17 level limits apply for the entire property upon which
18 that dwelling sits or if there is multiple dwellings
19 it's -- it's the whole property.

20 Next slide, please. So from this land use
21 and sound limits, the first part of the sound
22 assessment we identified the protected locations and
23 property boundaries with the highest potential and
24 most restricted -- highest potential for sound
25 exceedance of limits or most restrictive for

1 compliance. These are shown as the symbols -- target
2 symbols P1 through P4. P1 is the closest to Phase
3 14. It is a protected location and would have a
4 60/50 sound limit there. You note that the house on
5 that property is quite -- is on the opposite side of
6 the property, but the limit does apply to the entire
7 property. The other location is P4, which is the
8 closest non-residential property to Phase 14.

9 Next slide, please. Sound sources
10 associated with the landfill, same as the previous
11 phases, waste compactors and bulldozers to spread and
12 compact the waste, these are the most significant
13 sound sources for landfill operation. Routine
14 operation of the landfill is three units of -- of
15 this equipment, either two of one -- two bulldozers,
16 one compactor or two compactors, one bulldozer used
17 to place and compact the waste material during
18 daytime hours.

19 Sound performance, we've obtained equipment
20 specifications from Caterpillar that provide overall
21 and octave band sound levels, sound power levels for
22 the equipment. This plot here shows for each type of
23 equipment the sound levels by frequency. These are
24 sound power levels so the levels might seem high, but
25 these are right at the source so they are much lower

1 as you move away. The sound level by frequency is
2 important because it improves the accuracy of our
3 sound calculations over distance and terrain.

4 Next slide, please. So the land mapping and
5 the sound sources and so forth get compiled into a
6 predictive sound model and this is computer-based
7 terrain-based sound model and also incorporates the
8 International Sound Propagation Standards shown here
9 ISO 9613-2 Attenuation of Sound During Propagation
10 Outdoors. We took a conservative approach to ensure
11 compliance. We used the full rated equipment sound
12 levels that I just showed you. The source heights,
13 we used the top of the exhaust of the equipment
14 versus the engine height. Simultaneous operation of
15 the operating units in areas of the landfill nearest
16 to the receptor points that I showed on the sound
17 limit map. We took no attenuation from foliage,
18 which would reduce sound, and we used the mix of hard
19 and sound ground to represent winter conditions.
20 This model approach has been proven based on
21 extensive sound testing at many other projects in
22 Maine.

23 Next, please. So this is the -- some of the
24 figures, the scenarios, the sound model scenarios
25 from the report. This what you see here in addition

1 to the land use, the receptor points are a different
2 symbol, but those are the survey markers P1, 2, and 3
3 are evaluated here. The equipment sound sources are
4 the blue plus signs. And in this case you can see
5 that they're all -- all grouped in one corner of
6 Phase 14 and this height of the landfill is an
7 interim height once you get above the perimeter MSE
8 berms. And so when we did this the initial modeling
9 indicated a potential for sound limit exceedance at
10 point P1 when operating in this eastern most portion
11 of the Phase 14 landfill. So we developed a sound
12 abatement berm design and modeled that that would be
13 maintained at 10 feet above the landfill operating
14 surface around the perimeter of the operating area.
15 So with this in place this is what you see in this
16 model scenario is with that sound abatement berm in
17 place and the resulting sound levels the highest is
18 at the nearest receptor P1 at 58.9 and that the other
19 receptors is less than that. And that would be --
20 the sound levels would be lower at the dwellings,
21 particularly P1, which is much closer to the landfill
22 than the dwelling is -- P1 is much closer to the
23 landfill than the dwelling.

24 Next slide, please. So just a schematic
25 profile view of the sound abatement berm is shown

1 here. This is only needed for compliance at receptor
2 P1 and only in a small area of the Phase 14 landfill,
3 the eastern most portion. And what this shows is the
4 landfill equipment pushing waste in the direction of
5 the receptor point, which would be to the right on
6 the screen. And as you get above on the MSE
7 perimeter berm shown there and once you get near the
8 top of that at that point the 10 foot perimeter berm
9 will be maintained, so it will block the sound
10 between the operating equipment and the receptor
11 point.

12 Next slide, please. So the next scenario
13 that we looked at is what is the distance required
14 for you to be set back from that nearest receptor
15 point so that no -- so you no longer need to have
16 this sound abatement berm and that distance was
17 determined to be 750 feet and so if you group all of
18 the three pieces of equipment at 750 feet from P1
19 then you do meet the daytime limit that applies at
20 P1. So this is the -- one of the model scenarios
21 that we looked at and the results are shown here.
22 The sound levels are lower at the other receptor
23 points P2 and P3.

24 Next slide, please. So the final scenario
25 that we looked at is presented in the report moves

1 the equipment to the opposite side of Phase 14. You
2 can see it grouped here with the nearest operating
3 area to this abutting property. This is not a
4 protected location under the Solid Waste Rules so
5 that the limits are 75 here, so with this equipment
6 operating here and the loudest bulldozer we are in
7 compliance at 68.6 compared to a sound limit of 75.

8 And the last slide, please. So this is a
9 summary of the model results of the compliance
10 evaluation. And to the left is the applicable
11 receptor, point P1 through P4, a description of what
12 they are and the cases, their protected locations and
13 for P4 it's an abutting property with no dwelling, so
14 the distances of these receptor points from the Phase
15 14 operating boundary. And these are the three
16 scenarios relative to the sound limit criterion for
17 daytime. And you'll see that for the interim with
18 the SA berm the highest would be 58.9 versus a limit
19 of 60, interim at 750 feet with no SA berm 59.3
20 versus a criteria of 60. In the final case, Phase
21 14, there is two P4, it is 68.6 versus 75. So the --
22 there are quite a few additional details that are
23 provided in the sound report and so that -- that's
24 available and this concludes my presentation on -- on
25 sound.

1 MS. MILLER: Thank you, Mr. Bodwell. Are
2 there any questions for cross-examination from
3 Mr. LaBelle or Mr. Grillo?

4 ROBERT GRILLO: I have one question. Of
5 what material is the sound abatement berm made of?
6 Is it a berm made of certain waste and the refuse or
7 is it some other material brought in?

8 SCOTT BODWELL: It is as described in the
9 report, I didn't know if somebody else was chiming in
10 on the signals here, but it's made from -- it is made
11 from waste materials, but it's made from select
12 materials that will meet the criteria for the
13 stability that's needed for -- for the berm and more
14 information can be provided from Sherwood if needed.

15 ROBERT GRILLO: That's fine. Thanks.

16 SCOTT BODWELL: Ah, Mr. McKenny, excuse me.

17 MS. MILLER: Mr. Grillo, did you have any
18 follow-up that or?

19 ROBERT GRILLO: No, I'm fine. Thank you.

20 MS. MILLER: Okay. Thank you. Okay.

21 Any -- let's just start with the list of staff at the
22 Department. Ms. Butler, any questions?

23 MS. BUTLER: Yes. I would like to follow-up
24 with Mr. McKenny regarding the type of waste proposed
25 for that berm that would meet the criteria that

1 Mr. Bodwell suggests will be adequate.

2 SHERWOOD MCKENNY: Yes, we would largely
3 construct that berm out of daily cover material that
4 comes to the facility.

5 MS. BUTLER: Being largely what?

6 SHERWOOD MCKENNY: We have a wood chip
7 product that we use largely. There are other
8 materials, auto shredder residue that can be used,
9 some ash streams that are approved through the
10 Department that could be used.

11 MS. BUTLER: And have you discussed those
12 proposed options with Mr. Bodwell and gotten his
13 concurrence on that?

14 SHERWOOD MCKENNY: Yes, we discussed the
15 type of waste that would be used. And I'll speak of
16 those materials, and those are largely used on the
17 exterior. I believe these berms are 10 feet high, so
18 we may need to use some common waste in the landfill
19 just because of the size of these berms.

20 MS. BUTLER: Common waste being specifically
21 what?

22 SHERWOOD MCKENNY: Common waste being
23 municipal solid waste. Largely municipal solid
24 waste.

25 MS. BUTLER: And how would you control

1 litter during construction if you used municipal
2 solid waste?

3 SHERWOOD MCKENNY: I'm not sure I understand
4 your question. I'm sorry.

5 MS. BUTLER: Knowing that municipal solid
6 waste contains, you know, light materials that are
7 subject to being wind blown, how would you control,
8 you know, the wind blowing of that material during
9 the construction of the berms?

10 SHERWOOD MCKENNY: Okay. Yes. So if we use
11 municipal solid waste on the interior of the core, we
12 will have a perimeter litter fence in place in that
13 corner to collect any potential wind blown material.

14 MS. BUTLER: And that litter fence can be
15 adjusted in height to meet the, you know, elevation
16 at which you're going to be working?

17 SHERWOOD MCKENNY: Yes, that's -- that's a
18 good question. These litter fences are relatively
19 high during initial installation. I believe they're
20 as high as approximately 40 feet that -- and lined up
21 around the entire perimeter of the landfill cell.

22 MS. BUTLER: And is the -- are the berms
23 required above that elevation? I recall that they
24 are.

25 SHERWOOD MCKENNY: Yeah, they may be

1 required above that elevation, but they'll also -- as
2 these -- as we continue to construct the berms, we'll
3 continue to move further away from these litter fence
4 locations. These berms will become more internal to
5 the landfill.

6 MS. BUTLER: Okay. Thank you. Something to
7 consider. Also a question for Mr. Bodwell. How
8 does -- in your comparison of 50 dBA to waves or
9 wind, how does the frequency of the noise that will
10 be given off by the landfill equipment compare to the
11 frequency of the waves or the wind with respect to,
12 you know, sensitivity of human hearing?

13 SCOTT BODWELL: Well, the purpose of
14 providing those examples was really to have an idea
15 of the various decibel levels. Wind has a mix of
16 frequencies much -- I'm not going to say it sounds
17 like a diesel engine, but it has a lot of frequencies
18 and when leaves and vegetation move they have high
19 frequencies. Similar to waves, if waves when they
20 crash they have a variety of frequencies, not that
21 they're going to sound the same, but the distributed
22 frequencies between landfill equipment and these
23 other sources is -- is probably comparable even
24 though they will, you know, obviously sound -- sound
25 different.

1 MS. BUTLER: Hmm. Okay. Appreciate that.
2 Thank you. No more questions.

3 MS. MILLER: Thank you, Ms. Butler. Ms.
4 King.

5 MS. KING: I do not have any questions.
6 Thank you.

7 MS. MILLER: Ms. Lipfert.

8 MS. LIPFERT: Yes. Remind me, will there be
9 field testing of sounds to verify the model?

10 SCOTT BODWELL: At this point, am I -- oh,
11 okay. At this point, we're not planning to do it.
12 Part of the reason is that the areas that we looked
13 at are very specific configurations that will be in
14 place modeling scenarios, so if you were going to try
15 to do sound testing you would need to recreate those
16 worst case scenarios. I suppose you could do other
17 intermediate scenarios, but they wouldn't necessarily
18 guarantee you compliance for the scenarios that we
19 looked at or you could use scenarios to measure
20 closer in and then estimate, well, that's kind of
21 what we've already done. So with -- with the spec
22 data, my understanding of the operations there and
23 the sound models that we used, to me the most
24 important thing to assure compliance is to make sure
25 that this -- the controls that are outlined are put

1 in place, you know, like with the perimeter berm
2 is -- is used when it's needed and operating
3 restrictions are applied when needed and so forth.
4 So that -- that's my view of need for sound testing
5 versus management.

6 MS. LIPFERT: Thank you. I don't have any
7 more questions.

8 MS. MILLER: Ms. Tarbuck.

9 MS. TARBUCK: No additional questions.
10 Thanks.

11 MS. MILLER: Ms. Eleftheriou.

12 MS. ELEFThERIOU: Yes, a few questions from
13 me. Mr. Bodwell, what other measures were considered
14 besides a soil berm for sound abatement? And what
15 I'm thinking is was any noise dampening construction
16 equipment modifications considered?

17 SCOTT BODWELL: Yes, they were. They
18 weren't quite adequate. The sound suppression
19 packages for the equipment that's being used wouldn't
20 quite achieve the sound reduction that we needed, so
21 the perimeter berm seemed like the best option
22 particularly given that it's being such a small area
23 of the landfill once you're out of that area
24 that's -- you'll comply with without that
25 restriction. Plus another thing to keep in mind is

1 the distance between where that receptor point is and
2 where the -- where the impacts will be, so the sound
3 levels at the dwellings will be considerably lower
4 than they will be at the receptor points, so
5 that's -- that's a real bonus for -- for impact in
6 this case.

7 MS. ELEFTHERIOU: Okay. Thank you. One
8 other question. Mr. McKenny gave several options for
9 the type of berm material and I'm wondering how does
10 the type of berm material and its ability to be
11 compacted well affect sound dampening and, you know,
12 did you model different types of material in the
13 berm?

14 SCOTT BODWELL: Well, the -- the modeling
15 was done based on the assumption that there would be
16 a mix of some heavier material or some lighter
17 material and that the overall mass of -- of the berm
18 would be adequate for the sound barrier -- the sound
19 abatement berm to achieve the performance that we
20 anticipated from the modeling. And this type of --
21 of berm or fence could be accomplished with much
22 thinner wooden material. We know that if we have a,
23 you know, they've got back slopes and so forth, so it
24 would be a substantial mass associated with these
25 berms so it doesn't appear to be any issue with the

1 berms performing the way we expect them in the model.

2 MS. ELEFThERIOU: Okay. Thank you. That's
3 it from me.

4 MS. MILLER: Thank you. Mr. Burns.

5 MR. BURNS: Just one question for you,
6 Mr. Bodwell. During construction of the berms or,
7 yeah, construction of the berms is the best way to
8 say it, are there any restrictions that you have
9 recommended on the amount of equipment that will
10 actually be working on the berms at any given time
11 considering that that's the opportunity for maximum
12 impact?

13 SCOTT BODWELL: Yeah, the construction of
14 the berm, this is laid out in the report, will be
15 done with one -- one bulldozer in that area at a
16 time. There won't be any other equipment during
17 construction of the berms. And we modeled that
18 single quietest bulldozer and during construction of
19 the berm they -- they will comply with the hourly
20 daytime limits and we -- we -- but we came up with a
21 condition that, and I don't have it right off the top
22 of my head, but I think it's about -- operating about
23 75 percent of the time during an hour. So to meet
24 the hourly sound levels constructing a berm there is
25 an operational restriction that is specified in the

1 report. And I've talked to the Waste Management
2 people about that and that's -- that definitely they
3 can control that and make that work.

4 MR. BURNS: Okay. Thank you. No further
5 questions.

6 MS. MILLER: Ms. Tierney.

7 MS. TIERNEY: I do have one question. Can
8 you just correct me if I'm wrong, but did the model
9 assume three pieces of equipment operating at the
10 same time? Did I have that right?

11 SCOTT BODWELL: That's -- that's correct.
12 Yes.

13 MS. TIERNEY: And so I guess I'm just
14 wondering both during construction, not of the berms,
15 but construction of the Phase 14, will there ever be
16 more than three pieces of operation -- equipment
17 operating at the same time? Is that to be expected?

18 SCOTT BODWELL: We didn't look at that
19 because the construction activity is essentially
20 during daylight or daytime hours is not regulated and
21 I -- I understood that no nighttime construction was
22 planned, so I -- we didn't get into how much
23 equipment would be involved in the construction of
24 the landfill essentially because there aren't the
25 sound limits that applied to that activity.

1 MS. TIERNEY: Okay.

2 SCOTT BODWELL: Other than, you know, the
3 OSHA and machine and so forth.

4 MS. TIERNEY: And I guess my other follow-up
5 question is what about during operations, once it's
6 constructed and operating, is it ever possible that
7 more than three pieces of equipment could be
8 operating at the same time?

9 SCOTT BODWELL: There may be some ancillary
10 equipment in the area from time to time like a water
11 spray truck, but those -- those other sources
12 aren't -- aren't really significant in terms of these
13 hourly operations and what kind of sound is emitted
14 off-site, so I would expect those types of, you know,
15 and maybe a truck comes out and some of the employees
16 come out, those types of things are -- are really not
17 going to be significant sources relative to the
18 landfill equipment, so I wouldn't expect that those
19 would impact the hourly sound levels that we've --
20 that we've modeled.

21 MS. TIERNEY: Okay. Thank you.

22 MS. MILLER: Thank you. Ms. Bensinger.

23 MS. BENSINGER: Yes, good afternoon,
24 Mr. Bodwell. I have a few questions. Ms. Tierney's
25 question raises an issue in my mind about the

1 definition of construction. I know under the noise
2 rules in Chapter 375 of the Department's regulations
3 construction of a development is exempt, but the word
4 construction is defined to be activity and operations
5 associated with the development or expansion of a
6 project or its site. So my question, and maybe
7 you're not the best one to answer it, but my question
8 is when does construction end and operation begin for
9 the expansion of a landfill?

10 SCOTT BODWELL: What I -- what I looked at
11 was not -- did not include preparing the site for the
12 landfill and I would consider that would be
13 construction even though landfilling operations and
14 cover and so forth is very similar to a construction
15 type of activity. We considered all of the land --
16 all of the waste handling activities to be considered
17 routine operation of a landfill. And the
18 construction work to get the landfill ready, we did
19 not consider that part of routine operation of the
20 landfill. We did include use of construction of the
21 berms because it would be constructed of waste
22 material and essentially become part of the landfill,
23 but we did consider that would be a landfill
24 operation and that's why the restriction on -- on
25 the -- on the equipment during construction of the

1 sound abatement berm.

2 MS. BENSINGER: So will there be times when
3 part of the landfill is being operated as you
4 consider operation placing waste there and parts of
5 this area being still constructed?

6 SCOTT BODWELL: You'd probably want to talk
7 to Sherwood or Scott Luetlich about what types of
8 construction activity occur in around operation of a
9 landfill and I'm not really -- I don't really have
10 the answers for that.

11 MS. BENSINGER: Okay. Maybe before the day
12 is out the Applicant could answer that question. But
13 before we move on I have a couple of other questions
14 for you. Could you please bring up the slide that
15 shows the inputs to the modeling? The one that
16 mentions that you didn't consider leaf attenuation
17 and the list of the inputs to the model.

18 SCOTT BODWELL: Yup. That will be Matt was
19 controlling the slides there. Matt, are you there?

20 MATHEW TODARO: I am. Pulling up in one
21 moment.

22 SCOTT BODWELL: Thanks.

23 MS. MILLER: That was Mr. Todaro for the
24 record.

25 SCOTT BODWELL: Oh, Mr. Todaro, I'm sorry.

1 I think it's the one -- yup, two before that. Oh,
2 one before that. Yup. Is that the one, Ms.
3 Bensinger?

4 MS. BENSINGER: Yes. So I don't see
5 anything listed here about wind levels that were
6 assumed -- wind level or wind direction that was
7 assumed in the modeling. Can you address that?

8 SCOTT BODWELL: Yeah, the convention of this
9 standard and the use of this model is based on the
10 assumption that all receptor points are all downwind
11 of all of the equipment even though that's not
12 physically possible, but that's -- that's the
13 protocol of the model, so there is -- there is no --
14 like if you're upwind there is no reduction of the
15 sound levels and if you're downwind those are the
16 sound levels that you would get both downwind and
17 calm conditions. So it's essentially -- plus a mild
18 temperature inversion or moderate temperature
19 inversion, so it's intended to provide attenuation as
20 if all of the receptors are located downwind from the
21 equipment under stable atmospheric conditions.

22 MS. BENSINGER: And does the miles per hour
23 of wind in actuality impact the amount the sound will
24 travel and what -- what were your assumptions on
25 that?

1 SCOTT BODWELL: Well, it won't at these
2 distances. What the wind effect really does if
3 you're upwind it will decrease, but if you're
4 downwind it doesn't decrease. There are situations
5 over long distances where the wind can sort of lift
6 the sound and positive back down, but those are over
7 several miles and that's what you sometimes hear when
8 you hear a distant train or highway. But for the
9 distances involved at these protected locations, I
10 don't expect to have any -- any kind of increased
11 sound levels over -- relative to the distance from
12 the wind.

13 MS. BENSINGER: Relative to the miles per
14 hour of the wind?

15 SCOTT BODWELL: Correct.

16 MS. BENSINGER: Okay.

17 SCOTT BODWELL: And if that's -- I mean, if
18 it's that type of wind in this area being vegetated
19 it's likely that that wind will begin to mask the
20 equipment sounds as well.

21 MS. BENSINGER: Right. Right. One last
22 question. On another slide where you had the 750
23 feet, I forget what that slide was called with the
24 sound levels and the model predictions.

25 SCOTT BODWELL: Yeah, it was Figure 53,

1 slide like three or four ahead of that. The other --
2 other way. Almost towards the end. That one. Is
3 that the one?

4 MS. BENSINGER: No, you were -- it was a
5 chart where you were staying 750 feet without a berm
6 what the sound level sound level -- sound levels will
7 be.

8 SCOTT BODWELL: Yeah, this is -- there is a
9 table in this --

10 MS. BENSINGER: Yup.

11 SCOTT BODWELL: -- and that table is from
12 the results that are shown on this figure here and
13 you can see that. The equipment is located 750 feet
14 away from that receptor -- the nearest receptor P1
15 and I can go to the table as well, but this is
16 probably the better way to see it.

17 MS. BENSINGER: So can you show the table
18 for a minute, please? So the predicted hourly sound
19 level, when you say interim 750 feet with no berm,
20 okay, so that will be at 750 feet -- when the work is
21 being done 750 feet from the protected location then
22 you will no longer have the berm?

23 SCOTT BODWELL: That's correct.

24 MS. BENSINGER: Okay. Thank you.

25 SCOTT BODWELL: We'd no longer need the

1 berm. There may still be parts of it in place or
2 however they operate and construct the landfill, but
3 at that point it's not a requirement for sound
4 compliance.

5 MS. BENSINGER: Okay. Thank you.

6 MS. MILLER: Thank you. I guess I have a
7 question. I guess maybe it's more of a
8 clarification. Is the hourly sound level based on
9 an -- is it an average or is it based on the loudest
10 sounds? Can you explain that a little bit?

11 SCOTT BODWELL: Yeah, the -- the hourly
12 sound level that's used in the regulation, that's the
13 same one that's used in site law as well as solid
14 waste is what's called an equivalent sound level and
15 that's an energy average, so -- because decibels are
16 not arithmetic as far as like 50 plus 50 does not
17 equal 100. 50 plus 50 decibels equals 53. That's
18 because it's log rhythmic based. So if a 60 decibel
19 sound is approximately 10 times a 50 decibel sound
20 and it will get weighted accordingly in that
21 equivalent sound level and that's -- that's the
22 commonly used parameter that gives more weight to
23 slightly higher sound levels than if it was a
24 straight average, but it's the hourly equivalent
25 sound level. So if you have, you know, some high

1 sound levels in there they'll tend to bring that
2 average up quite a bit relative to a straight
3 arithmetic average, so that's why that parameter is
4 most widely used.

5 MS. MILLER: Okay. Thank you. Okay.

6 SHERWOOD MCKENNY: Mr. Bodwell --

7 MS. MILLER: Yes, Mr. McKenny. Mr. Bodwell,
8 would you please go back to the sound abatement berm
9 figure and I'll attempt to answer Ms. Bensinger's
10 answer -- ah, question, I'm sorry. Back one more.
11 It shows -- there we go. Actually, show the one that
12 has the 750 foot restriction, please. There you go.
13 So essentially Phase 14A, which is the cell within
14 the 750 foot zone would be constructed initially.
15 Upon completion, entire completion of that
16 construction, operationally we would move into that
17 cell. At some time a year or two there, after we
18 would concurrently be operating that cell while
19 performing construction of Phase 14B, so we would
20 have an operational activity going on with
21 construction. But with that said, we would be beyond
22 the 750 foot distance and we would largely be working
23 behind the waste that's been placed within the Phase
24 14A landfill. Does that help?

25 MS. BENSINGER: But Mr. Bodwell seemed to be

1 saying that construction noise was not considered in
2 his model. So you're saying that construction would
3 be occurring at the same time as operation of a
4 cell construction of other cells would be occurring.

5 SHERWOOD MCKENNY: Correct. After the
6 initial construction of Phase 14A.

7 MS. BENSINGER: So, I mean, it may be may be
8 that, and I think it is, that that construction noise
9 is exempt, but in reality the construction noise
10 would be occurring at the same time as the operation
11 noise.

12 SHERWOOD MCKENNY: That would be the case
13 for Phase 14B, C, D, and E. Please keep in mind, we
14 would be working behind the existing waste that's
15 already been landfilled and largely working below
16 grade there for the most part in construction -- in
17 constructing the landfill itself.

18 MS. BENSINGER: Would it make sense to
19 maintain the berm then out of an abundance of caution
20 or not?

21 SHERWOOD MCKENNY: I would defer to
22 Mr. Bodwell.

23 SCOTT BODWELL: Well, I -- the berm once you
24 complete the landfill operation in Phase 14A, if I'm
25 understanding what Sherwood is saying correctly, is

1 that Phase 14A by itself will be well above what's
2 going on to construct 14B. So because that starts
3 below the level of the MSE perimeter berms, so it --
4 it looks as if it would -- you would have the
5 effectiveness, maybe even a higher berm or barrier in
6 place while you're constructing the base of 14B from
7 the operations you finished at the top of 14A.

8 MS. BENSINGER: How much equipment is used
9 during construction of these cells at any one time?

10 SHERWOOD MCKENNY: It varies. It's really
11 tough to say.

12 MS. BENSINGER: Can you give me an estimate?

13 SHERWOOD MCKENNY: Well, it depends on a
14 number of things. It depends on the construction
15 schedule because that drives the number of equipment
16 that needs to come to the facility to ensure the
17 construction schedule is met. Oftentimes that's
18 driven by time of year. But two, three, four pieces
19 of equipment possibly, but it's -- it's just an
20 estimate.

21 MS. BENSINGER: So it might be hard to
22 determine compliance if that's happening at the same
23 time as the operation in 14A, right? It would be
24 hard to measure noise at the protected location and
25 determine what -- what portion of the noise is coming

1 from the operation and what portion is coming from
2 the construction; is that correct?

3 SCOTT BODWELL: That seems reasonable, yeah.

4 MS. BENSINGER: Okay. I don't have any
5 other further questions on that.

6 MS. MILLER: Thank you, Mr. Bodwell and
7 Mr. McKenny for answering all of the questions. So I
8 think that's going to conclude our section on sound
9 and noise. And we'll go ahead -- forward with the
10 schedule on to the next portion. For our next
11 witnesses we have Mr. McGown, Mr. Iannuzzi, and Ms.
12 Wilkinson. Are all three of you planning to testify?

13 JEFFREY MCGOWN: It will primarily be myself
14 and Lisa and Joe if necessary.

15 MS. MILLER: Okay. I should probably swear
16 you all in then. So I can't see Joe.

17 JEFFREY MCGOWN: I've been sworn.

18 MS. MILLER: I'm sorry?

19 JEFFREY MCGOWN: You've already sworn me in.

20 MS. MILLER: I've sworn you in, yup. So Mr.
21 Iannuzzi and Ms. Wilkinson, both raise your right
22 hands. Do you swear or affirm that the testimony you
23 are about to give is the whole truth and nothing but
24 the truth?

25 LISA WILKINSON: Yes.

1 JOE IANNUZZI: I do.

2 MS. MILLER: Okay. So let's go ahead and
3 get started with the air quality presentation. Thank
4 you.

5 JEFFREY MCGOWN: Thank you. Hello, again.
6 My name is Jeff McGown. I'm the Senior District
7 Manager at Crossroads Landfill. In my role, I manage
8 Crossroads programs related to minimizing odor and
9 dust. This presentation will first discuss measures
10 designed to control odor and air quality at the
11 facility. Assisting me with the discussion
12 specifically related to Crossroads landfill gas
13 collection system is Lisa Wilkinson of SCS Engineers.
14 Lisa.

15 LISA WILKINSON: Hi. I'm Lisa Wilkinson
16 with SCS Engineers. I am a Vice President and a
17 Senior Project Manager. I have been with SCS over 24
18 years and have experience in landfill engineering and
19 landfill gas management design and I've been involved
20 with the landfill gas systems design at Crossroads
21 Landfill since the year 2001.

22 JEFFREY MCGOWN: Next slide. We're going to
23 focus on dust management, odor management as it
24 pertains to disposal operations and the landfill gas
25 management system.

1 Next slide. Crossroads has a number of
2 programs that control dust. Before I talk about
3 those it is important to mention that the natural
4 buffer surrounding the facility like trees and shrubs
5 creates a wind break serving as a natural dust
6 control measure. Equipment and material used to
7 construct and operate the landfill can create dust.
8 To control dust during construction and operations
9 Crossroads uses a number of measures including the
10 following: Watering dry loads of waste or material,
11 pushing small amounts of waste at slower paces,
12 making bowls or barriers from waste to act as a wind
13 buffer, covering waste with alternate daily cover
14 materials that do not create dust during use,
15 mulching or seeding borrow sources, installing
16 temporary tarps over parts of the landfill that have
17 reached interim or final waste grades. Nearly all
18 access roads are paved and an industrial sweeper is
19 used to keep the facility clean when necessary. And
20 I would add that the Phase 14 access roads would be
21 paved as well. Finally, as much as possible
22 transporters are required to use a truck wash station
23 to clean wheels and undercarriages before exiting the
24 active landfill.

25 Next slide. Crossroads has identified two

1 primary sources of odor at the facility, disposal
2 operations and landfill gas. To clarify, odors from
3 both sources are very different. Odors from disposal
4 operations are from waste as being disposed of at the
5 active face of the landfill. Odors from the landfill
6 gas are from odorous compounds from the gas generated
7 by decomposing waste. Waste Management has standard
8 operating procedures to address both sources. This
9 portion of the presentation will summarize the
10 methods used to control and minimize odor for each
11 identified source.

12 Next slide. One of the most effective tools
13 the Crossroads facility has for minimizing and
14 controlling odors is its personnel. I would take a
15 step back here and let folks know that earlier I said
16 I've been with the company 28 years. Of those 28
17 years I spent eight-and-a-half living essentially
18 on-site. I lived in what everyone refers to as the
19 Baker farm, so I was personally involved with odor
20 and gas when it came about. Each morning Crossroads
21 personnel travel local roads to the facility serving
22 as eyes, ears, and noses within the community. Once
23 personnel arrive, each day begins with a team meeting
24 and safety huddle. Odor is a standing discussion
25 item and personnel are always encouraged to raise

1 even the slightest odor related concern. Any odor
2 concerns raised by personnel are then investigated
3 and mitigating actions taken as quickly as possible.

4 Other items discussed during these
5 huddles -- excuse me? Other items discussed during
6 these huddles are litter and traffic. Each evening
7 facility personnel travel again through the adjacent
8 community, just as during the morning commute,
9 personnel are encouraged to immediately report any
10 detection or odor concerns they may have. I might
11 also add that since leaving the Baker farm I do live
12 about two miles away in the neighborhood. Empowering
13 Crossroads personnel to report odor or other concerns
14 they observe both on and off the facility has built
15 an important network of realtime community monitors.
16 This approach has fostered a culture of genuine
17 stewardship within the community. Waste Management
18 has not previously accepted significant amounts of
19 odorous waste. When odorous waste arrives,
20 communication takes over from the scale house to the
21 landfill operators. Once the load arrives in the
22 landfill operators mix, blend, bury, and cover
23 minimizing odor.

24 Next slide. One of the most effective
25 procedures Crossroads uses to control odors is its

1 use of cover materials. Crossroads uses approved
2 special waste streams known as alternate daily cover
3 or ADC. ADC is spread on the working landfill
4 surface to minimize odors and litter. Some of the
5 approved ADC materials include wood waste fines,
6 ground utility poles, and urban fill soils. These
7 materials do not have significant potential to create
8 airborne odors. Prior to utilizing ADC materials not
9 listed above in the case where we would get a new
10 product, Crossroads will characterize materials for
11 odor potential and coordinate for use with the Maine
12 DEP.

13 Within the host community benefit agreement,
14 we have transporter rules and regulations. The
15 program requires transporters to comply with all
16 local, state, and federal laws and additional
17 requirements put in place specifically for Crossroads
18 facility. The program requires waste hauling truck
19 beds to be covered and secured both entering and
20 exiting the facility. Each of these measures
21 minimizes and prevents any impacts to the local
22 community. The program is enforced on a daily basis
23 and consequences are levied to violators.
24 Responsiveness to any issues raised by the
25 Norridgewock community is the highest priority to me

1 personally and for Waste Management as a company. In
2 the past, Waste Management has responded immediately
3 when concerns have been arised. Most recently within
4 the last couple of months, I received a call from the
5 town manager regarding an odor some four to five
6 miles north of the facility. Upon investigation it
7 was determined to be a farming operation unrelated to
8 our landfill activities. From that complaint after
9 resolved, I have another complaint most recent where
10 an employee, excuse me, a resident was traveling to
11 work exiting their road onto Route 2 and had some
12 odors, which is about two miles from our facility.
13 After investigation, we determined that that odor was
14 specific to a truck traveling to the facility
15 carrying an odorous load. And, again, as we stated
16 earlier, we get them in as quickly as we can,
17 process, bury, and cover.

18 Next will be Lisa Wllkinson to go over
19 landfill gas management system.

20 LISA WILKINSON: Thank you, Mr. McGown. In
21 addition to the odor control procedures implemented
22 during the disposal operations as discussed by
23 Mr. McGown, installation and operation of a landfill
24 gas management system in the Phase 14 landfill is
25 another method to manage odors and reduce migration

1 from the waste once it is in place. Currently, there
2 are landfill gas management systems installed in the
3 Phase 8, 9, 10, 11, and 12 and landfill areas at the
4 Crossroads landfill that are effective in controlling
5 odors and migration. Phase 14 will require submittal
6 of an application of a new source review license and
7 will also be required to comply with the state and
8 federal requirements related to landfills.

9 First, let's discuss how landfill gas is
10 generated, collected, and controlled using this
11 schematic. As waste is placed in the landfill
12 bacteria decompose the waste and create waste gases
13 called landfill gas. Primarily the gas consists of
14 carbon monoxide and methane, which are odorless, but
15 there are some compounds in the landfill gas that do
16 contain odors. The gases are contained within the
17 limits of the landfill by the liner system on the
18 bottom and on the sides of the landfill as previously
19 discussed by Mr. Luetlich. The layers -- as the
20 layers of waste are placed, devices such as vertical
21 extraction wells or horizontal collectors are
22 installed incrementally to collect the generated
23 gases from the decomposing waste. Extraction
24 equipment such as blowers or compressors apply a
25 vacuum to the waste mass and pull the gas through a

1 closed system for combustion in either a flare or a
2 renewable energy facility such as the gas to energy
3 facility that has been identified by others in these
4 proceedings. The combustion of the gas then converts
5 the energy from the methane in the gas to electricity
6 that is then transferred to the power grid and
7 provide electricity to the homes in the nearby
8 community.

9 The Phase 14 landfill gas management system
10 design is based on the estimated quantities of gas
11 that will be generated from the types of waste that
12 are placed in the landfill. Gas generating
13 capacities vary for different types of waste and this
14 is accounted for in the modeling that is done. Match
15 recovery from the Phase 14 landfill is expected to be
16 just over 2,200 standard cubic feet per minute of gas
17 in the year 2042. The peak from all landfill areas
18 combined is estimated at about 2,400 SCFM in the year
19 2042, which coincides with the projected end of the
20 Phase 14 landfill. The capacity of the existing
21 control system is located at the landfill complex are
22 then compared to the estimated gas quantities to
23 ensure there is sufficient control.

24 Vertical extraction wells and horizontal
25 collectors are some of the devices that are installed

1 in the waste mass to extract the gas as it is
2 generated and then directs the gas into headers and
3 lateral piping that carries the gas to the combustion
4 equipment. The main headers are sized to accommodate
5 the peak design gas quantities described from the
6 previous slide. The headers and laterals or the
7 piping systems are constructed so the system is
8 completely expandable. As new waste is placed,
9 valves are installed on the piping to isolate
10 portions of the system during connection of the new
11 collectors so that the existing system can remain
12 operational and continue to collect gas. This allows
13 for continuous operation of the collection system and
14 maximizes the ability to control odors.

15 Odors and migration are controlled then most
16 importantly through the operation and monitoring of
17 the landfill gas management system. As Mr. Luettich
18 mentioned previously, a well head is installed on
19 each collector and controls the vacuum applied across
20 the system. The vacuum exerts a negative pressure on
21 the waste mass and pulls the gas into the piping
22 system towards the control device where it is then
23 combusted. The vacuum applied to each collection
24 device is monitored and adjusted on a very frequent
25 basis to optimize extraction of the gas from the

1 waste mass and also optimize the gas quality
2 combusted at the renewable energy facility.

3 Gas is typically generated about one year
4 after the waste has been placed. The Phase 14
5 landfill gas system will be installed incrementally
6 as waste is filled in each new cell. This drawing
7 shows the portion of the system that will be
8 installed in the first cell during the first period
9 of waste placement. The interim system will allow
10 for collection of gas as soon as it is generated in
11 the landfill. The system is expanded annually at a
12 minimum to provide collection in all areas in which
13 new waste was placed in the past year.

14 This drawing shows the coverage of the final
15 gas collection system once the entire landfill is
16 filled to final grades and consists of approximately
17 68 vertical extraction wells in the Phase 14 landfill
18 area. The circles around each well show the radius
19 of influence a vertical extraction well will cover.
20 What is not shown in the schematic are the other
21 types of collection devices such as horizontal
22 collectors and toll collectors that are part as part
23 of the incremental system. The horizontal and toll
24 collectors provide additional influence of the vacuum
25 in the waste mass. Additionally, the use of

1 temporary synthetic tarps and the installation of the
2 final cover system may allow additional application
3 of a greater vacuum and the ability to control more
4 odors from the landfill.

5 Lastly, all of the gas collected from the
6 Phase 14 landfill will be destroyed by the existing
7 control systems located at the landfill complex.
8 Since 2009, waste Management has been beneficially
9 using the gas generated by decomposition of waste to
10 create electricity. The renewable energy facility
11 consists of two Caterpillar engines with two
12 additional flares as supplemental capacity. In 2019,
13 over 490 million standard cubic feet of gas were
14 collected generating over 24 million kilowatt hours
15 of electricity which is equivalent to the power --
16 equivalent to power almost 2,000 homes for one year.

17 So in conclusion, the dust and odor
18 management procedures discussed by Mr. McGown
19 combined with the installation and operation of a
20 comprehensive and gas management system demonstrates
21 that the Phase 14 landfill will not unreasonably
22 adversely affect air quality. This concludes our
23 presentation on dust and odor control.

24 MS. MILLER: Thank you. Okay. Any
25 cross-examination questions from Mr. LaBelle or

1 Mr. Grillo?

2 ROBERT GRILLO: Yes. Mr. Grillo. I have a
3 few questions for Mr. McGown. So looking at your
4 operating plan and hearing your discussion, it sounds
5 like that you accept municipal solid waste and some
6 other odorous materials at this site?

7 JEFFREY MCGOWN: Correct.

8 ROBERT GRILLO: Municipal -- I'm sorry,
9 municipal waste water treatment plant sludges.

10 JEFFREY MCGOWN: We do.

11 ROBERT GRILLO: And you described how you
12 promptly -- you're prepared for these materials to
13 come to this site and they're promptly mixed and
14 buried to mitigate odors associated with the
15 disposal?

16 JEFFREY MCGOWN: That is correct.

17 ROBERT GRILLO: Okay. With these kind of
18 materials often the trucks themselves are a source of
19 odor as they're traveling to and from the site. Do
20 you -- do you require your trucks and customers to
21 take steps to neutralize these odors at the source in
22 some manner?

23 JEFFREY MCGOWN: Occasionally. There have
24 been instances where we have had certain facilities
25 due to odor add aggregate to assist with this.

1 ROBERT GRILLO: Okay. Things like adding
2 lime or other ways to --

3 JEFFREY MCGOWN: That's been -- that's what
4 we've done.

5 ROBERT GRILLO: Okay. And as the trucks
6 leave the site, have you considered any procedures or
7 methods in deodorizing those trucks, like a
8 deodorizing pad?

9 JEFFREY MCGOWN: To date, we have not. We
10 have a tire and truck wash area where drivers are
11 encouraged and asked to make sure their tires are
12 free of any material. They wash their back gates
13 off, but as far as deodorizing, we have not looked
14 into that.

15 ROBERT GRILLO: Okay. Thank you.

16 JEFFREY MCGOWN: You're welcome.

17 MS. MILLER: Okay. Any other questions,
18 Mr. Grillo?

19 ROBERT GRILLO: No, thank you.

20 MS. MILLER: Okay. Thanks. Okay.
21 Department staff. Just before we get started with
22 Department staff, we are running -- we've lost our 10
23 minute in advance and now we're aye running a little
24 behind, so just keep that in mind. So I'm going to
25 start with Ms. Butler.

1 MS. BUTLER: Yes. Mr. McGown, do you have
2 knowledge of a number or even an estimate of
3 complaints received that you considered legitimate
4 and did you consider any changes to your protocol
5 call as a result?

6 JEFFREY MCGOWN: We always -- well, we look
7 at any complaint as if it definitely is legitimate.
8 In 2020, so far we have received five complaints.
9 Two of them I spoke to earlier. Again, one was a --
10 was an agricultural source. The one before that
11 was -- was definitely in my opinion after looking at
12 the transportation logs at the site, evaluating
13 traffic flow, it was a sludge load coming to the
14 landfill definitely. Before that, there were three
15 other complaints, all from the same caller related to
16 landfill gas. When we get those complaints what we
17 do immediately -- if the complaint comes in in the
18 middle of the night it's a struggle for me, but if
19 the complaint comes in in the early morning hours, we
20 will deploy our landfill gas technician and our site
21 operations manager or myself to the area that we
22 received the complaint from. Oftentimes, Ms. Butler,
23 we don't have the same result that they had, but we
24 respect that their complaint is legitimate and then
25 we come back and look at our gas control system and

1 see if we could pull harder on the system or there
2 are any failures on-site and adjust from there.

3 MS. BUTLER: That answers my question.
4 Thank you.

5 JEFFREY MCGOWN: You're welcome.

6 MS. MILLER: Thank you. Ms. King.

7 MS. KING: I do not have any questions.
8 Thank you.

9 MS. MILLER: Ms. Lipfert.

10 MS. LIPFERT: Yeah, I have a question for
11 Ms. Wilkinson. Is all the gas that's generated by
12 landfills useful as a fuel, useful to be converted to
13 energy?

14 LISA WILKINSON: Yes. Any gas that you can
15 collect you can combust in those engines and create
16 electricity.

17 MS. LIPFERT: Okay. And how much of it is
18 actually -- or how much do you think is going to be
19 converted to energy and how much is going to be
20 flared?

21 LISA WILKINSON: Well, right now, the
22 capacity of the existing energy facility is 1,200
23 CFM, so there will be the remainder of the gas or the
24 balances up to the max that will be flared.

25 MS. LIPFERT: And what percentage is that?

1 LISA WILKINSON: So it will be, you know,
2 just about 50 percent will be used for energy
3 recovery at the peak of the Phase 14 landfill
4 generating a recoverable gas quantities versus
5 flared.

6 MS. LIPFERT: Are there any plans to
7 increase the ability to convert gas to energy?

8 LISA WILKINSON: Waste Management might be
9 better to answer that question. It's -- it's like a
10 decision based on the capacity of the facility,
11 emissions from the engine, financial payback, so
12 there is a -- there is a whole bunch of factors that
13 go into that decision.

14 MS. LIPFERT: Thank you. I don't have any
15 more questions.

16 MS. MILLER: Okay. Thank you. Ms. Tarbuck.

17 MS. TARBUCK: Yes. Thanks. I do have one
18 question, Mr. McGown. You talked about bit about the
19 community feedback measures and the responsiveness.
20 Is there a specific procedure that people need to go
21 through, do they -- is there a specific hotline or an
22 email or could you just go into a little bit of
23 detail about that?

24 JEFFREY MCGOWN: Excuse me. They call the
25 site directly. They have the ability to call the

1 town office. I have my personal phone number that
2 I've made available to the person that has made most
3 of the phone calls over the last year. But as far as
4 a hotline, no. That's something to consider and we
5 can discuss, but we have a posted number for the
6 landfill. It's on our sign. It's on our website.
7 The town passes it out regularly at the town office
8 if anyone wants it. And that is it at this point,
9 but you bring up a good point and something we can
10 definitely look at.

11 MS. TARBUCK: Thank you. No more questions.

12 MS. MILLER: Ms. Eleftheriou.

13 MS. ELEFThERIOU: No questions from me.

14 Thank you.

15 MS. MILLER: Mr. Burns.

16 MR. BURNS: No questions from me. Thank
17 you.

18 MS. MILLER: Ms. Tierney.

19 MS. TIERNEY: No questions.

20 MS. MILLER: Ms. Bensinger.

21 MS. BENSINGER: No questions.

22 MS. MILLER: And none from me either. Well,
23 thank you very much for you presentation, Ms.
24 Wilkinson and Mr. McGown. Now, we'll turn it over to
25 the waste hierarchy and recycling, again, with

1 Mr. McGown.

2 JEFFREY MCGOWN: Hello, again. I'm waiting
3 for slides, I guess. Are you there, Matt? There we
4 go. Hello. My name, again, is Jeff McGown. I' the
5 Senior District Manager for Crossroads. I've stated
6 earlier, I've been with the site for 28 years. I let
7 you know earlier I had lived out from for
8 eight-and-a-half of those and all total about 20
9 years in the community.

10 In my current role, I manage all of
11 Crossroads programs related to reduction, reuse,
12 recycling and composting of waste materials. This
13 presentation will cover two primary topics, how Phase
14 14 is consistent with and supports the state's solid
15 waste hierarchy and, two, how Phase 14 is consistent
16 with and supports the state's recycling standards.

17 Next slide. The facility currently operates
18 a number of programs that reduce or recycle waste.
19 Phase 14 will provide an important opportunity for
20 these programs to continue and expand. Phase 14 will
21 also make it possible for new programs to start. The
22 following slides will cover existing and new
23 initiatives to show how Phase 14 is consistent with
24 the state's solid waste management hierarchy.

25 The figure above shows existing programs and

1 new initiatives proposed within the Phase 14 project.
2 Existing programs are on the left side of the figure,
3 new and expanded programs are on the right side. I
4 will discuss programs within the level of the
5 hierarchy now. Crossroads Landfill along with its
6 parent company Waste Management actively perform
7 waste evaluations for its customers within the
8 Crossroads disposal network. Evaluations take
9 different forms depending upon customer needs and
10 preferences. Evaluations can often lead to the
11 development and implementation of waste reduction and
12 recycling programs. Successful waste evaluations
13 have been performed for a variety of customers
14 including some of the following: Fisher Engineering,
15 Bath Iron Works, Sigco Glass, and the Sugarloaf
16 Mountain Corp. In addition to that, we have many of
17 those 55 Maine communities we talked about earlier
18 that we assist. Most recently, we were at a meeting
19 with a local industrial provider talking about an
20 unrelated matter and within the conversation it was
21 brought up about their need to recycle and that they
22 thought they were landfilling recyclable materials
23 from their the facility. As it turned out, they had
24 bad recyclables in a can that violate the conditions
25 of the end users, but with some education and

1 training to the office personnel we've made changes
2 in the program and see it going forward to be fully
3 recycled.

4 Next slide. Existing reuse programs at the
5 Crossroads facility include battery diversion,
6 e-waste diversion, an affiliation with a beneficial
7 tire reuse program BDS Waste. The new reuse related
8 Phase 14 programs include the textile diversion
9 program and a hazardous material collection and
10 reduce program. The hazardous materials collection
11 event started in August of 2019. It was held again
12 in August of 2020. The event was offered to nine
13 member communities collection events and the
14 collection events will continue throughout the life
15 of Phase 14. Crossroads is presently coordinating
16 with Apparel Impact, the textile reuse and recycling
17 company based out of Portsmouth, New Hampshire.
18 Containers have been ordered and I expect them to be
19 delivered in the next couple of months.

20 Next slide. The foundation of Waste
21 Management's recycling efforts is its single sort
22 recycling program. Following introduction of the
23 program in 2010, Waste Management saw an increase in
24 the volume of recyclables collected from its disposal
25 region. From 2015 to 2017, Waste Management's single

1 sort program including cardboard and other recyclable
2 products diverted 17,500 plus tons of recyclable
3 material from disposal. Given Waste Management's
4 large collection region this figure is even more
5 impressive. Without Waste Management's recycling
6 programs some of these materials would most likely
7 not be recycled because of transportation to other
8 facilities would be too expensive. The Phase 14
9 project also continues successful recycling such as
10 cardboard, wood waste, batteries, e-waste and tires.
11 The Phase 14 project has also proposed a substantial
12 upgrade to its existing Airport Road transfer
13 station.

14 Next slide. The Phase 14 project will
15 include an organics diversion and composting program.
16 The facility will be developed at Crossroads to
17 accept and process organic material. The goal of the
18 program will be to reduce organic materials out of
19 waste thereby saving landfill capacity. Local
20 residents, schools, and businesses will be encouraged
21 to participate. Organic materials will be dropped
22 off at an upgraded Airport Road transfer station.
23 Compost produced from the program will be made
24 available to local residents free of charge. In the
25 fall of 2018, Waste Management partnered with the

1 Town of Farmington, University of Maine at Farmington
2 and the state's compost specialist to develop a
3 temporary compost facility at Crossroads. The
4 program saved the town money on disposal fees and
5 generated revenues from compost sales. Due to COVID
6 concerns presently the program has been ceased, but
7 we expect it to start back up in the near future.

8 Both the Maine DEP and the U.S. EPA have
9 recognized the environmental benefits of landfills
10 that use gas recovery systems for fuel. The
11 Crossroads renewable landfill gas to energy plant has
12 been capturing gas since March 2009. The system
13 collects gas from the waste decomposition process and
14 uses it to generate electricity. The system powers
15 two 20 cylinder Caterpillar engines that are rated at
16 2,380 horse power each. The renewable landfill gas
17 to energy plant will continue throughout Phase 14.

18 Crossroads provides essential and
19 cost-effective disposal capacity for approximately 55
20 communities in western and central Maine as you see
21 here in green. As I stated earlier, there is vital
22 back-up capacity to the Maine energy recovery towns
23 in yellow and the MRC in light green. For these
24 communities Crossroads provides a critical
25 cost-effective disposal option not provided by other

1 facilities in the state. Existing capacity provided
2 by the Phase 8 expansion will be fully utilized in
3 2024. Phase 14 will allow the facility to continue
4 to serve the needs of Maine communities and
5 businesses for years to come. The Crossroads
6 facility is also important for keeping costs stable
7 and competitive in Maine. Without Phase 14 there
8 would be a significant landfill capacity shortage.
9 The initiatives presented above demonstrate that
10 wastes managed by Crossroads are reduced, reused,
11 recycled, composted and/or processed to the maximum
12 extent practicable prior to landfilling. The Phase
13 14 project is consistent with the state recycling and
14 reduction programs. Phase 14 continues and grows the
15 single sort recycling program and other Crossroads
16 recycling programs. Phase 14 also continues and
17 grows other source reduction programs discussed
18 above.

19 In January of 2019, the Maine DEP published
20 the current version of the Maine Materials Management
21 Plan. The focus of the report are the solid waste
22 hierarchy and its food waste recovery hierarchy. As
23 discussed above, Phase 14 programs like its single
24 sort recycling program and its organics diversion and
25 composting program ensure it is consistent with the

1 recycling provisions of the state plan as a whole.

2 Thank you. That concludes my presentation.

3 MS. MILLER: Thank you. Does the Town have
4 any cross-examination, Mr. Grillo or Mr. LaBelle?

5 ROBERT GRILLO: I don't have anything -- any
6 questions at this time. Thanks.

7 RICHARD LABELLE: I don't either. Thank
8 you.

9 MS. MILLER: Thank you. Okay. We'll go
10 through the Department. Ms. Butler.

11 MS. BUTLER: No questions. Thank you.

12 MS. MILLER: Ms. King.

13 MS. KING: Nothing from me. Thank you.

14 MS. MILLER: Ms. Lipfert.

15 MS. LIPFERT: No questions. Thank you.

16 MS. MILLER: Ms. Tarbuck.

17 MS. TARBUCK: Yes, I just have one question,
18 Mr. McGown. Do you expect any waste very different
19 than what is currently accepted to be disposed in
20 the -- that's currently being disposed now in the
21 proposed expansion?

22 JEFFREY MCGOWN: No, not all. We -- we feel
23 that the present waste streams would be consistent
24 from Phase 8 to Phase 14.

25 MS. TARBUCK: Okay. Thank you. No other

1 questions.

2 MS. MILLER: Ms. Eleftheriou.

3 MS. ELEFThERIOU: Yes. Mr. McGown, could
4 you talk about the schedule for the proposed
5 improvements to the Airport Road transfer station?

6 JEFFREY MCGOWN: Yes, I can. That can't
7 happen soon enough actually, but once we receive a
8 permit we have plans to confirm the design and have
9 operating at the same time that as Phase 14 would
10 come online. So what that would look like -- I think
11 Sherwood McKenny has stated that Phase 14 should
12 start accepting waste in 2023 and we would envision
13 the Airport Road transfer station coming online at
14 the same time.

15 MS. ELEFThERIOU: Okay. Thank you. And
16 could you expand upon how as a facility you work to
17 ensure that any waste that you receive at the
18 landfill has been processed to the extent
19 practicable?

20 JEFFREY MCGOWN: That's a great question and
21 a very tough question. Well, first, municipal solid
22 waste coming to the facility comes from primarily the
23 55 communities discussed earlier that we showed on
24 the map in green. Those communities come to us
25 primarily because of geographics and that the

1 surrounding facilities to the south and the north are
2 either at capacity or near capacity or now closed.
3 Demolition debris from the general area, we -- we
4 watch -- we work with our sales team that covers the
5 temporary side and our customers to ensure that items
6 like metal are recycled, wood is pulled out where
7 necessary so that we can grind it for fuel or cover
8 and any other practical items. Aside from that, I
9 would say today most of the special waste -- most
10 nearly all of the special waste streams lack the
11 ability to go through petroleum recycling in Maine
12 right now. There are challenges there. We don't get
13 a lot of that material, but I would say that is
14 recycled to the best of its ability. Hopefully
15 that's answered your question.

16 MS. ELEFThERIOU: Yes. Thank you. That's
17 all I have. MS. MILLER: Thank you. Mr. Burns.

18 MR. BURNS: Just a couple of questions for
19 you. Can you speak to the types and quantities of
20 out-of-state waste that come to the Crossroads
21 Landfill, the types of waste that maybe do not come
22 to the landfill from out-of-state, and third, any
23 voluntary commitments you've made in this regards?

24 JEFFREY MCGOWN: Yes. Presently as of just
25 last month, we accepted roughly 17 percent of our

1 total volume from out-of-state. We accept no
2 municipal solid waste or burnable trash from
3 out-of-state. We accept limited amounts of
4 demolition debris from out-of-state and that
5 primarily comes to us in the form of waste utility
6 poles that we grind for alternate daily cover. We
7 receive a couple of waste streams from out-of-state
8 that are approved alternate daily cover and
9 miscellaneous special waste from spills and what have
10 you. Commitments, can you -- voluntary commitments,
11 um...

12 MR. BURNS: Yes, I can expand on that a
13 little bit.

14 JEFFREY MCGOWN: Please.

15 MR. BURNS: With regards to some of the
16 other landfill phases at the Crossroads facility, I
17 believe that as part of that -- those processes Waste
18 Management had made some voluntary commitments not to
19 exceed a certain percentage of out-of-state waste, so
20 I'm simply inquiring if there are similar commitments
21 made to Phase 14.

22 JEFFREY MCGOWN: Thank you. Yes. We have a
23 voluntary commitment in Phase 14 not to exceed 35
24 percent out-of-state waste. Presently in Phase 8, we
25 are as a total running in the mid 20 percent range.

1 We have had some spikes above that and some spikes
2 below that, but on average for Phase 8 it has been
3 under 30, in the 26.8 percent range. As I stated
4 earlier, 17 percent the last couple of months and we
5 have volunteered the same in Phase 14.

6 MR. BURNS: And is that commitment based on
7 monthly average, a yearly average, what is that based
8 on?

9 JEFFREY MCGOWN: We have based it on the
10 overall capacity of the site has been my
11 interpretation of that. Neither weekly or monthly or
12 even annually, but as an overall capacity of the site
13 not to exceed.

14 MR. BURNS: Would you be opposed to
15 considering a yearly annual limit?

16 JEFFREY MCGOWN: That is something I would
17 have to discuss with other Waste Management folks and
18 get back to you.

19 MR. BURNS: Okay. The difficulty as you
20 might imagine is in trying to look at an overall
21 capacity value, which would have to be tracked
22 constantly throughout the life of that landfill and
23 it may be more difficult than an annual, that's why
24 I'm asking.

25 JEFFREY MCGOWN: Okay.

1 MR. BURNS: Thank you. No other questions.

2 MS. MILLER: Ms. Tierney.

3 MS. TIERNEY: I just want to hear a little
4 bit more about the compost initiative that is
5 planned. I know you said it would be obviously on a
6 voluntary basis, but does Waste Management plan to do
7 any sort of education or outreach to some of the
8 communities to drive up that -- the volume of
9 composting that can be done?

10 JEFFREY MCGOWN: Absolutely. As probably
11 many of the people on the call understand, the
12 state's composting specialist is very, very
13 aggressive and really likes to get the message out
14 with those programs. I have worked closely with him.
15 He lives in an abutting community and comes by
16 frequently. We had discussed doing a program this
17 fall, but due to -- due to the challenges with
18 distancing from people, we -- we held off on it and
19 will -- even though the new facility won't go up and
20 going in the -- in the next, you know, not until 2023
21 when the new facility opens, we intend to start
22 additional programs sooner than that. With the
23 University of Maine at Farmington, again, we're
24 waiting for COVID to go away, but we have a vehicle
25 ready and sitting in Norridgewock that we are

1 donating to them to help collect materials, bring
2 them to their compost site or ours, we have
3 containers set aside for them and we're excited about
4 it actually. There will be a lot of education
5 locally. The state has offered to assist through
6 their specialists and we have found that people are
7 extremely excited about being able to take the
8 product away when they come to our facility.

9 MS. MILLER: Ms. Bensinger.

10 MS. BENSINGER: No questions.

11 MS. MILLER: Okay. Thank you. No questions
12 for me either. Before we hear some closing
13 statements, I just want to ask anyone from the
14 Department now that you've heard all of the testimony
15 and seen all of the presentations if there is
16 anything that comes to mind that you need in terms of
17 further information or further questions to help
18 process the application. So I'm just going to run
19 through the Department one more time and make sure
20 and then we will go ahead and hear closing
21 statements. So Ms. Butler.

22 MS. BUTLER: I have no additional questions.
23 Thank you.

24 MS. MILLER: Ms. King.

25 MS. KING: None from me. Thank you.

1 MS. MILLER: Ms. Lipfert.

2 MS. LIPFERT: I'm all set. Thank.

3 MS. MILLER: Ms. Tarbuck.

4 MS. TARBUCK: No additional questions.

5 Thank you.

6 MS. MILLER: Ms. Eleftheriou.

7 MS. ELEFThERIOU: None for me. Thank you.

8 MS. MILLER: Mr. Burns.

9 MR. BURNS: Nothing further. Thank you.

10 MS. MILLER: Ms. Tierney.

11 MS. TIERNEY: No, thank you.

12 MS. MILLER: Ms. Bensinger.

13 MS. BENSINGER: None for me. Thank you.

14 MS. MILLER: Okay. I think we are all set
15 then because I don't have anything either. So we
16 will go ahead and it looks like we've made up our
17 time, so thank you, all of you, for being so
18 efficient. We will start by hearing some closing
19 statements from Ms. Browne.

20 JULIET BROWNE: Thank you. Really, the --
21 my principle purpose in a closing statement is just
22 to express our appreciation to everybody that has
23 participated in this lengthy review process, as I
24 said, the DEP staff. It has been a very
25 comprehensive and lengthy process. We hope through

1 that process we have addressed a number of technical
2 issues that have come up. We worked hard to make
3 sure we have the right experts and the right
4 information and obviously the hearing today really
5 just touched on a number of issues, sort of the tip
6 of the iceberg, so I'm not going to try to go through
7 all of the criteria that have been met.

8 We want to make sure that we continue to
9 answer questions. I think, you know, before the --
10 during our break, I'll go through to see if there is
11 any outstanding information that the Department
12 needs, so I want to sort of just come back to that
13 this evening in terms of whether or not the record
14 will be kept open for an additional length of time,
15 but really just want to thank the Town and the
16 Department and the public and we look forward to
17 hearing more from the public tonight, so thank you.

18 MS. MILLER: Thank you, Ms. Browne.
19 Mr. LaBelle or Mr. Grillo, do either of you have any
20 statements that you'd like to make in closing?

21 RICHARD LABELLE: I'll jump in real quick
22 and just, again, I'll do the same and say thanks.
23 It's been an educational session for me here today.
24 But and there was an opportunity that I missed on the
25 odor and dust control, I think, in terms of being

1 able to recognize what they do. So it's not always
2 glamorous having Waste Management in town, but they
3 do do a very good job and Jeff has been over the top
4 responsive and -- and they do take care of our street
5 sweeping. I pick up the phone and things are
6 addressed and I really have a great appreciation, my
7 townspeople have a great appreciation for that level
8 of responsiveness. So whether it's their problem or
9 not, they have been on the ball and I thank them for
10 that, so thanks all around to them and to the
11 Department for hosting this today.

12 MS. MILLER: Thank you, Mr. LaBelle. So I
13 have a few very brief closing statements that I'd
14 like to move forward with right now.

15 So first of all, thank you all for your
16 participation in this adjudicatory hearing. This
17 hearing will conclude this evening after we finish
18 receiving testimony from the general public. After
19 we conclude this evening, the record will be closed
20 in terms of the parties submitting evidence. The
21 parties will have opportunities to submit closing
22 briefs and proposed findings of fact. Also, members
23 of the public will have an additional 12 days to
24 submit public comments. It is my understanding that
25 the transcript will be ready in approximately 30

1 days. Ms. Dostie, can you confirm?

2 ROBIN DOSTIE: Yes, I will do that for you.

3 MS. MILLER: Thank you. So it is my
4 understanding that the transcript will be ready in
5 approximately 30 days after the hearing closes. The
6 closing briefs will be due after the transcript has
7 been provided to the parties. Typically, we allow
8 two weeks for closing briefs after the transcripts
9 have been received, so that would be approximately
10 November 13 time frame and would that -- would that
11 work for the parties?

12 JULIET BROWNE: I think that timing works,
13 but I guess in terms of the record closing I'd like
14 to take the opportunity after hearing from the public
15 tonight to potentially request that the record be
16 kept open just for a period of time to allow us to
17 respond to issues that come up tonight and then I
18 think I heard you say that members of public could
19 submit comments for an additional 12 days; is that
20 correct?

21 MS. MILLER: That is correct.

22 JULIET BROWNE: So I guess, you know, there
23 may not be a need, but I would like the opportunity
24 for a short period of time to respond to comments
25 that come in during that additional period of time.

1 MS. MILLER: Let's bring that up at the
2 close of the public hearing this evening.

3 JULIET BROWNE: Okay.

4 MS. MILLER: Thank you. Okay. So and from
5 the Town, Mr. LaBelle, I don't know if the Town is
6 planning on submitting any closing briefs or
7 information, but does the week of November 13 work
8 for the Town as well?

9 RICHARD LABELLE: I believe so.

10 MS. MILLER: Okay. Okay. Now, just talk a
11 little bit further about public -- comments from the
12 public, written public comments from not the parties
13 will be accepted by the Department for 12 additional
14 days as we just mentioned following the conclusion of
15 this evening's hearing. Comments that are not
16 received by that date will not become part of the
17 record. And just in case we do have any members of
18 the public on now who won't be on later, written
19 comments should be sent by either U.S. Postal Service
20 or by email to Linda Butler at the Department and the
21 contact information is available on the Departments
22 website for Linda.

23 At this time, does anybody have any
24 questions? Hearing none. I will say that let's
25 officially close this portion of the hearing. We

1 will open back up at 6 o'clock and that's when we
2 will start to take -- hear testimony from the general
3 public and I'll have some opening comments at that
4 point as well, so we'll run through those again
5 before we get started. So 6 o'clock. Same email or
6 Zoom link but we're going to shut the Zoom link down
7 completely between now and 6 o'clock.

8 JULIET BROWNE: Sorry, I do have one
9 question. We are not planning to make a presentation
10 at the start of the evening session, so I just want
11 to make sure you were aware of that. Is there any
12 reason you want us to make available an aerial of the
13 facility or anything like that or is that something
14 that the Department already has?

15 MS. MILLER: I am going to -- I think it
16 wouldn't hurt to have just one of the aerial view
17 pictures. I think that would be helpful if we can
18 have that as a -- as a screen share, but I don't -- I
19 don't think it's necessary for Waste Management to
20 provide any presentation.

21 JULIET BROWNE: Okay.

22 MS. MILLER: But, yeah, just to have a -- I
23 think the overview would be helpful for people.

24 J-U-L-I-E-T BROWNE: Thank you.

25 MS. MILLER: Any other questions or

1 comments? Okay. Hearing none. I am going to close
2 this until 6 o'clock. Thank you.

3

4 (Hearing continued at 4:45 p.m.)

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C E R T I F I C A T E

I, Robin J. Dostie, a Court Reporter and
Notary Public within and for the State of Maine, do
hereby certify that the foregoing is a true and
accurate transcript of the proceedings as taken by me
by means of stenograph,

and I have signed:

Court Reporter/Notary Public

My Commission Expires: February 6, 2026.

DATED: November 2, 2020

< Dates >	1,200 120:22	180. 29:5
April 4, 2020	1,500 61:23	1990s 47:4
8:12	10 2:45, 22:24,	1993. 22:11
August 21, 2020	52:24, 53:5,	1996 27:24
8:7	55:20, 55:21,	1:00 1:22
August 24, 2020	55:22, 56:6,	1st 14:11
8:14	56:8, 56:17,	
December 2017	56:22, 64:1,	< 2 >
19:11	76:10, 83:13,	2 17:6, 23:2,
December 2018	84:8, 87:17,	30:3, 30:20,
19:14	101:19,	31:12, 31:20,
February 6,	112:3, 118:22	31:23, 33:19,
2026. 143:15	100 55:21	71:14, 83:2,
June 9, 2020	100. 101:17	111:11
6:14, 8:13	11 112:3	2,000 116:16
March 2009	12 25:10, 49:9,	2,200 113:16
127:12	112:3,	2,380 127:16
May 28, 2020	138:23,	2,400 113:18
8:7	139:19,	2. 31:13, 32:9
November 13	140:13	20 71:16,
139:10, 140:7	120 36:5	123:8,
November 2,	1310-N 5:21	127:15,
2020 143:17	14. 19:19,	132:25
October 1, 2020	30:25, 31:4,	200 3:7, 28:5,
1:21	50:8, 61:23,	29:12
October 2019	72:7, 79:10,	2001 27:24
19:18, 20:21	80:4, 81:3,	2001. 78:10,
September 1,	81:8, 85:1,	106:21
2020 8:16	125:15,	2009 116:8
September 22,	127:17,	2010 125:23
2020 8:17	129:24,	2015 125:25
#S-010735-WD-YB	132:21	2017 20:10,
-N 1:9	14A 21:4, 24:3,	48:15, 125:25
(207) 634-2252	61:21,	2018 126:25
2:40	102:13,	2018. 20:10,
.O. 2:7, 2:38	102:24,	20:15, 20:16
	103:6,	2019 20:17,
	103:24,	116:12,
< 0 >	104:1, 104:7,	128:19
04101 2:46, 3:8	104:23	2019. 125:11
04101-4054	14B 102:19,	2020 20:24,
2:15, 2:23,	103:13,	119:8
2:24	104:2, 104:6	2020. 48:15,
04957 2:8, 2:39	15 30:6, 76:16	125:12
	150 28:4,	2021 20:25,
	29:12, 50:7	21:3
< 1 >	16 2:38	2021. 64:9
1 30:3, 52:24,	17 28:3,	2022. 21:4
55:22, 56:17,	131:25, 133:4	2023 21:5,
56:22	17,500 126:2	

130:12,	4,000 30:22	68 115:17
134:20	4.F(1 27:6	68.6 85:7,
2024 17:10,	4.F(3 27:9	85:21
64:14	40 50:12, 88:20	
2024. 16:13,	400 5:19, 27:6,	
128:3	27:8, 27:9,	< 7 >
2042 113:19	33:11, 78:13	7 2:38, 55:20,
2042. 113:17	401 5:19, 47:19	71:25, 72:6,
207 2:9, 2:16,	405 5:19	79:3, 79:4
2:25, 2:31,	446-0140 2:31	70 79:2, 79:11
2:47, 3:9	45 50:2, 79:12	72 50:13
21--6439 3:9	48.6 23:4,	72-hour 55:14
2101. 5:21	24:1, 28:4	740 40:20
22 49:22	490 116:13	740. 29:9
24 106:17,	4:45 142:4	75 78:19, 85:5,
116:14		93:23
240-9787 2:9		75. 85:7, 85:21
253-4608 2:16	< 5 >	750 84:17,
253-4932 2:25	5 8:5, 52:25,	84:18, 85:19,
26.8 133:3	53:5, 55:22,	99:22, 100:5,
28 108:16,	56:8	100:13,
123:6	5. 56:17, 56:22	100:19,
28th 15:16	50 78:25,	100:20,
29 22:21	79:12, 79:14,	100:21,
2nd 2:45	89:8, 101:16,	102:12,
	101:17,	102:14,
	101:19, 121:2	102:22
< 3 >	5102 3:9	
3 8:5, 8:19,	53 3:7, 99:25	< 8 >
33:11, 83:2	53. 101:17	8 16:12, 17:8,
30 16:23,	55 15:24,	17:17, 30:10,
22:20, 30:6,	124:17,	112:3, 128:2,
50:15, 75:15,	127:19,	129:24,
78:5, 133:3,	130:23	132:24, 133:2
138:25, 139:5	58.9 83:18,	8/10 33:19
300 33:5, 78:5	85:18	850 30:18
35 22:20,	59.3 85:19	
33:12, 132:23	590-5598 2:47	
36 48:17		
375 96:2		< 9 >
38 5:20	< 6 >	9 112:3
3:10 76:18	6 141:1, 141:5,	9051-9064 8:5
3:10. 76:22	141:7, 142:2	9613-2 82:9
3:20 76:17	60 61:1, 78:25,	
3D 30:15, 33:23	79:2, 79:12,	< A >
	85:19, 101:18	a.m. 79:3, 79:4
	60. 85:20	abatement
< 4 >	60/50 80:16,	83:12, 83:16,
4 25:6, 25:7,	81:4	83:25, 84:16,
33:11, 38:17	629 2:7	

86:5, 91:14, 92:19, 97:1, 102:8 ability 13:21, 92:10, 114:14, 116:3, 121:7, 121:25, 131:11, 131:14 able 35:6, 35:8, 35:9, 41:5, 41:8, 135:7, 138:1 Above 25:11, 25:14, 25:18, 28:5, 29:13, 54:12, 83:7, 83:13, 84:6, 88:23, 89:1, 104:1, 110:9, 123:25, 128:9, 128:18, 128:23, 133:1 absence 52:8 Absolutely 42:2, 73:13, 134:10 abundance 103:19 abutting 85:3, 85:13, 134:15 accept 72:24, 117:5, 126:17, 132:1, 132:3 acceptable 44:6 acceptance 21:5 accepted 20:14, 109:18, 129:19, 131:25, 140:13 accepting 130:12 access 17:7, 26:24, 107:18, 107:20	accommodate 114:4 accomplished 92:21 accordance 17:23 accordingly 101:20 accounted 113:14 accumulate 60:15 accumulation 60:21 accuracy 82:2 accurate 143:5 achieve 52:20, 53:2, 56:13, 91:20, 92:19 achieved 17:21, 39:12 acoustic 78:6 acoustical 78:4 acres 23:4, 24:1, 28:4, 41:2 across 51:23, 70:22, 114:19 Act 1:14, 8:4, 20:1, 107:12 actions 109:3 active 17:8, 41:1, 41:10, 63:13, 107:24, 108:5 actively 4:16, 76:24, 124:6 activities 33:1, 35:13, 35:14, 41:6, 49:3, 96:16, 111:8 activity 94:19, 94:25, 96:4, 96:15, 97:8, 102:20 actuality 98:23 Actually 24:20, 25:6, 26:8, 26:17, 26:19,	39:22, 44:25, 52:3, 65:16, 68:1, 68:16, 93:10, 102:11, 120:18, 130:7, 135:4 ADC 110:3, 110:5, 110:8 add 39:13, 41:14, 107:20, 109:11, 117:25 added 31:1, 33:17, 49:10 adding 118:1 addition 49:8, 50:8, 82:25, 111:21, 124:16 additional 11:16, 17:15, 25:14, 34:19, 50:4, 85:22, 91:9, 110:16, 115:24, 116:2, 116:12, 134:22, 135:22, 136:4, 137:14, 138:23, 139:19, 139:25, 140:13 Additionally 115:25 address 98:7, 108:8 addressed 137:1, 138:6 adequate 41:17, 87:1, 91:18, 92:18 adjacent 32:10, 33:2, 72:20, 109:7 adjudicatory
--	---	---

8:2, 138:16	20:19, 39:3,	14:23
adjust 120:2	39:10, 110:13	allows 62:15,
adjusted 88:15,	agricultural	114:12
114:24	29:17, 119:10	Almost 50:7,
administer 5:9	Ah 86:16,	100:2, 116:16
Administrative	102:10	alone 78:6
5:10, 5:25,	ahead 13:5,	already 9:10,
8:4	15:12, 21:18,	14:11, 90:21,
advance 9:20,	21:20, 45:24,	103:15,
22:16, 118:23	76:10, 76:15,	105:19,
advantage 52:14	77:6, 77:21,	141:14
adverse 34:1	100:1, 105:9,	alternate
adversely	106:2,	107:13,
27:12, 116:22	135:20,	110:2, 132:6,
aeolian 24:17	136:16	132:8
aerial 16:25,	air 106:3,	alternative
17:18, 18:3,	106:10,	61:16
22:25, 42:9,	116:22	Although 31:16,
79:17,	airborne 110:8	48:6, 68:23,
141:12,	Airport 17:3,	71:22
141:16	17:4, 17:5,	ammonia 73:22
aerials 30:19	29:19, 30:18,	amount 10:12,
affect 27:12,	30:22, 32:7,	93:9, 98:23
29:10, 92:11,	32:18, 32:25,	amounts 107:11,
116:22	79:25, 80:3,	109:18, 132:3
affects 35:24	126:12,	ample 59:21
affiliated 7:10	126:22,	analyses 48:23
affiliation	130:5, 130:13	analysis 78:9
125:6	alignment 26:24	analytical
affiliations	ALISTAIR 11:13,	73:18
7:12	46:4, 46:10,	ancillary 95:9
affirm 15:6,	46:15, 46:20,	and/or 128:11
23:15, 46:17,	46:22, 46:23,	anions 73:21
77:12, 105:22	65:24, 67:6,	anisotropic
affirmatively	67:9, 67:12,	70:3
27:10	67:15, 68:2,	anisotropy 70:1
afternoon 4:2,	69:6, 69:12,	Ann 1:31, 4:23,
10:1, 15:13,	70:14, 70:23,	5:1, 6:24,
16:20, 27:2,	71:6, 71:9,	7:15, 7:18,
77:22, 95:23	71:12, 71:21,	76:13
agenda 15:2,	72:21, 73:9,	annual 133:15,
76:9	73:13, 74:5,	133:23
aggregate	74:9, 75:8,	annually
117:25	76:8	115:11,
aggressive	allow 14:19,	133:12
134:13	16:13, 115:9,	Anson/madison
ago 23:1, 30:8	116:2, 128:3,	26:12
agreed 39:6	139:7, 139:16	answer 10:8,
agreement	allowed 47:4	11:18, 11:24,
14:12, 15:20,	allowing 13:10,	12:24, 36:21,

39:15, 65:18,
 96:7, 97:12,
 102:9,
 102:10,
 121:9, 137:9
 answered 13:23,
 44:5, 131:15
 answering
 14:24, 105:7
 answers 66:20,
 97:10, 120:3
 anticipated
 64:14, 92:20
 anybody 21:17,
 21:22, 140:23
 apart 36:5
 apologies 71:10
 apologize 21:21
 Apparel 125:16
 appear 70:6,
 92:25
 appearance
 30:9, 34:11,
 45:19
 appears 67:17,
 67:18
 applicable 6:5,
 85:10
 Applicant 2:3,
 8:24, 9:1,
 9:7, 9:24,
 97:12
 APPLICATION
 1:12, 4:5,
 4:7, 5:13,
 5:16, 10:13,
 10:14, 11:5,
 14:18, 19:9,
 19:13, 19:17,
 19:18, 19:21,
 19:23, 19:24,
 20:1, 20:21,
 27:10, 38:17,
 48:13, 50:23,
 78:2, 112:6,
 116:2, 135:18
 applied 78:12,
 91:3, 94:25,
 114:19,
 114:23

applies 84:19
 apply 79:7,
 79:9, 80:17,
 81:6, 112:24
 Appreciate
 10:17, 13:2,
 14:2, 14:21,
 38:20, 72:9,
 90:1
 appreciation
 10:7, 136:22,
 138:6, 138:7
 approach 63:1,
 82:10, 82:20,
 109:16
 approaches
 32:2, 32:15,
 33:7, 33:14,
 34:4
 appropriate
 11:25, 12:16,
 13:21, 73:18
 Approval 17:14,
 20:24
 approvals 21:1
 approved 14:13,
 19:14, 87:9,
 110:1, 110:5,
 132:8
 approximately
 15:24, 79:11,
 88:20,
 101:19,
 115:16,
 127:19,
 138:25,
 139:5, 139:9
 aquifer 6:10,
 58:18, 58:21,
 59:1, 59:6,
 59:12, 64:22
 aquifers 59:25
 aquitard 54:2
 areas 24:19,
 24:20, 25:7,
 27:8, 28:22,
 30:2, 30:4,
 30:5, 34:15,
 35:2, 36:13,
 36:18, 40:2,

42:23, 51:8,
 51:11, 53:17,
 54:10, 58:6,
 59:25, 78:22,
 78:23, 79:1,
 82:15, 90:12,
 112:3,
 113:17,
 115:12
 arised 111:3
 arithmetic
 101:16, 102:3
 around 24:14,
 48:18, 49:10,
 50:8, 80:6,
 83:14, 88:21,
 97:8, 115:18,
 138:10
 arrive 108:23
 arrives 109:19,
 109:21
 artesian 54:9
 ash 87:9
 Aside 131:8,
 135:3
 aspects 27:18
 assessment
 20:3, 22:15,
 27:3, 27:19,
 27:23, 28:18,
 30:14, 30:25,
 66:13, 75:2,
 77:25, 80:22
 assessments
 27:18, 27:23
 assist 117:25,
 124:18, 135:5
 assistance
 13:14
 Assistant 1:33,
 1:34, 7:2
 Assisting
 106:11
 associated
 18:5, 30:5,
 81:10, 92:24,
 96:5, 117:14
 Associates
 11:14, 11:20,
 45:25

assume 22:1, 59:17, 77:19, 94:9	133:2, 133:7	base 24:18,
assumed 98:6, 98:7	aware 14:8, 73:2, 141:11	36:16, 51:7, 51:17, 52:13,
assumes 61:23, 62:3	away 35:3, 35:13, 40:14,	52:17, 53:2, 53:20, 56:18,
assumption 92:15, 98:10	79:12, 82:1, 89:3, 100:14,	70:17, 71:3, 71:18, 104:6
assumptions 98:24	109:12, 134:24, 135:8	Based 6:2, 27:23, 62:12,
assure 90:24	aye 118:23	62:18, 63:15, 63:18, 68:11,
atmospheric 98:21	< B >	73:4, 73:25, 82:20, 92:15,
attempt 102:9	Back 16:5, 23:3, 23:21,	98:9, 101:8, 101:9,
Attenuation 82:9, 82:17, 97:16, 98:19	24:22, 43:19, 67:4, 68:14,	101:18, 113:10,
ATTORNEY 1:33, 1:34	76:14, 76:23, 77:18, 84:14,	121:10, 125:17,
Attorneys 7:2	92:23, 99:6, 102:8,	133:6, 133:7, 133:9
Auburn 16:6	102:10, 108:15,	baseline 52:21, 56:11
audible 78:21	118:12, 119:25,	basic 28:1
audio/visual 4:21	127:7, 133:18,	basically 4:14, 4:17, 68:18
augment 36:11	137:12, 141:1	basin 58:7
August 125:11, 125:12	back-up 127:22	basis 110:22, 114:25, 134:6
authority 5:8, 5:12	background 78:4	Bath 124:15
auto 73:2, 73:3, 73:6, 73:23, 74:6, 74:10, 87:8	bacteria 112:12	batteries 126:10
automobile 79:11	bad 124:24	battery 125:5
available 7:6, 9:11, 11:18, 11:24, 48:9, 85:24, 122:2, 126:24, 140:21, 141:12	Baker 31:23, 108:19, 109:11	BDS 125:7
average 55:6, 55:19, 62:5, 62:13, 62:19, 78:16, 101:9, 101:15, 101:24, 102:2, 102:3,	balances 120:24	bear 7:14, 12:10
	ball 138:9	bearings 17:2, 23:2
	ballpark 44:11	become 45:19, 47:4, 49:11, 89:4, 96:22, 140:16
	band 81:21	becomes 35:8
	Bangor 16:8	bedrock 49:14, 51:18, 52:1, 54:15, 54:19, 54:23, 55:2, 55:3, 55:24, 56:1, 57:17, 62:2, 62:6,
	banks 58:19	
	barely 33:22	
	barn 31:23	
	barrier 31:14, 31:16, 32:4, 43:3, 64:19, 92:18, 104:5	
	barriers 31:12, 34:19, 45:18, 107:12	

63:25, 64:2, 69:8, 69:10, 69:13, 69:20, 70:21, 71:11, 71:19, 72:6, 74:2, 74:14, 74:16, 74:18	43:5, 43:10, 43:21, 44:1, 44:10, 83:8, 87:17, 87:19, 88:9, 88:22, 89:2, 89:4, 92:25, 93:1, 93:6, 93:7, 93:10, 93:17, 94:14, 96:21, 104:3	born 22:8 borrow 18:9, 18:11, 18:14, 29:18, 107:15 bottom 24:3, 24:7, 72:3, 72:5, 112:18 boundaries 80:23 boundary 30:22, 58:3, 72:20, 79:24, 79:25, 85:15 bowls 107:12 Box 2:7, 2:38 break 76:12, 76:15, 76:16, 107:5, 137:10 Break. 76:21 Brendan 11:19, 47:7 brief 138:13 briefly 13:9 briefs 138:22, 139:6, 139:8, 140:6 bring 97:14, 102:1, 122:9, 135:1, 140:1 brought 53:22, 86:7, 124:21 BROWNE 2:12, 9:25, 10:1, 10:2, 12:3, 12:5, 13:3, 22:6, 77:8, 136:19, 136:20, 137:18, 139:12, 139:22, 140:3, 141:8, 141:21, 141:24 BRWM 1:25, 1:26 buffer 30:5, 33:5, 45:6, 80:5, 107:4, 107:13 buffers 27:15,
beds 110:19 begin 14:14, 26:3, 49:4, 63:9, 63:12, 64:8, 64:14, 96:8, 99:19 beginning 9:24, 23:21, 48:14 begins 108:23 behalf 10:5, 11:21, 13:16, 13:22, 14:6 behind 102:23, 103:14, 118:24 believe 38:16, 42:1, 42:5, 71:24, 87:17, 88:19, 132:17, 140:9 belongs 51:19 Below 51:4, 68:9, 69:4, 72:3, 103:15, 104:3, 133:2 beneath 51:7, 52:9, 52:17, 53:19, 54:9, 56:5, 56:10, 56:11, 57:11, 61:18, 68:18, 69:1 beneficial 125:6 beneficially 116:8 benefit 19:12, 20:16, 110:13 benefited 14:12 benefits 15:21, 30:16, 127:9 bentonite 25:12 berms 43:3,	besides 91:14 best 13:12, 39:10, 62:20, 91:21, 93:7, 96:7, 131:14 better 100:16, 121:9 beyond 65:12, 65:15, 102:21 bid 20:6 big 79:19 bit 7:2, 14:7, 22:12, 35:19, 37:15, 39:20, 41:21, 54:7, 76:10, 101:10, 102:2, 121:18, 121:22, 132:13, 134:4, 140:11 blend 109:22 block 84:9 blowers 112:24 blowing 88:8 blown 88:7, 88:13 blue 49:19, 53:14, 64:5, 83:4 Board 21:1 Bob 13:15, 21:16 bold 79:19, 80:9 bonus 92:5 border 24:9 borings 49:23	

27:16
 build 24:22
 building 49:4
 built 109:14
 bulldozer
 81:16, 85:6,
 93:15, 93:18
 bulldozers
 81:11, 81:15
 bunch 121:12
 Bureau 6:17,
 6:19
 buried 117:14
 Burke 1:31,
 4:23, 6:24,
 7:15
 burnable 132:2
 bury 109:22,
 111:17
 businesses
 16:15, 17:16,
 126:20, 128:5
 Butler 1:28,
 6:21, 9:13,
 37:17, 37:19,
 65:8, 65:9,
 65:19, 66:20,
 86:22, 86:23,
 87:5, 87:11,
 87:20, 87:25,
 88:5, 88:14,
 88:22, 89:6,
 90:1, 90:3,
 118:25,
 119:1,
 119:22,
 120:3,
 129:10,
 129:11,
 135:21,
 135:22,
 140:20
 button 7:21,
 67:10, 76:25

 < C >
 cages 68:3
 calculated
 62:12, 62:13,

62:18, 62:23,
 63:3, 71:22
 calculating
 62:9
 calculations
 47:14, 47:23,
 59:15, 62:7,
 62:16, 68:20,
 75:2, 75:5,
 75:10, 75:12,
 75:22, 75:23,
 82:3
 call 4:3,
 37:12, 37:15,
 111:4, 119:5,
 121:24,
 121:25,
 134:11
 called 99:23,
 101:14,
 112:13
 caller 119:15
 calls 122:3
 calm 98:17
 camp 18:19
 capacities
 113:13
 capacity 15:24,
 16:5, 16:12,
 16:19, 17:15,
 113:20,
 116:12,
 120:22,
 121:10,
 126:19,
 127:19,
 127:22,
 128:1, 128:8,
 131:2,
 133:10,
 133:12,
 133:21
 capturing
 127:12
 carbon 112:14
 cardboard
 126:1, 126:10
 care 138:4
 carefully 58:5
 carries 114:3

carrying 111:15
 case 41:12,
 65:8, 79:6,
 79:24, 83:4,
 85:20, 90:16,
 92:6, 103:12,
 110:9, 140:17
 cases 63:5,
 85:12
 casual 41:25
 Caterpillar
 81:20,
 116:11,
 127:15
 cations 73:21
 cause 66:13,
 73:7
 caution 103:19
 ceased 127:6
 cell 17:9,
 18:12, 18:19,
 19:5, 25:21,
 61:21, 88:21,
 102:13,
 102:17,
 102:18,
 103:4, 115:6,
 115:8
 cells 60:14,
 103:4, 104:9
 centimeters
 52:25, 55:22,
 56:9
 Central 15:25,
 17:3, 19:3,
 22:9, 29:1,
 29:16, 29:23,
 30:12, 36:6,
 79:25, 127:20
 certain 19:21,
 42:2, 63:2,
 86:6, 117:24,
 132:19
 Certainly
 32:17, 39:21,
 42:12, 43:18,
 65:24
 certified 46:24
 certify 143:4
 CFM 120:23

challenges	54:9, 57:11,	120:15, 135:1
131:12,	61:25, 64:19	collected 5:24,
134:17	clean 35:21,	49:4, 50:7,
chance 26:3,	107:19,	50:9, 50:14,
26:4	107:23	50:17,
change 45:18,	Clean-outs	112:10,
66:8, 75:5,	36:22, 36:24,	116:5,
75:9	37:1, 37:4	116:14,
changes 66:6,	clear 7:13,	125:24
66:14, 74:17,	40:21, 72:17	collecting
119:4, 125:1	clearly 7:10,	47:21
Chapter 8:5,	14:25	collection
8:19, 27:5,	close 39:11,	24:9, 26:18,
27:9, 47:19,	66:10, 71:16,	35:19,
78:13, 96:2	140:2,	106:13,
character	140:25, 142:1	114:13,
27:13, 34:1,	closed 17:22,	114:23,
69:8, 78:14	28:3, 30:10,	115:10,
characterizatio	113:1, 131:2,	115:12,
n 47:22,	138:19	115:15,
50:18, 64:7,	closely 15:18,	115:21,
64:10, 64:12	47:8, 134:14	125:9,
characterize	closer 83:21,	125:10,
63:10, 73:17,	83:22, 90:20	125:13,
110:10	closes 139:5	125:14, 126:4
charge 126:24	closest 30:17,	collector
chart 100:5	30:22, 60:5,	114:19
chat 4:24,	66:17, 81:2,	collectors
4:25, 7:19,	81:8	112:21,
12:15	closing 135:12,	113:25,
check 7:20	135:20,	114:11,
checkmark 20:22	136:18,	115:22,
chemistry 66:4	136:21,	115:24
Child 32:25	137:20,	collects 127:13
Childs 32:19	138:13,	color 34:5,
chiming 86:9	138:21,	34:7, 49:11
chip 87:6	139:6, 139:8,	colored 49:25
chloride 73:21	139:13, 140:6	columns 55:18
Chris 11:22	closure 38:11,	combination
circles 50:1,	38:25, 39:14,	64:23
115:18	39:19	combined 26:4,
citizen 11:1	CMA 2:44, 13:15	113:18,
claim 35:5	coarse 51:16	116:19
clarification	coincides	combines 63:1
39:20, 72:9,	113:19	combust 120:15
101:8	colleague 10:4	combusted
clarify 7:12,	collect 48:22,	114:23, 115:2
108:2	66:3, 88:13,	combustion
clays 51:13,	112:22,	113:1, 113:4,
53:25, 54:6,	114:12,	114:3

comes 28:21, 38:23, 87:4, 95:15, 119:17, 119:19, 130:22, 132:5, 134:15, 135:16	16:9, 16:15, 124:17, 125:13, 127:20, 127:24, 128:4, 130:23, 130:24, 134:8	complaint 111:8, 111:9, 119:7, 119:17, 119:19, 119:22, 119:24
coming 104:25, 105:1, 119:13, 130:13, 130:22	community 10:20, 13:12, 13:20, 15:19, 15:20, 20:18, 108:22, 109:8, 109:15, 109:17, 110:13, 110:22, 110:25, 113:8, 121:19, 123:9, 134:15	complaints 119:3, 119:8, 119:15, 119:16
commence 21:2		complete 14:8, 64:11, 103:24
commencing 1:22		completed 7:7, 18:13, 18:20, 20:23, 34:10, 48:17, 50:13, 69:24
comment 40:25		completely 42:7, 114:8, 141:7
Comments 39:1, 40:8, 138:24, 139:19, 139:24, 140:11, 140:12, 140:15, 140:19, 141:3, 142:1	compact 81:12, 81:17	completes 34:21
commercial 78:24	commute 109:8	completing 15:16
commercial/indu strial 79:2	compacted 24:23, 25:6, 25:10, 52:20, 52:23, 53:22, 56:15, 56:16, 92:11	completion 102:15
Commission 143:15	compactor 81:16	complex 113:21, 116:7
Commissioner 5:6, 5:13	compactors 81:11, 81:16	compliance 81:1, 82:11, 84:1, 85:7, 85:9, 90:18, 90:24, 101:4, 104:22
commitment 132:23, 133:6	company 108:16, 111:1, 124:6, 125:17	comply 14:16, 91:24, 93:19, 110:15, 112:7
Commitments 131:23, 132:10, 132:18, 132:20	comparable 89:23	component 59:16, 62:9, 74:3
Common 73:20, 78:21, 87:18, 87:20, 87:22	compare 89:10	Compost 126:23, 127:2, 127:3, 127:5, 134:4, 135:2
commonly 101:22	compared 85:7, 113:22	composted 128:11
communication 54:20, 109:20	comparing 43:23	composting 123:12, 126:15, 128:25,
communities 15:24, 16:1, 16:5, 16:7,	comparison 89:8	
	compatible 34:11	
	competent 13:13	
	competitive 16:17, 128:7	
	compiled 82:5	

134:9, 134:12	82:19, 98:17,	4:12
compounds	98:21, 124:24	considered
108:6, 112:15	Conduct 5:8,	91:13, 91:16,
comprehensive	8:6, 9:16	96:15, 96:16,
116:20,	conducted	103:1, 118:6,
136:25	24:15, 47:11,	119:3
compressors	48:13, 49:22,	considering
112:24	50:2, 50:11,	93:11, 133:15
computer-based	56:23, 64:14,	considers
82:6	64:17, 77:24	62:19, 62:25
conceivably	conductivity	consistent
60:15	52:24, 53:5,	29:22, 30:11,
concept 24:24	54:1, 55:7,	34:6, 42:8,
conceptualizati	55:10, 55:11,	57:5, 57:12,
on 52:12	55:16, 55:19,	57:15, 58:1,
conceptually	55:24, 56:17,	58:13, 59:3,
53:10, 53:14,	56:22, 60:25,	59:10,
61:6, 61:10	62:5, 71:3	123:14,
concern 6:7,	conferences 8:8	123:15,
74:1, 109:1	configurations	123:23,
concerns 10:23,	90:13	128:13,
109:2,	confined 54:8,	128:25,
109:10,	54:13, 57:11	129:23
109:13,	confirm 53:4,	consisting
111:3, 127:6	130:8, 139:1	25:12, 28:13
conclude 105:8,	confusing 71:11	consists 19:24,
138:17,	conjugate 69:16	28:18,
138:19	connect 36:6	112:13,
concludes 19:6,	connection	115:16,
21:7, 65:2,	114:10	116:11
85:24,	connectivity	constantly
116:22, 129:2	50:12	133:22
conclusion	consequences	construct
116:17,	110:23	43:20, 44:1,
140:14	Conservation	44:9, 87:3,
conclusions	3:6	89:2, 101:2,
33:24, 38:5	conservative	104:2, 107:7
concurrence	82:10	constructed
87:13	conservatively	24:5, 27:25,
concurrently	62:3	28:2, 31:11,
102:18	consider 75:2,	41:12, 60:24,
condition 31:5,	89:7, 96:12,	95:6, 96:21,
33:21, 93:21	96:19, 96:23,	97:5, 102:14,
conditions	97:4, 97:16,	114:7
47:6, 47:13,	119:4, 122:4	constructing
48:3, 49:5,	considerably	24:13, 31:15,
50:19, 52:15,	92:3	34:19, 93:24,
53:9, 54:9,	consideration	103:17, 104:6
58:2, 59:4,	6:9	Consultants
64:18, 64:23,	considerations	2:30, 12:23

consulting 78:5
 contact 9:13,
 36:20, 140:21
 contain 112:16
 contained
 112:16
 Containers
 125:18, 135:3
 containment
 24:25, 25:17,
 26:9, 26:15
 contains 20:4,
 29:9, 88:6
 contaminants
 73:4
 contents 19:22
 context 79:11
 continue 14:13,
 16:14, 17:11,
 89:2, 89:3,
 114:12,
 123:20,
 125:14,
 127:17,
 128:3, 137:8
 CONTINUED 3:1,
 48:15, 142:4
 continues
 126:9,
 128:14,
 128:16
 continuous
 114:13
 continuously
 53:12
 contrast 54:18,
 56:2
 control 58:10,
 87:25, 88:7,
 94:3, 106:10,
 107:2, 107:6,
 107:8,
 108:10,
 109:25,
 111:21,
 113:21,
 113:23,
 114:14,
 114:22,
 116:3, 116:7,

116:23,
 119:25,
 137:25
 controlled
 112:10,
 114:15
 controlling
 69:10, 97:19,
 108:14, 112:4
 controls 48:4,
 70:8, 90:25,
 114:19
 convention 98:8
 conversation
 124:20
 conversations
 7:22
 convert 121:7
 converted
 120:12,
 120:19
 converts 113:4
 convey 25:19
 conveyed 37:5,
 38:16
 coordinate
 110:11
 coordinating
 125:15
 Copies 7:5,
 11:8
 core 88:11
 corner 18:4,
 18:6, 18:17,
 31:4, 31:24,
 32:1, 33:21,
 52:9, 71:14,
 83:5, 88:13
 Corp. 124:16
 corporate 11:1
 Correct 35:17,
 36:22, 59:22,
 66:18, 69:6,
 71:20, 74:8,
 94:8, 94:11,
 99:15,
 100:23,
 103:5, 105:2,
 117:7,
 117:16,

139:20,
 139:21
 correctly
 71:25, 77:2,
 103:25
 correspondence
 44:6
 cost-effective
 15:23, 16:10,
 127:19,
 127:25
 costs 16:16,
 128:6
 Counsel 1:32,
 7:3, 10:3
 couple 34:25,
 40:11, 41:2,
 45:6, 97:13,
 111:4,
 125:19,
 131:18,
 132:7, 133:4
 course 8:1,
 29:18
 Court 1:20,
 7:7, 143:2,
 143:13
 courtesy 14:24
 cover 25:25,
 26:1, 26:21,
 28:7, 28:12,
 34:7, 34:8,
 38:9, 39:4,
 39:5, 40:2,
 41:11, 87:3,
 96:14,
 107:13,
 109:22,
 110:1, 110:2,
 111:17,
 115:19,
 116:2,
 123:13,
 123:22,
 131:7, 132:6,
 132:8
 coverage 115:14
 covered 28:6,
 41:11, 110:19
 covering 107:13

covers 25:17, 28:7, 131:4	cursor 17:2	dealings 9:17
COVID 127:5, 134:24	customer 124:9	debris 131:3, 132:4
COVID-19 17:25	customers 117:20,	decades 25:18
Cpts 50:2, 50:4	124:7,	decibel 89:15, 101:18,
crash 89:20	124:13, 131:5	101:19
create 26:17, 30:1, 60:15,	cylinder 127:15	decibels 101:15,
107:7,	< D >	101:17
107:14,	daily 28:6,	deciduous 29:24
110:7,	34:7, 41:11,	decision 6:2, 121:10,
112:12,	87:3, 107:13,	121:13
116:10,	110:2,	decision-making 5:12
120:15	110:22,	decompensation 116:9
creates 107:5	132:6, 132:8	decompose 112:12
creating 43:4	dampening 91:15, 92:11	decomposing 108:7, 112:23
criteria 6:5, 6:7, 6:9,	dark 51:18	decomposition 127:13
6:13, 11:5,	darker 34:6	decrease 53:18, 75:19, 99:3,
28:19, 48:2,	dashed 54:11	99:4
85:20, 86:12,	data 47:21,	decreases 57:4, 57:18
86:25, 137:7	49:16, 50:6,	deeper 24:21, 69:25
criterion 85:16	50:17, 90:22	deepest 72:3
critical 16:10, 127:24	date 14:25,	defer 41:17, 103:21
cross 11:18	20:23, 118:9,	deferring 13:18
cross-examinati on 9:7,	140:16	define 59:23
21:13, 34:23,	DATED 143:17	defined 42:23, 96:4
65:6, 86:2,	David 1:25,	defining 38:12, 65:13
116:25, 129:4	6:16, 41:18	definitely 94:2, 119:7,
cross-examining 7:9	day 10:24,	119:11,
cross-section 51:22, 52:13	14:1, 24:24,	119:14,
Crossroad 16:16	40:21, 71:23,	122:10
cubic 113:16, 116:13	97:11, 108:23	definition 96:1
culture 109:16	daylight 94:20	degrades 26:17
curious 67:24	days 138:23,	deliberate 10:17
current 34:1, 64:11,	139:1, 139:5,	delivered
123:10,	139:19,	
128:20	140:14	
Currently 17:2, 17:14, 112:1,	Daytime 8:22,	
123:17,	78:25, 79:2,	
129:19,	79:3, 81:18,	
129:20	84:19, 85:17,	
	93:20, 94:20	
	dba 78:19,	
	78:20, 78:25,	
	79:2, 79:11,	
	79:12, 79:14,	
	89:8	
	deal 10:16	

125:19	21:1, 51:15,	127:2
Demolition	52:19, 59:8,	developed
131:3, 132:4	62:8, 73:15,	38:25, 68:10,
demonstrate	86:8, 114:5,	68:11, 83:11,
48:1, 56:15,	117:11	126:16
56:21, 59:18,	describing	development
64:17, 128:9	47:11	5:10, 17:10,
demonstrates	description	17:15, 19:19,
27:11, 116:20	85:11	20:12, 22:13,
demonstration	design 17:12,	42:19, 96:3,
59:21	21:3, 22:9,	96:5, 124:11
dense 32:21	22:13, 27:14,	device 114:22,
density 25:15,	56:13, 61:5,	114:24
69:17, 69:19	83:12,	devices 112:20,
deodorizing	106:19,	113:25,
118:7, 118:8,	106:20,	115:21
118:13	113:10,	diagram 53:11
DEP 1:24,	114:5, 130:8	diesel 89:17
19:11, 20:15,	designated 5:5	difference
20:20, 31:1,	designation 5:7	35:12, 45:9
33:16, 45:14,	designed 52:14,	different
61:9, 61:16,	63:12, 63:15,	28:24, 45:7,
110:12,	65:1, 78:17,	55:9, 78:16,
127:8,	106:10	83:1, 89:25,
128:19,	designers 22:22	92:12, 108:3,
136:24	destroyed 116:6	113:13,
Departments	detail 6:13,	124:9, 129:18
140:21	17:20, 20:11,	difficult
depending	22:19, 27:2,	133:23
53:12, 124:9	121:23	difficulties
depends 104:13,	detailed 21:2,	73:7
104:14	47:21, 48:10,	difficulty
depict 68:10	50:18	9:12, 133:19
depicted 63:24	details 85:22	dip 52:4
depicts 19:4	detect 59:22	dips 52:2, 52:3
depleted 18:16	detected 66:11	direct 7:9,
deploy 119:20	detection	7:18, 54:19
deposit 24:17,	63:12, 64:13,	direction 47:2,
38:24	109:10	52:8, 54:3,
depth 50:15,	determination	54:17, 55:4,
70:21, 70:25,	19:13, 20:16	57:13, 57:19,
71:4, 71:7,	determine 66:6,	59:9, 63:18,
71:10	104:22,	65:22, 68:19,
Deputy 1:26,	104:25	70:7, 70:8,
6:18	determined	74:13, 84:4,
describe 25:1,	38:19, 59:2,	98:6
27:1, 48:25,	84:17, 111:7,	directions
49:13, 59:14,	111:13	54:13, 58:11,
69:9	develop 47:24,	58:14, 58:16,
described 6:13,	48:10, 50:18,	59:2, 63:15,

64:21	126:3, 127:4,	dominated 29:2,
directly 54:24,	127:19,	73:20
61:12, 71:22,	127:25	donating 135:1
121:25	disposed 108:4,	done 10:12,
Director 1:25,	129:19,	27:24, 47:1,
1:26, 1:27,	129:20	53:6, 90:21,
5:4, 6:17,	disposition	92:15, 93:15,
6:18, 6:20,	42:22	100:21,
11:22	distance 27:19,	113:14,
directs 114:2	33:19, 33:22,	118:4, 134:9
discern 35:14,	35:7, 41:4,	Dostie 1:19,
41:5	41:9, 60:19,	7:7, 7:8,
discharge	65:17, 82:3,	139:1, 139:2,
67:22, 68:21,	84:13, 84:16,	143:2
68:22	92:1, 99:11,	dots 80:12
discharges	102:22	double 26:8
67:19	distances	down 16:3,
discreet 42:11	85:14, 99:2,	24:5, 24:12,
discuss 20:9,	99:5, 99:9	25:20, 31:2,
52:6, 106:9,	distancing	35:3, 35:16,
112:9, 122:5,	134:18	36:20, 37:5,
124:4, 133:17	distant 34:10,	53:16, 67:23,
discussed 8:10,	99:8	70:3, 74:15,
17:19, 20:11,	distinct 8:21,	76:14, 99:6,
20:15, 20:22,	28:23, 48:25,	141:6
51:1, 58:9,	73:19	downgradient
63:16, 87:11,	distinguish	57:23, 60:11,
87:14, 109:4,	35:10, 73:11	60:17, 61:20,
109:5,	distributed	63:22, 63:25,
111:22,	89:21	65:11, 66:1
112:19,	District 2:5,	downward 58:14,
116:18,	15:14, 16:21,	61:25, 68:8
128:17,	106:6, 123:5	downwards 54:3,
128:23,	DIV 1:27	55:1
130:23,	diversion	downwind 98:10,
134:16	125:5, 125:6,	98:15, 98:16,
discussion	125:8,	98:20, 99:4
53:8, 106:11,	126:15,	draft 20:6
108:24, 117:4	128:24	drainage 25:19
Disposal 1:6,	diverted 126:2	drains 24:7,
2:3, 2:6,	divide 58:22,	24:8
4:6, 15:23,	58:24	draw 70:3
16:10, 17:9,	divided 24:2	drawing 115:6,
17:12, 17:17,	divides 58:12	115:14
106:24,	Division 6:20	drawings 38:16
108:1, 108:3,	document 9:12	drier 68:23
111:22,	documents 20:7	drive 31:7,
117:15,	doing 9:21,	134:8
124:8,	40:3, 78:4,	driven 104:18
125:24,	134:16	drivers 118:10

drives 104:15	49:3, 119:19	120:16,
driving 54:23	ears 108:22	127:14
dropped 126:21	earthen 34:7	electronically
drought 75:3	easier 67:4	14:4
droughts 75:8	easily 44:5	ELEFTHERIOU
dry 53:13,	east 18:24,	1:26, 6:18,
68:24, 107:10	31:23, 32:19	40:7, 40:8,
dual 26:8	easterly 16:2	72:12, 72:13,
Due 53:25,	Eastern 5:4,	91:11, 91:12,
61:3, 117:25,	83:10, 84:3	92:7, 93:2,
127:5,	easy 46:7,	122:12,
134:17, 139:6	73:17	122:13,
duration 34:3,	edge 31:3,	130:2, 130:3,
38:7, 38:13	31:12, 33:6	130:15,
dust 106:9,	education	131:16,
106:23,	124:25,	136:6, 136:7
107:2, 107:5,	134:7, 135:4	elevation 29:5,
107:7, 107:8,	educational	29:9, 32:2,
107:14,	137:23	38:8, 40:20,
116:17,	effect 26:4,	53:23, 57:3,
116:23,	34:1, 99:2	57:7, 57:8,
137:25	effective	57:16, 88:15,
dwelling 80:14,	108:12,	88:23, 89:1
80:18, 83:22,	109:24, 112:4	elevations
83:23, 85:13	effectiveness	35:2, 52:21,
dwellings 80:2,	104:5	56:14, 56:19
80:3, 80:6,	efficient	email 121:22,
80:11, 80:18,	12:17, 37:15,	140:20, 141:5
83:20, 92:3	136:18	emanating 28:11
	effort 10:16	embankment
	efforts 125:21	18:18
< E >	eight 33:13,	emissions
e-waste 125:6,	64:11	121:11
126:10	eight-and-a-hal	emitted 95:13
E. 24:3, 103:13	f 108:17,	employee 111:10
earlier 13:19,	123:8	employees 95:15
15:19, 20:15,	either 12:15,	Empowering
41:14, 52:19,	26:11, 81:15,	109:12
55:25, 56:4,	113:1,	encountered
63:16, 74:13,	122:22,	50:20, 50:22,
75:14,	129:7, 131:2,	51:5
108:15,	135:12,	encouraged
111:16,	136:15,	108:25,
119:9, 123:6,	137:19,	109:9,
123:7,	140:19	118:11,
124:17,	elected 13:14	126:20
127:21,	electricity	end 12:20,
130:23, 133:4	113:5, 113:7,	13:14, 18:8,
early 17:10,	116:10,	25:22, 37:6,
20:25, 48:15,	116:15,	48:16, 49:13,

62:14, 62:24, 68:16, 96:8, 100:2, 113:19, 124:25 ends 37:7 Energy 16:6, 17:19, 26:25, 78:9, 101:15, 113:2, 113:5, 115:2, 116:10, 120:13, 120:19, 120:22, 121:2, 121:7, 127:11, 127:17, 127:22 enforced 110:22 engine 82:14, 89:17, 121:11 Engineer 1:30, 2:5, 6:23, 13:15, 16:21, 22:10, 22:20 engineered 64:24 Engineering 20:4, 21:2, 48:4, 106:18, 124:14 Engineers 2:44, 11:16, 13:15, 106:13, 106:16 engines 116:11, 120:15, 127:15 enough 43:25, 130:7 ensure 7:13, 52:23, 64:25, 82:10, 104:16, 113:23, 128:25, 130:17, 131:5 ensures 59:21 enter 26:3	entered 9:10 entering 28:10, 110:19 entire 5:1, 10:5, 24:1, 47:6, 79:7, 80:17, 81:6, 88:21, 102:15, 115:15 entirety 11:4 entities 8:18 entrance 17:6, 23:2, 31:3 Enviroacousics 76:19 Enviroacoustics 11:15 environment 26:5, 26:15 Environmental 1:2, 1:29, 1:30, 4:4, 6:16, 6:22, 6:23, 20:9, 78:21, 127:9 envision 130:12 Envoroacoustics 77:24 EPA 127:8 equal 101:17 equals 101:17 equate 80:7 equivalent 78:15, 101:14, 101:21, 101:24, 116:15, 116:16 erosive 43:14 especially 13:16, 37:3, 41:9 Esq 2:12, 2:20 essential 15:22, 127:18 essentially 33:17, 43:24, 43:25, 94:19,	94:24, 96:22, 98:17, 102:13, 108:17 established 24:4, 24:12, 27:8, 27:16, 28:22, 34:15, 78:12 estimate 90:20, 104:12, 104:20, 119:2 estimated 55:11, 113:10, 113:18, 113:22 Etiquette 4:12 evaluate 5:16, 61:10, 61:13, 66:4, 68:19 evaluated 60:13, 61:7, 61:10, 66:5, 83:3 evaluates 61:21 evaluating 119:12 evaluation 62:3, 62:15, 85:10 Evaluations 124:7, 124:8, 124:10, 124:12 evening 9:1, 10:10, 109:6, 137:13, 138:17, 138:19, 140:2, 140:15, 141:10 event 125:11, 125:12 events 19:6, 64:10, 64:12, 125:13, 125:14 eventually
--	---	---

29:12	exerts 114:20	106:18
evergreen	exhaust 82:13	experts 137:3
29:24, 45:16	exhibits 7:12	Expires 143:15
evergreens	Existing 16:11,	explain 65:10,
29:25	24:17, 26:24,	65:20, 101:10
Everybody 4:3,	27:12, 31:5,	explanation
4:14, 5:2,	31:14, 33:21,	67:25
7:20, 10:2,	34:17, 34:18,	explanations
12:18, 14:5,	48:8, 53:2,	13:24
21:25, 37:16,	63:10, 70:17,	explorations
44:19, 76:23,	78:13,	50:9
77:18, 136:22	103:14,	explore 65:11
everyone 37:15,	110:20,	express 10:6,
46:22, 76:14,	113:20,	136:22
108:18	114:11,	expressly 5:13
everywhere 51:2	116:6,	ext. 3:9
evidence 5:15,	120:22,	extend 29:12,
8:23, 9:10,	123:22,	37:3
27:10, 138:20	123:25,	extended 75:4
exact 38:18,	124:2, 125:4,	extensive 80:5,
44:11	126:12, 128:1	82:21
exactly 38:21,	exiting 107:23,	extent 128:12,
70:24	111:11	130:18
examples 89:14	expand 70:17,	exterior 87:17
excavate 24:21,	70:20,	extract 26:16,
72:4	123:20,	114:1
excavating	130:16,	extracted 26:18
24:5, 24:12	132:12	Extraction
excavation	expandable	112:21,
24:14, 72:4,	114:8	112:23,
72:5	expanded	113:24,
exceed 62:21,	115:11, 124:3	114:25,
63:5, 75:23,	EXPANSION 1:12,	115:17,
132:19,	4:7, 4:9,	115:19
132:23,	16:12, 96:5,	extremely 135:7
133:13	96:9, 128:2,	eyes 108:22
exceedance	129:21	
80:25, 83:9	expect 47:20,	< F >
exception 7:25	55:10, 74:16,	face 41:2,
Exchange 3:7	75:20, 93:1,	41:10, 108:5
excited 135:3,	95:14, 95:18,	facilities
135:7	99:10,	16:11, 73:14,
Excuse 23:7,	125:18,	117:24,
65:19, 86:16,	127:7, 129:18	126:8, 128:1,
109:5,	expected 9:16,	131:1
111:10,	30:5, 62:20,	facing 19:1,
121:24	64:6, 64:8,	19:3
Executive 3:5	94:17, 113:15	fact 39:7,
exempt 96:3,	expensive 126:8	60:22, 61:2,
103:9	experience	

138:22
 factors 121:12
 facts 6:2
 failures 120:2
 fair 9:19
 fall 14:9,
 75:18,
 126:25,
 134:17
 falls 53:15
 familiar 40:19,
 41:22, 42:6,
 47:5, 48:19,
 72:18, 72:22
 far 14:25,
 58:21,
 101:16,
 118:13,
 119:8, 122:3
 farm 108:19,
 109:11
 farming 111:7
 Farmington
 127:1, 134:23
 father 35:3
 favorable 64:17
 feature 28:22,
 36:11
 features 25:1,
 29:10
 federal 110:16,
 112:8
 feedback 121:19
 feel 15:20,
 129:22
 fees 127:4
 feet 25:6,
 25:7, 28:5,
 29:12, 30:3,
 30:6, 30:18,
 30:23, 33:11,
 36:5, 61:23,
 71:14, 71:16,
 71:25, 72:6,
 79:12, 83:13,
 84:17, 84:18,
 85:19, 87:17,
 88:20, 99:23,
 100:5,
 100:13,

100:19,
 100:20,
 100:21,
 113:16,
 116:13
 fence 88:12,
 88:14, 89:3,
 92:21
 fences 88:18
 few 23:1,
 24:25, 49:4,
 51:23, 52:5,
 56:25, 61:6,
 85:22, 91:12,
 95:24, 117:3,
 138:13
 field 32:10,
 90:9
 fields 29:11
 Figure 99:25,
 100:12,
 102:9,
 123:25,
 124:2, 126:4
 figures 82:24
 filed 4:5
 fill 50:25,
 52:16, 52:19,
 52:23, 53:1,
 53:22, 56:13,
 56:14, 56:16,
 56:17, 110:6
 filled 17:9,
 17:18, 28:2,
 28:3, 30:7,
 38:21, 115:6,
 115:16
 filling 28:6,
 34:5, 38:20
 final 17:21,
 26:1, 28:12,
 34:4, 38:9,
 38:10, 38:24,
 39:3, 39:12,
 39:13, 39:19,
 41:11, 84:24,
 85:20,
 107:17,
 115:14,
 115:16, 116:2

Finally 4:21,
 107:21
 financial
 121:11
 find 67:9
 findings 59:8,
 138:22
 fine 22:5,
 42:22, 43:13,
 51:5, 51:15,
 52:16, 53:11,
 53:19, 86:15,
 86:19
 fines 110:5
 fingerprint
 73:17, 73:19
 finish 138:17
 finished 104:7
 fir 29:25
 firm 10:2
 First 4:12,
 8:12, 14:9,
 15:2, 22:2,
 22:3, 25:8,
 27:5, 30:25,
 31:2, 42:21,
 44:19, 50:22,
 51:24, 57:2,
 60:1, 61:9,
 62:11, 74:17,
 80:21, 106:9,
 112:9, 115:8,
 130:21,
 138:15
 Fisher 124:14
 Five 24:2,
 24:8, 30:24,
 32:24, 111:5,
 119:8
 flare 113:1
 flared 120:20,
 120:24, 121:5
 flares 116:12
 flat 35:23
 Floor 2:45
 flowing 68:18
 flows 55:2,
 55:3, 57:7,
 57:9, 67:21,
 68:15

flying 79:13	44:21	134:16
focus 6:6,	format 12:19,	fuel 120:12,
19:20, 22:12,	13:1	127:10, 131:7
47:20,	formation 51:20	full 32:15,
106:23,	former 18:11,	33:7, 33:15,
128:21	18:14	39:5, 82:11
focusing 11:6	forms 124:9	fully 16:13,
foliage 82:17	forth 8:19,	125:2, 128:2
folks 13:25,	82:5, 91:3,	function 4:25,
108:15,	92:23, 95:3,	7:19, 12:16,
133:17	96:14	38:22, 54:1
follow 68:14	forward 14:15,	future 127:7
follow-up 12:6,	105:9, 125:2,	
41:18, 41:20,	137:16,	
44:6, 65:19,	138:14	< G >
86:18, 86:23,	fostered 109:16	Gail 1:29, 6:21
95:4	found 20:5,	gases 112:12,
followed 19:12,	135:6	112:16,
21:5	Foundation 3:6,	112:23
Following 6:10,	70:19, 125:20	gates 118:12
27:13, 56:12,	four 32:18,	gather 5:15
107:10,	41:2, 49:14,	gauges 49:19
123:22,	53:9, 63:23,	gave 45:4, 92:8
124:14,	64:4, 64:9,	GCL 60:25
125:22,	100:1,	General 1:33,
140:14	104:18, 111:5	1:34, 5:22,
follows 8:12,	fracture 69:17,	7:2, 9:3,
78:19	69:19, 69:22	9:5, 19:25,
food 128:22	fractured 69:13	26:23, 68:12,
foot 33:5,	fractures	131:3,
84:8, 102:12,	69:14, 69:23	138:18, 141:2
102:14,	fracturing	generalized
102:22	69:9, 74:3	50:19, 63:17
footprint 23:4,	frame 75:25,	generally 30:3,
24:10, 24:18,	139:10	45:12, 47:25,
33:20, 40:24,	frames 63:3	57:17, 57:20,
68:13, 70:22,	frankly 10:24	59:23
72:7, 73:8	Free 2:45,	generate 127:14
force 54:23	118:12,	generated
foreclosure	126:24	108:6,
38:15	frequencies	112:10,
foregoing 143:4	89:16, 89:17,	112:22,
forested 30:2,	89:19, 89:20,	113:11,
80:5	89:22	114:2, 115:3,
forget 46:2,	frequency	115:10,
46:7, 99:23	41:22, 81:23,	116:9,
forgot 77:10	82:1, 89:9,	120:11, 127:5
form 19:24,	89:11	generating
132:5	frequent 114:24	113:12,
formal 25:9,	frequently	116:14, 121:4

genuine 109:16	glamorous 138:2	63:5
geographics	Glass 124:15	green 15:25,
130:25	glimpse 33:14	16:7, 49:23,
geologic 20:3,	glitches 12:12	50:3, 58:8,
47:5, 47:13,	goal 9:19,	58:11,
50:6, 50:18,	126:17	127:21,
50:20, 51:21,	Golder 11:14,	127:23,
52:7, 57:6,	11:20, 45:25,	130:24
57:12, 57:16,	49:20, 55:11,	Greenville 16:3
58:10, 59:11	61:8, 62:19,	grid 113:6
Geological	62:24	grind 131:7,
58:19	gotten 87:12	132:6
Geologist	governed 27:4	ground 24:6,
46:23, 47:8	Governing 5:9,	24:12, 29:13,
geology 47:1,	8:6	50:22, 51:24,
47:22, 48:6	grade 36:16,	58:13, 82:19,
geomembrane	56:18, 103:16	110:6
25:15, 25:16,	graded 36:18	group 5:1,
61:2	grades 17:22,	84:17
geometric 28:24	24:11, 53:2,	grouped 83:5,
Geosyntec 2:30,	107:17,	85:2
11:13, 11:19,	115:16	grow 30:6
22:18, 43:19,	gradient 35:23,	grows 128:14,
49:22, 50:1	36:14, 75:11	128:17
geosynthetic	gradients	growth 30:2
25:11, 60:25	54:22, 54:25,	guarantee 90:18
geotechnical	55:4, 68:8,	guess 21:18,
49:21, 49:22	68:10, 74:15,	21:20, 45:7,
gets 26:3,	75:17, 75:20	94:13, 95:4,
38:18, 38:21	grading 23:6,	101:6, 101:7,
getting 39:8,	24:6	123:3,
39:9	grain 43:13,	139:13,
give 14:7,	50:10	139:22
15:7, 23:16,	grained 42:22	
46:18, 66:17,	granted 21:1	< H >
67:6, 77:13,	gravel 29:18,	half 22:14,
79:10,	51:16, 58:18,	30:21, 31:3,
104:12,	58:25, 59:12,	32:19
105:23	64:21	Hampshire
Given 12:18,	gray 51:18	125:17
23:16, 41:3,	gray/brown	hand 15:6,
64:10, 72:24,	51:10, 51:15	23:15, 46:17
89:10, 91:22,	Great 10:16,	handling 96:16
93:10, 126:3	13:25, 22:7,	hands 105:22
gives 68:4,	130:20,	Hang 22:3
101:22	138:6, 138:7	happen 35:22,
glacial 51:14,	greater 65:16,	130:7
54:6, 57:11,	70:3, 72:6,	happening
57:13, 62:1,	116:3	104:22
62:4	greatly 62:21,	

happens 75:17	82:12	hope 12:11,
happy 12:6	held 8:3, 8:8,	136:25
hard 10:21,	125:11,	Hopefully 14:4,
29:25, 35:14,	134:18	41:17, 76:22,
82:18,	Hello 46:22,	131:14
104:21,	106:5, 123:2,	hoping 13:23
104:24, 137:2	123:4	horizons 70:1
harder 120:1	help 4:20, 6:1,	horizontal
harvesting 33:1	17:1, 102:24,	54:14, 54:17,
hatching 79:21,	135:1, 135:17	55:5, 55:7,
79:22	helpful 57:24,	55:23, 61:11,
haul 18:9	141:17,	61:18, 62:3,
hauling 17:6,	141:23	74:14,
110:18	hereby 143:4	112:21,
HAZARDOUS 1:13,	hierarchy 6:12,	113:24,
125:9, 125:10	122:25,	115:21,
head 36:8,	123:15,	115:23
36:9, 36:15,	123:24,	horizontally
44:3, 44:12,	124:5, 128:22	61:15
60:15, 93:22,	high 25:14,	horizontals
114:18	29:6, 29:8,	36:5
header 36:6	43:14, 62:14,	horse 127:16
headers 36:25,	62:24, 63:4,	host 10:20,
114:2, 114:4,	69:19, 81:24,	14:9, 15:20,
114:6	87:17, 88:19,	20:18, 110:13
heading 43:12	88:20, 89:18,	hosting 138:11
health 12:9	101:25	hotline 121:21,
hear 9:2,	higher 35:2,	122:4
10:10, 12:14,	57:7, 62:5,	hour 33:12,
12:22, 21:25,	101:23, 104:5	50:14, 79:12,
22:1, 37:25,	highest 40:13,	93:23, 98:22,
99:7, 99:8,	45:3, 57:3,	99:14
134:3,	80:23, 80:24,	hourly 78:15,
135:12,	83:17, 85:18,	78:16, 93:19,
135:20, 141:2	110:25	93:24, 95:13,
heard 135:14,	highly 10:13	95:19,
139:18	highs 58:9	100:18,
Hearings 8:7	highway 99:8	101:8,
heavier 92:16	hike 40:20	101:11,
heavily 33:9,	hiking 40:15,	101:24
41:23	41:24	hours 78:19,
heavy 75:4	hills 29:10	81:18, 94:20,
height 28:4,	historic 72:19	116:14,
28:12, 31:9,	Hmm 70:14, 90:1	119:19
32:15, 33:8,	homes 113:7,	house 17:8,
33:15, 34:5,	116:16	81:4, 109:20
38:24, 82:14,	homogenous	huddle 108:24
83:6, 83:7,	51:12	huddles 109:5,
88:15	hone 22:14	109:6
heights 39:12,	honestly 42:11	huge 75:16

human 78:22, 89:12	identify 35:9, 53:9, 60:2, 60:7, 60:10, 66:13, 66:18	90:24, 107:3, 109:15, 123:19, 128:6
hurt 141:16	identifying 60:8	importantly 39:25, 114:16
hydrated 25:13	II 20:2	imported 52:19, 52:22, 70:18
hydraulic 49:7, 50:12, 52:24, 53:5, 53:25, 54:20, 55:7, 55:10, 55:11, 55:16, 55:19, 55:23, 56:16, 56:22, 60:25, 62:5, 68:8, 71:3, 75:11	III 20:2	impressive 126:5
hydro 50:12	illustrate 51:23, 56:25, 61:7	improvements 130:5
hydrogeologic 20:3, 47:5, 47:13, 50:6, 53:9, 64:17	illustrated 49:23, 49:25, 64:5	improves 82:2
Hydrogeology 1:29, 6:22, 47:1, 47:22, 48:6	illustrates 56:6, 58:17, 63:17	in-person 12:9
hydrostratigraphic 53:10, 53:24, 55:8	illustrating 54:11	in-place 56:19
hypothesis 72:25	image 29:8, 31:25, 33:23, 67:4	in. 15:4, 23:8, 105:19
hypothesized 61:16	images 18:4, 30:11, 42:9	Inc. 2:44
	imagine 53:16, 133:20	inches 25:10
	immediately 32:10, 66:12, 109:9, 111:2, 119:17	include 5:11, 27:10, 29:18, 33:17, 96:11, 96:20, 110:5, 125:5, 125:8, 126:15
	Impact 27:3, 27:18, 33:24, 34:2, 38:5, 38:6, 45:11, 45:15, 92:5, 93:12, 95:19, 98:23, 125:16	included 7:23, 49:22, 50:1
< I >	impacts 26:5, 92:2, 110:21	includes 11:19, 19:18, 19:23, 20:2, 50:24, 63:23, 63:24
IANNUZZI 11:20, 105:11, 105:21, 106:1	implementation 124:11	including 9:5, 9:6, 27:13, 50:10, 61:7, 107:9, 124:14, 126:1
iceberg 137:6	implemented 111:21	incorporated 56:12, 61:4
idea 43:2, 46:5, 89:14	importance 10:25	incorporates 82:7
identifiable 73:16	important 13:13, 16:16, 24:25, 25:2, 26:14, 59:15, 66:16, 82:2,	increase 14:10, 53:17, 75:19, 121:7, 125:23
identified 19:21, 20:22, 60:4, 60:16, 61:8, 63:20, 63:21, 74:11, 80:22, 107:25, 108:11, 113:3		increased 75:9, 99:10
identifies 11:7		incredible 10:12
		incremental 115:23
		incrementally 28:2, 34:9,

38:19, 39:4,
 39:11,
 112:22, 115:5
 index 14:2
 indicated 66:8,
 67:20, 67:21,
 74:3, 83:9
 indicates 56:7
 indicating 59:4
 indication 43:9
 individuals
 11:16
 industrial
 29:17, 78:8,
 78:24,
 107:18,
 124:19
 inevitably
 12:11
 influence
 58:10, 69:22,
 70:2, 70:7,
 75:21,
 115:19,
 115:24
 influences 52:7
 information
 5:24, 9:13,
 10:8, 11:10,
 14:3, 19:11,
 19:19, 19:25,
 20:13, 27:14,
 28:17, 42:13,
 48:9, 48:11,
 50:5, 60:3,
 86:14,
 135:17,
 137:4,
 137:11,
 140:7, 140:21
 informed 6:1
 infrastructure
 21:3
 infrequent
 41:24
 infrequently
 42:2
 initial 45:15,
 83:8, 88:19,
 103:6

initially
 102:14
 initiative
 134:4
 initiatives
 123:23,
 124:1, 128:9
 input 28:1,
 62:13, 62:14,
 62:17, 62:19,
 62:24, 63:2,
 63:4
 inputs 97:15,
 97:17
 inquiring
 132:20
 install 26:8,
 26:22, 32:4,
 39:3, 68:2
 installation
 49:1, 49:24,
 88:19,
 111:23,
 116:1, 116:19
 installed 34:9,
 38:8, 48:17,
 48:24, 49:2,
 49:9, 49:14,
 49:18, 112:2,
 112:22,
 113:25,
 114:9,
 114:18,
 115:5, 115:8
 installing
 107:15
 instance 28:24,
 37:1
 instances 45:7,
 117:24
 instead 36:18,
 76:17
 intend 134:21
 intended 19:20,
 43:6, 98:19
 intending 43:17
 intends 26:22
 intensively
 48:8
 interaction

49:17, 75:6
 interest 11:7,
 13:12, 14:19,
 40:3
 Interested 3:3
 interests
 13:20, 14:20
 interfere 27:7,
 28:21, 34:14
 interfering
 41:6
 interim 25:25,
 83:7, 85:17,
 85:19,
 100:19,
 107:17, 115:9
 interior 88:11
 intermediate
 90:17
 internal 89:4
 International
 82:8
 interpretation
 133:11
 interpretations
 47:12, 58:1
 interrupt 7:24,
 23:9
 interrupting
 12:16
 intersection
 32:8, 32:19,
 32:25
 Intervenor
 2:35, 8:24,
 9:8
 intervenors
 13:11
 intimately
 40:18
 introduction
 125:22
 introductory
 13:5
 inversion
 98:18, 98:19
 investigate
 42:12
 investigated
 109:2

investigation
49:3, 111:6,
111:13
investigations
47:11, 47:18,
48:14, 48:16,
49:20, 49:21,
50:21, 64:16
involved 10:15,
94:23, 99:9,
106:19,
108:19
Iron 124:15
ISO 82:9
isolate 114:9
issuance 19:14
issue 92:25,
95:25
issued 6:14,
8:12
issues 7:18,
110:24,
137:2, 137:5,
139:17
item 14:9,
108:25
items 13:17,
35:1, 51:24,
109:4, 109:5,
131:5, 131:8
itself 22:13,
60:21,
103:17, 104:1
IV 20:4, 38:17

```
< J >
J-U-L-I-E-T
    141:24
J. 1:19, 143:2
Jackman 16:3
January 14:11,
    128:19
jbrowne@verrill
-law.com 2:17
Jeff 11:11,
    15:14, 106:6,
    123:4, 138:3
JEFFREY 15:9,
    15:13,
```

105:13,
105:17,
105:19,
106:5,
106:22,
117:7,
117:10,
117:16,
117:23,
118:3, 118:9,
118:16,
119:6, 120:5,
121:24,
123:2,
129:22,
130:6,
130:20,
131:24,
132:14,
132:22,
133:9,
133:16,
133:25,
134:10
job 138:3
JOE 11:20,
105:14,
105:16, 106:1
join 76:14
joined 47:7
Joining 6:15,
7:1
Journal/maine
8:16
JULIET 2:12,
10:1, 10:2,
12:1, 12:3,
12:5, 22:6,
77:8, 136:20,
139:12,
139:22,
140:3, 141:8,
141:21
jump 12:21,
137:21

< K >
Katherine 1:33,
7:1

Kathy 1:30,
6:23, 39:16
keep 4:17,
28:10, 91:25,
103:13,
107:19,
118:24
keeping 16:16,
39:24, 128:6
Kennebec 8:16,
29:3, 58:19,
58:23, 59:1,
59:6
kept 137:14,
139:16
key 22:22,
51:24, 59:7
kilowatt 116:14
kind 4:19,
28:23, 38:12,
41:9, 69:14,
90:20, 95:13,
99:10, 117:17
kinds 45:9
KING 1:27,
6:20, 37:20,
37:21, 66:22,
66:23, 90:4,
90:5, 120:6,
120:7,
129:12,
129:13,
135:24,
135:25
Knowing 88:5
knowledge 119:2
known 17:3,
110:2
KV 55:17

< L >
LABELLE 2:36,
13:7, 13:8,
15:1, 20:19,
21:12, 34:23,
65:5, 86:3,
116:25,
129:4, 129:7,
137:19,

137:21,	14:9, 27:4,	33:2, 85:10,
138:12,	45:3, 52:8,	124:2
140:5, 140:9	64:3, 85:8,	left-hand 31:4,
laboratory	99:21, 111:4,	31:24, 32:21,
48:23, 50:10,	122:3,	33:20, 33:23
55:12, 55:15	131:25, 133:4	legitimate
lack 131:10	Lastly 19:2,	119:3, 119:7,
laid 93:14	20:8, 63:7,	119:24
land 28:20,	116:5	length 62:11,
29:15, 29:16,	late 20:24,	66:17, 137:14
29:20, 29:22,	47:4	lengthy 136:23,
31:18, 78:17,	later 7:2,	136:25
79:5, 80:20,	20:11, 27:2,	Lennon 11:20,
82:4, 83:1,	140:18	46:1, 47:7
96:15	lateral 114:3	less 52:24,
landfilled	laterals 35:20,	53:5, 62:25,
58:6, 80:10,	35:25, 36:1,	83:19
103:15	36:10, 37:1,	level 49:7,
landfilling	37:2, 114:6	68:4, 68:5,
96:13,	Law 3:6, 10:2,	68:6, 69:4,
124:22,	101:13	77:24, 78:11,
128:12	laws 110:16	78:14, 80:8,
landfills	layer 25:8,	80:15, 80:17,
73:18, 112:8,	25:9	82:1, 98:6,
120:12, 127:9	layers 25:19,	100:6,
landform 27:19,	28:13, 60:24,	100:19,
28:19, 28:21,	112:19,	101:8,
28:23, 29:10,	112:20	101:12,
30:8	leachate 24:9,	101:14,
landforms	25:19, 25:23,	101:21,
28:16, 28:25,	26:10, 26:11,	101:25,
29:14, 30:9,	35:19, 36:3,	104:3, 124:4,
30:11, 34:13,	36:12, 36:14,	138:7
35:10, 35:12	37:5	levels 48:21,
landmark 17:3	lead 22:9,	75:15, 78:15,
landscape 29:2,	124:10	79:10, 81:21,
30:1	leaf 97:16	81:23, 81:24,
large 13:18,	leak 60:23	82:12, 83:17,
30:16, 30:20,	leaking 26:5	83:20, 84:22,
32:12, 36:9,	learn 14:5	89:15, 92:3,
75:21, 126:4	least 59:19,	93:24, 95:19,
Largely 13:16,	64:3, 75:12	98:5, 98:15,
24:11, 34:17,	leave 118:6	98:16, 99:11,
42:5, 42:10,	leaves 45:10,	99:24, 100:6,
87:2, 87:5,	45:17, 45:19,	101:23, 102:1
87:7, 87:16,	45:20, 45:21,	levied 110:23
87:23,	89:18	license 4:5,
102:22,	leaving 26:6,	4:7, 19:14,
103:15	28:9, 109:11	20:16, 112:6
last 12:2,	left 18:4,	Licensing 6:5,

8:7	36:15, 36:16,	litter 88:1,
life 63:13,	52:13, 52:17,	88:12, 88:14,
125:14,	52:18, 53:6,	88:18, 89:3,
133:22	53:20, 56:24,	109:6, 110:4
lift 99:5	61:1, 70:16,	little 7:2,
light 88:6,	71:19, 112:17	14:7, 22:12,
127:23	liners 25:16,	30:21, 35:3,
lighter 16:7,	25:17	35:19, 37:14,
92:16	lines 58:8,	39:19, 41:21,
likelihood 41:5	58:11, 58:15,	42:6, 46:13,
likely 64:11,	58:16, 68:16,	48:8, 52:3,
99:19, 126:6	79:20	54:21, 61:22,
likes 134:13	link 141:6	71:14, 76:10,
lime 118:2	LIPFERT 1:29,	78:3, 78:16,
limestone 51:19	6:22, 37:22,	101:10,
limit 24:1,	37:23, 66:25,	118:23,
39:7, 81:4,	67:1, 67:8,	121:22,
81:6, 82:17,	67:11, 67:13,	132:13,
83:9, 84:19,	67:16, 69:3,	134:3, 140:11
85:7, 85:16,	69:7, 70:10,	live 1:21,
85:18, 133:15	90:7, 90:8,	15:17, 16:23,
limited 5:7,	91:6, 120:9,	109:11
6:9, 32:16,	120:10,	lived 108:18,
34:3, 38:7,	120:17,	123:7
132:3	120:25,	lives 134:15
limits 78:11,	121:6,	living 108:17
78:14, 78:19,	121:14,	load 109:21,
78:24, 79:6,	129:14,	111:15,
79:9, 80:8,	129:15,	119:13
80:15, 80:17,	136:1, 136:2	loads 107:10
80:21, 80:25,	liquid 26:5,	Local 14:15,
85:5, 93:20,	39:8, 39:24,	17:2, 20:24,
94:25, 112:17	60:14, 60:21	58:1, 60:3,
Linda 1:28,	LISA 11:15,	108:21,
6:21, 9:13,	27:1, 105:14,	110:16,
140:20,	105:25,	110:21,
140:22	106:13,	124:19,
line 19:5,	106:14,	126:19,
20:9, 33:6,	106:15,	126:24
53:14, 53:16,	111:18,	locally 16:23,
54:12, 78:20	111:20,	135:5
lined 88:20	120:14,	located 4:9,
liner 23:6,	120:21,	15:15, 17:5,
24:4, 24:8,	121:1, 121:8	18:14, 23:3,
24:24, 25:2,	list 65:7,	25:21, 29:19,
25:3, 25:8,	86:21, 97:17	36:25, 37:6,
25:9, 25:11,	listed 47:19,	58:6, 58:21,
25:15, 25:20,	98:5, 110:9	61:22, 80:1,
28:14, 36:8,	listening 4:19	80:3, 98:20,
36:9, 36:12,	lithologic 50:4	100:13,

113:21, 116:7	84:13, 84:21,	83:13, 84:9
locating 9:12	84:25, 90:12,	maintaining
location 18:5,	90:19, 96:10,	26:14, 36:8
24:6, 27:14,	118:13	major 78:7,
30:17, 31:16,	looking 18:8,	78:8
32:4, 33:8,	18:17, 18:22,	majority 29:15
53:12, 58:17,	18:24, 34:12,	manage 106:7,
67:21, 68:7,	41:8, 43:22,	111:25,
80:15, 81:3,	51:21, 71:23,	123:10
81:7, 85:4,	76:9, 117:3,	managed 128:10
100:21,	119:11	Manager 1:28,
104:24	looks 26:20,	2:36, 6:21,
locations	31:6, 31:14,	9:14, 13:8,
30:15, 34:10,	31:25, 35:16,	15:15, 106:7,
34:17, 50:3,	104:4, 136:16	106:17,
50:7, 51:6,	lose 45:17,	111:5,
51:14, 52:21,	45:20	119:21, 123:5
52:25, 56:5,	loss 45:10	manner 117:22
56:7, 56:10,	lost 118:22	manual 20:5
60:14, 63:23,	lot 12:13,	map 15:25,
64:4, 65:12,	33:18, 41:7,	58:4, 79:17,
66:9, 68:7,	68:23, 69:21,	80:12, 80:16,
68:21, 78:23,	79:18, 89:17,	82:17, 130:24
79:1, 79:4,	131:13, 135:4	mapping 82:4
80:22, 85:12,	lots 29:17	maps 80:11
89:4, 99:9	loudest 85:6,	markers 83:2
log 101:18	101:9	mask 99:19
logs 119:12	low 25:10,	mass 92:17,
long 33:13,	29:5, 53:25,	92:24,
33:19, 74:17,	54:5, 55:19,	112:25,
99:5	60:24, 79:14	114:1,
long-term 64:24	lower 18:6,	114:21,
longer 65:16,	31:7, 31:25,	115:1, 115:25
65:17, 84:15,	53:25, 55:21,	Match 113:14
100:22,	56:6, 57:7,	Materials
100:25	61:25, 81:25,	18:16, 26:1,
look 31:8,	83:20, 84:22,	28:7, 51:1,
32:1, 35:3,	92:3	51:2, 86:11,
44:7, 45:2,	lowest 55:10,	86:12, 87:8,
45:5, 45:8,	60:13	87:16, 88:6,
57:24, 58:4,		107:14,
94:18, 119:6,		110:1, 110:5,
119:25,	< M >	110:7, 110:8,
122:10,	machine 95:3	110:10,
130:10,	Mahoney 3:5	117:6,
133:20,	main 69:14,	117:12,
137:16	114:4	117:18,
looked 35:25,	maintain 36:15,	123:12,
42:9, 44:8,	103:19	124:22,
63:19, 67:5,	maintained	125:10,

126:6,
 126:18,
 126:21,
 128:20, 135:1
 math 78:17
 MATHEW 2:20,
 97:20
 Matt 10:5,
 97:18, 97:19,
 123:3
 MATTER 1:4,
 5:6, 124:20
 max 120:24
 maximizes
 114:14
 maximum 56:16,
 56:21, 93:11,
 128:11
 mean 23:8,
 36:1, 36:2,
 60:22, 99:17,
 103:7
 meaning 54:2,
 54:10, 54:20
 meaningful
 12:17
 means 23:10,
 55:1, 143:6
 measure 48:21,
 55:16, 78:20,
 90:19,
 104:24, 107:6
 measured 55:7,
 57:1
 measurements
 50:15, 68:11
 measures 91:13,
 106:9, 107:9,
 110:20,
 121:19
 media 69:21
 medium 51:10
 meet 6:4,
 47:18, 48:11,
 56:18, 84:19,
 86:12, 86:25,
 88:15, 93:23
 meeting 1:22,
 108:23,
 124:18

meets 5:23,
 25:3, 48:2,
 56:8
 melting 26:2
 member 125:13
 members 9:5,
 9:6, 10:10,
 138:22,
 139:18,
 140:17
 membrane 28:7
 Memorial 33:18
 mention 39:23,
 107:3
 mentioned 7:15,
 11:4, 20:13,
 20:19, 24:11,
 25:5, 25:22,
 26:7, 29:11,
 39:23, 43:3,
 52:16, 53:18,
 55:25, 56:4,
 57:10, 63:19,
 74:12, 75:14,
 114:18,
 140:14
 mentions 97:16
 merits 5:12
 message 4:22,
 4:24, 5:1,
 134:13
 met 58:18,
 104:17, 137:7
 meta 51:19
 metal 131:6
 methane 112:14,
 113:5
 method 111:25
 methods 55:9,
 55:12, 55:18,
 73:18,
 108:10, 118:7
 Mgmt 2:3
 mid 132:25
 mid-coast 16:2
 mid-size 79:15
 middle 119:18
 migrate 61:15
 migrates 61:24
 migration

111:25,
 112:5, 114:15
 mil 61:1
 mild 98:17
 mile 27:22,
 28:17, 29:4,
 30:21, 31:3,
 31:23, 32:8,
 32:19, 32:24,
 33:19
 mile-and-a-half
 29:4
 miles 29:7,
 33:12, 35:13,
 40:14, 40:22,
 40:23, 41:4,
 79:12, 98:22,
 99:7, 99:13,
 109:12,
 111:6, 111:12
 milestones
 20:21
 Mill 26:12
 million 116:13,
 116:14
 mimic 36:19
 mind 23:14,
 46:16, 91:25,
 95:25,
 103:13,
 118:24,
 135:16
 minimal 36:15,
 41:3
 minimize
 108:10, 110:4
 minimizes
 110:21
 minimizing
 36:9, 106:8,
 108:13,
 109:23
 minimum 25:10,
 36:17, 62:21,
 63:6, 64:9,
 71:24, 115:12
 minus 52:25,
 53:5, 55:20,
 55:22, 56:8,
 56:17, 56:22

minute 67:7,
 100:18,
 113:16,
 118:23
 minutes 23:1,
 52:6, 76:11,
 76:16
 miscellaneous
 132:9
 mispronounce
 21:22
 missed 137:24
 misspeak 71:15
 mitigate 117:14
 mitigating
 109:3
 mix 29:23,
 79:8, 82:18,
 89:15, 92:16,
 109:22
 mixed 117:13
 Mmm 70:14
 model 82:6,
 82:7, 82:20,
 82:24, 83:16,
 84:20, 85:9,
 90:9, 92:12,
 93:1, 94:8,
 97:17, 98:9,
 98:13, 99:24,
 103:2
 modeled 30:24,
 83:12, 93:17,
 95:20
 modeling 30:15,
 83:8, 90:14,
 92:14, 92:20,
 97:15, 98:7,
 113:14
 models 90:23
 moderate 79:14,
 98:18
 moderating
 4:23, 6:25,
 7:16
 modern 24:24
 modifications
 91:16
 moist 51:10,
 51:13

Molly 1:27,
 6:20
 moment 40:6,
 97:21
 money 127:4
 monitor 63:13,
 64:4
 monitored 64:1,
 66:2, 75:13,
 75:15, 114:24
 monitoring
 47:16, 47:24,
 48:22, 49:7,
 49:9, 49:12,
 49:15, 50:13,
 50:16, 63:8,
 63:9, 63:12,
 63:14, 63:22,
 63:23, 64:2,
 64:3, 64:7,
 64:8, 64:10,
 64:12, 64:13,
 64:25, 65:21,
 65:25, 66:11,
 73:7, 114:16
 monitors 109:15
 monoxide 112:14
 month 131:25
 monthly 133:7,
 133:11
 months 75:16,
 111:4,
 125:19, 133:4
 morning 108:20,
 109:8, 119:19
 mostly 78:8
 Mount 29:6,
 40:12, 40:15,
 40:19, 41:6,
 41:23
 Mountain 124:16
 move 53:8,
 82:1, 89:3,
 89:18, 97:13,
 102:16,
 138:14
 moved 44:8
 moves 84:25
 Moving 14:15,
 43:4, 45:22,

 53:16
 MRC 127:23
 MSE 83:7, 84:6,
 104:3
 mtodaro@verrill
 -law.com 2:26
 mulching 107:15
 multi-layered
 25:3
 multiple 28:13,
 80:18
 multiplying
 62:10
 Municipal
 15:23, 16:7,
 87:23, 88:1,
 88:5, 88:11,
 117:5, 117:8,
 117:9,
 130:21, 132:2
 municipalities
 17:16
 mute 4:14,
 7:21, 76:24,
 76:25
 muted 4:13
 mutual 39:10
 myself 105:13,
 119:21

 < N >
 name 5:3, 7:10,
 12:2, 13:7,
 15:14, 16:20,
 21:22, 22:8,
 37:15, 77:1,
 77:23, 106:6,
 123:4
 names 7:12,
 12:6, 37:13,
 44:19
 Natural 19:25,
 34:12, 48:3,
 48:4, 52:15,
 64:19, 64:20,
 64:23, 65:2,
 107:3, 107:5
 nature 27:14,
 41:25

navigate 14:4	109:12	135:25,
Near 17:4,	Neither 133:11	136:7,
69:18, 84:7,	network 50:16,	136:13,
127:7, 131:2	65:21, 65:25,	140:24, 142:1
nearby 27:20,	66:11, 69:22,	normally 76:13
30:14, 34:16,	109:15, 124:8	Norridgewock
35:15, 40:13,	neutralize	1:7, 2:8,
113:7	117:21	2:35, 2:37,
nearest 80:2,	New 14:12,	2:39, 4:10,
80:3, 80:6,	14:13, 15:19,	8:25, 13:9,
82:15, 83:18,	110:9, 112:6,	15:16, 15:18,
84:14, 85:2,	114:8,	15:21, 20:18,
100:14	114:10,	20:25, 58:20,
Nearly 107:17,	115:6,	110:25,
131:10	115:13,	134:25
necessarily	123:21,	north 16:2,
90:17	123:22,	18:3, 19:3,
necessary 5:8,	124:1, 124:3,	24:8, 49:15,
11:25, 17:11,	125:7,	57:4, 57:18,
48:2, 48:11,	125:17,	57:21, 63:19,
56:18, 65:11,	134:19,	69:15, 111:6,
105:14,	134:21	131:1
107:19,	Newport 16:2	northeast 18:8,
131:7, 141:19	nice 64:19,	18:21, 51:22,
need 7:11,	76:11	51:25, 52:2,
9:13, 13:13,	Nick 11:19,	69:15, 70:5,
15:3, 23:21,	22:22	71:14, 80:4
35:21, 43:20,	night 119:18	northern 67:17
44:8, 84:15,	nighttime	northwest
87:18, 90:15,	78:25, 79:2,	18:17, 18:25,
91:4, 100:25,	79:3, 94:21	52:9, 69:16,
121:20,	nine 125:12	70:5, 72:19,
124:21,	No. 76:15,	72:21, 74:4,
135:16,	122:4	80:1
139:23	nobody 35:6	noses 108:22
needed 37:2,	noise 6:11,	Notary 1:20,
47:24, 84:1,	78:8, 78:11,	143:3
86:13, 86:14,	78:17, 78:21,	note 52:4,
91:2, 91:3,	79:5, 89:9,	52:8, 52:10,
91:20	91:15, 96:1,	55:20, 81:4
needs 16:14,	103:1, 103:8,	Nothing 15:7,
77:18,	103:9,	23:17, 35:15,
104:16,	103:11,	46:19, 77:14,
124:9, 128:4,	104:24,	105:23,
137:12	104:25, 105:9	129:13, 136:9
negative 114:20	non-pumped 70:7	Notice 8:15,
negotiate 20:18	non-residential	8:17
negotiations	81:8	noticing 67:16
14:9	None 21:15,	notification
neighborhood	40:6, 122:22,	8:20

number 10:15, 43:19, 61:3, 104:14, 104:15, 107:1, 107:9, 119:2, 122:1, 122:5, 123:18, 137:1, 137:5 numbers 44:11 numerous 50:9	108:1, 108:10, 108:19, 108:24, 109:1, 109:10, 109:13, 109:23, 110:11, 111:5, 111:13, 111:21, 116:17, 116:23, 117:19, 117:25, 137:25	124:10 Oftentimes 104:17, 119:22 old 18:9, 24:16 on-site 25:25, 26:9, 108:18, 120:2 Once 7:6, 17:17, 57:18, 83:7, 84:7, 91:23, 95:5, 103:23, 108:22, 109:21, 112:1, 115:15, 130:7
< O > o'clock 141:1, 141:5, 141:7, 142:2 objection 8:1 objective 47:17, 47:25 obscured 31:19, 34:17 observe 109:14 observed 68:7 observing 4:19 obtain 49:16 obtained 20:16, 81:19 Obviously 11:3, 12:8, 12:9, 56:23, 89:24, 134:5, 137:4 Occasionally 117:23 occupied 30:20 occupy 24:1, 28:4 occur 59:22, 60:22, 97:8 occurred 10:18, 20:10 occurring 103:3, 103:4, 103:10 occurs 7:14, 59:17 octave 81:21 Odor 106:8, 106:10, 106:23,	odorless 112:14 odorous 108:6, 109:19, 111:15, 117:6 Odors 6:11, 28:10, 108:2, 108:3, 108:5, 108:14, 109:25, 110:4, 110:8, 111:12, 111:25, 112:5, 112:16, 114:14, 114:15, 116:4, 117:14, 117:21 off-site 78:18, 95:14 offered 30:17, 125:12, 135:5 Office 1:31, 5:5, 6:24, 60:5, 65:12, 122:1, 122:7, 125:1 Officer 1:17, 5:6, 11:3 officially 140:25 often 117:18,	one. 100:2 online 130:10, 130:13 opaque 32:5, 45:17 open 30:1, 32:9, 137:14, 139:16, 141:1 opening 9:24, 13:5, 141:3 opens 134:21 operate 101:2, 107:7 operated 97:3 operates 26:25, 123:17 operating 82:15, 83:10, 83:13, 83:14, 84:10, 85:2, 85:6, 85:15, 91:2, 93:22, 94:9, 94:17, 95:6, 95:8, 102:18, 108:8, 117:4, 130:9 operation 81:13, 81:14, 82:14, 94:16, 96:8, 96:17, 96:19, 96:24, 97:4, 97:8,

103:3,	92:8	133:10,
103:10,	orange 79:22	133:12,
103:24,	orangish-pinkis	133:20
104:23,	h 80:12	overburden
105:1, 111:7,	Order 4:3,	48:17, 48:25,
111:23,	6:14, 8:12,	49:8, 49:9,
114:13,	8:13, 8:14,	51:17, 52:5,
114:16,	13:13, 17:11,	63:24, 64:2
116:19	36:19	overlain 61:1
operational	ordered 125:18	overlie 51:18
93:25,	Orders 8:11	overlying 52:5
102:20,	ordinance 14:16	overview 141:23
114:12	Organic 126:17,	own 33:3
operationally	126:18,	owned 32:11,
102:16	126:21	80:13
operations	organics	owning 32:3
17:12, 20:5,	126:15,	
34:5, 35:4,	128:24	< P >
90:22, 95:5,	orientation	P-R-U-C-H-A
95:13, 96:4,	18:2, 69:23	12:3
96:13, 104:7,	orientations	p.m. 1:22,
106:24,	69:9, 69:15,	79:3, 79:4,
107:8, 108:2,	70:4	142:4
108:4,	oriented 51:22,	P1 81:2, 83:2,
111:22,	69:14	83:10, 83:18,
119:21	origin 60:9	83:21, 83:22,
operators	originally	84:2, 84:18,
109:21,	61:8, 76:16	84:20, 85:11,
109:22	OSHA 95:3	100:14
opinion 119:11	others 113:3	P2 84:23
opportunities	out-of-state	P3 84:23
138:21	131:20,	P4 81:2, 81:7,
opportunity	131:22,	85:11, 85:13,
10:7, 13:11,	132:1, 132:3,	85:21
18:1, 21:12,	132:4, 132:7,	paces 107:11
93:11,	132:19,	package 19:23
123:19,	132:24	packages 91:19
137:24,	Outdoors 82:10	pad 118:8
139:14,	outline 38:10	paired 49:18,
139:23	outlined 90:25	68:3
opposed 48:21,	outreach 134:7	panels 11:17
133:14	outset 48:10	Paper 26:12
opposite 58:14,	outstanding	parallel 68:18,
58:16, 81:5,	137:11	69:1
85:1	overall 4:20,	parameter
optimize	47:17, 52:4,	75:12,
114:25, 115:1	54:4, 54:16,	101:22, 102:3
option 16:10,	55:9, 57:12,	parameters
91:21, 127:25	57:19, 70:6,	28:1, 62:13,
options 87:12,	81:20, 92:17,	

62:15, 62:17, 62:19, 62:24, 63:2, 63:4 parcel 79:7 parent 124:6 parking 33:18 Part 13:18, 26:14, 29:1, 29:16, 29:22, 30:12, 31:20, 33:9, 33:23, 36:9, 49:2, 49:11, 51:3, 51:7, 67:17, 69:12, 72:3, 78:1, 80:21, 90:12, 96:19, 96:22, 97:3, 103:16, 115:22, 132:17, 140:16 participants 9:15 participate 14:23, 126:21 participated 78:7, 136:23 participating 4:16, 9:20 participation 138:16 particularly 68:24, 69:19, 69:24, 83:21, 91:22 PARTIES 2:1, 3:1, 4:17, 5:22, 8:18, 19:22, 138:20, 138:21, 139:7, 139:11, 140:12 partner 10:21 partnered 126:25 parts 30:12, 48:7, 97:4,	101:1, 107:16 party 7:25 passes 122:7 passing 31:20 past 111:2, 115:13 paths 62:8 Pathway 61:20, 61:23, 62:4, 62:10, 62:11, 62:12, 62:18 pathways 60:7, 60:12, 61:7, 61:9, 61:13, 61:16, 61:17 patience 9:21 pattern 30:1 patterns 69:9 paved 107:18, 107:21 payback 121:11 peak 28:4, 31:9, 32:2, 113:17, 114:5, 121:3 Peggy 1:34, 7:1 pending 14:18 peninsula 18:14 people 22:1, 40:20, 41:5, 41:24, 94:2, 121:20, 134:11, 134:18, 135:6, 141:23 per 30:3, 52:25, 55:23, 56:9, 98:22, 99:13, 113:16 percent 93:23, 121:2, 131:25, 132:24, 132:25, 133:3, 133:4 percentage 120:25, 132:19 perform 124:6 performance	81:19, 92:19 performed 22:15, 23:6, 124:13 performing 93:1, 102:19 perhaps 68:22, 79:15 perimeter 24:13, 37:4, 48:18, 49:10, 83:7, 83:14, 84:7, 84:8, 88:12, 88:21, 91:1, 91:21, 104:3 period 16:24, 28:3, 30:6, 75:5, 115:8, 139:16, 139:24, 139:25 Perkins 2:38 permeability 25:10, 50:11, 54:18, 56:2 permeable 54:8 PERMIT 1:13, 19:9, 19:16, 19:23, 20:20, 38:16, 38:17, 48:13, 78:1, 130:8 permitted 17:22 permitting 17:13, 59:16 perpendicular 68:15 person 14:1, 122:2 personal 122:1 personally 108:19, 111:1 personnel 108:14, 108:21, 108:23, 108:25, 109:2, 109:7, 109:9,
--	---	---

109:13, 125:1
 Persons 3:3,
 8:18
 perspective
 14:7, 14:15
 pertaining 38:4
 pertains 106:24
 petroleum
 73:15, 131:11
 phases 14:10,
 79:23, 80:10,
 81:11, 132:16
 phone 122:1,
 122:3, 138:5
 photo 17:18,
 18:22, 18:24,
 19:2
 photograph
 16:25, 18:5,
 26:20, 30:7,
 31:5, 42:21
 photographs
 18:2, 19:7
 photos 45:1
 phreatic 53:14,
 57:2, 57:3,
 57:8, 67:2,
 67:13
 physically
 98:12
 pick 138:5
 picture 18:7,
 18:16, 18:21,
 31:4, 31:8,
 31:13, 31:24,
 32:21
 pictures 41:13,
 141:17
 piece 4:21
 pieces 84:18,
 94:9, 94:16,
 95:7, 104:18
 piezocone 50:1
 piezometer
 48:20, 50:16,
 67:21
 piezometers
 48:18, 48:24,
 49:2, 49:6,
 49:8, 49:18,

49:24, 49:25,
 50:13, 55:14,
 59:3, 68:3
 pipe 37:6,
 49:25
 pipeline 26:8,
 26:9, 26:23
 pipes 36:2,
 37:7
 piping 114:3,
 114:7, 114:9,
 114:21
 pits 29:18
 place 14:11,
 81:17, 83:15,
 83:17, 88:12,
 90:14, 91:1,
 101:1, 104:6,
 110:17, 112:1
 placed 26:1,
 28:14, 34:8,
 38:18, 52:19,
 102:23,
 112:11,
 112:20,
 113:12,
 114:8, 115:4,
 115:13
 placement
 40:24, 53:1,
 56:18, 63:9,
 63:11, 64:13,
 115:9
 places 42:11
 placing 39:5,
 97:4
 Plan 11:9,
 14:15, 20:24,
 117:4,
 128:21,
 129:1, 134:6
 plane 79:13
 planed 45:6
 planned 76:16,
 94:22, 134:5
 Planning 20:25,
 32:3, 90:11,
 105:12,
 140:6, 141:9
 plans 121:6,

130:8
 plant 17:19,
 26:12, 26:13,
 26:25, 117:9,
 127:11,
 127:17
 planted 43:5,
 45:15
 planting 45:6
 platform 7:17
 plays 39:21
 Please 7:9,
 7:13, 7:18,
 15:11, 17:24,
 19:8, 19:16,
 20:8, 38:10,
 69:8, 77:12,
 78:3, 79:17,
 80:7, 80:20,
 81:9, 82:4,
 82:23, 83:24,
 84:12, 84:24,
 85:8, 97:14,
 100:18,
 102:8,
 102:12,
 103:13,
 132:14
 plot 81:22
 Plus 83:4,
 91:25, 98:17,
 101:16,
 101:17, 126:2
 Point 21:11,
 30:25, 31:2,
 31:22, 32:5,
 32:7, 32:13,
 32:18, 32:24,
 33:16, 40:13,
 41:12, 60:9,
 60:13, 60:20,
 73:2, 83:10,
 84:5, 84:8,
 84:15, 85:11,
 90:10, 90:11,
 92:1, 101:3,
 122:8, 122:9,
 141:4
 point. 31:10,
 32:23, 60:10,

84:11	60:8, 62:16,	presence 58:24,
points 27:20,	73:4, 73:5,	64:18
30:15, 30:24,	80:23, 80:24,	present 10:7,
34:16, 34:20,	83:9, 88:13,	11:10, 11:21,
43:3, 60:12,	110:7, 110:11	13:4, 21:13,
82:16, 83:1,	potentially	47:14, 51:2,
84:23, 85:14,	74:1, 139:15	52:17, 63:7,
92:4, 98:10	potentiometric	129:23
poles 110:6,	54:10, 54:15,	presentation
132:6	57:1, 57:17,	4:21, 21:7,
Polyethylene	63:18, 68:6,	22:4, 22:12,
25:15	68:15, 75:18	22:14, 34:21,
porous 69:21	power 81:21,	47:10, 49:14,
portion 8:22,	81:24, 113:6,	65:3, 75:14,
9:2, 18:23,	116:15,	76:6, 77:5,
18:25, 23:3,	116:16,	85:24, 106:3,
83:10, 84:3,	127:16	106:9, 108:9,
104:25,	Powerpoint	116:23,
105:1,	11:8, 11:10	122:23,
105:10,	powers 127:14	123:13,
108:9, 115:7,	practicable	129:2, 141:9,
140:25	128:12,	141:20
portions 8:21,	130:19	presentations
28:11, 30:10,	practical 131:8	11:9, 11:11,
114:10	practicing	12:22, 17:20,
Portland 2:14,	22:19	20:12, 135:15
2:15, 2:22,	pre-hearing 8:8	presented
2:23, 2:24,	precipitation	84:25, 128:9
2:46, 3:8,	75:9	presenting 7:8,
10:3	precise 38:25,	11:11, 11:17,
Portsmouth	41:8	12:8, 47:15
125:17	precludes 58:24	Presently
pose 65:1	predicted	125:15,
position 31:9	100:18	127:6,
positive 99:6	predictions	131:24,
possibility	99:24	132:24
75:3	predictive	presents 19:2
possible 17:25,	45:4, 82:6	President 3:5,
67:3, 68:22,	predominantly	106:16
95:6, 98:12,	78:24, 79:1	Presiding 1:17,
107:21,	predominate	5:5, 11:3
109:3, 123:21	55:4	pressure 114:20
possibly 12:18,	preferences	pretty 33:19,
71:16, 104:19	124:10	75:24
Postal 140:19	preliminary	prevailing
posted 122:5	14:20, 19:10,	64:20
potential 34:2,	20:13	prevent 28:8
38:6, 39:8,	prepare 47:9	prevents 110:21
40:16, 43:14,	prepared 117:12	previous 19:5,
60:2, 60:6,	preparing 96:11	27:23, 29:20,

30:19, 33:1, 53:19, 81:10, 114:6	116:18, 118:6	126:18,
previously	proceed 17:7	126:23,
11:8, 18:9,	proceeding	127:4, 127:6,
18:12, 18:20,	8:25, 9:23,	128:15,
20:13, 20:19,	14:22	128:24,
27:24, 52:16,	PROCEEDINGS	128:25,
57:10, 63:19,	4:1, 9:18,	134:16
109:18,	113:4, 143:5	Programs 11:23,
112:18,	process 5:25,	106:8, 107:2,
114:18	8:2, 10:17,	123:11,
Primarily 54:1,	12:18, 17:13,	123:18,
54:14, 74:14,	19:9, 19:22,	123:20,
105:13,	24:14, 59:16,	123:21,
112:13,	60:1, 111:17,	123:25,
130:22,	126:17,	124:2, 124:3,
130:25, 132:5	127:13,	124:4,
primary 43:8,	135:18,	124:12,
54:2, 108:1,	136:23,	125:4, 125:8,
123:13	136:25, 137:1	126:6,
principle	processed	128:14,
136:21	128:11,	128:16,
Prior 7:8,	130:18	128:17,
19:8, 28:9,	processes	128:23,
52:18, 53:6,	132:17	134:14,
56:23, 63:9,	produced 126:23	134:22
64:12, 110:8,	product 87:7,	progress 7:17
128:12	110:10, 135:8	Project 1:28,
priority 110:25	productive 9:19	5:23, 6:21,
private 4:24,	products 126:2	9:14, 10:8,
7:19, 78:18	Professional	12:24, 22:23,
Probably 25:1,	22:20, 46:23,	22:24, 48:10,
33:13, 75:11,	47:8	79:9, 79:19,
89:23, 97:6,	professionally	79:20, 80:1,
100:16,	9:16	96:6, 106:17,
105:15,	profile 50:19,	124:1, 126:9,
134:10	50:21, 83:25	126:11,
problem 66:18,	program 47:16,	126:14,
71:13, 138:8	47:25, 49:12,	128:13
Procedural 5:9,	63:8, 63:14,	projected 17:9,
6:14, 8:11,	63:23,	21:4, 113:19
8:12, 8:13,	110:15,	projects 18:12,
8:14	110:18,	18:20, 78:9,
Procedure 8:4,	110:22,	82:21
121:20	125:2, 125:7,	prolonged 75:3
procedures 8:9,	125:9,	promptly
8:10, 108:8,	125:10,	117:12,
109:25,	125:22,	117:13
111:21,	125:23,	pronouncing
	126:1,	77:1
	126:15,	Propagation

82:8, 82:9	36:13, 64:19,	put 67:4,
Properties	81:20, 98:19,	76:25, 79:10,
78:18, 79:6,	113:7,	90:25, 110:17
79:21, 80:10	115:12,	
property 23:3,	115:24,	< Q >
30:22, 31:13,	123:19,	qualifications
32:3, 32:13,	141:20	22:17
33:3, 33:6,	provided 11:8,	qualified 13:25
58:6, 72:19,	16:11, 16:12,	quality 47:15,
72:20, 72:23,	18:11, 19:10,	47:24, 49:12,
73:2, 78:20,	20:2, 37:3,	63:8, 63:11,
80:9, 80:13,	43:23, 44:2,	63:13, 63:14,
80:14, 80:17,	50:4, 85:23,	64:7, 64:24,
80:19, 80:23,	86:14,	66:7, 66:9,
81:5, 81:6,	127:25,	66:14, 106:3,
81:7, 81:8,	128:1, 139:7	106:10,
85:3, 85:13	provider 124:19	115:1, 116:22
proposed 4:8,	provides 15:22,	quantities
5:23, 17:10,	16:9, 20:6,	113:10,
27:11, 29:21,	25:14,	113:22,
38:10, 47:15,	127:18,	114:5, 121:4,
48:1, 49:12,	127:24	131:19
50:8, 60:10,	providing 40:1,	quarter 31:22,
63:7, 65:20,	89:14	32:24
70:16, 70:18,	provisions	questioning
86:24, 87:12,	129:1	72:16
124:1,	Prucha 11:22	quick 137:21
126:11,	published 8:15,	quickly 38:21,
129:21,	128:19	38:22, 66:15,
130:4, 138:22	pull 112:25,	109:3, 111:16
protect 13:11,	120:1	quieter 79:9
13:19, 78:17	pulled 131:6	quietest 93:18
protected	Pulling 97:20	quite 10:24,
78:23, 79:1,	pulls 114:21	23:20, 33:22,
79:4, 80:15,	pump 69:23	35:7, 49:4,
80:22, 81:3,	pumped 25:23,	60:23, 81:5,
85:4, 85:12,	69:25	85:22, 91:18,
99:9, 100:21,	pumping 50:14,	91:20, 102:2
104:24	55:15, 55:16,	
Protection 1:2,	70:2	< R >
4:4, 6:10,	purpose 5:21,	radius 28:18,
6:16, 20:1,	65:13, 89:13,	115:18
20:12, 26:15	136:21	rain 26:2
protective 48:4	purposefully	rainfall 75:4
protocol 98:13,	25:13	raise 15:5,
119:4	purposes 18:3	46:8, 53:22,
protrudes 26:21	pursuant 5:17,	77:11,
proven 82:20	8:4	105:21,
provide 16:5,	pushing 84:4,	
17:15, 18:4,	107:11	

108:25
 raised 22:8,
 109:2, 110:24
 raises 95:25
 raising 23:14,
 46:17
 range 16:1,
 55:20, 62:17,
 70:20, 70:25,
 71:4, 132:25,
 133:3
 ranges 71:13
 ranging 25:7
 rate 30:2
 rated 82:11,
 127:15
 rather 67:23
 reach 28:12,
 38:24, 59:19
 reached 107:17
 reaches 38:8,
 66:19
 read 45:14
 readily 35:9,
 73:16, 74:11
 ready 13:4,
 40:2, 77:5,
 77:17, 96:18,
 134:25,
 138:25, 139:4
 real 13:9,
 70:6, 73:12,
 92:5, 137:21
 reality 103:9
 realized 23:8
 Really 10:25,
 13:1, 28:19,
 41:8, 68:25,
 70:8, 75:23,
 89:14, 95:12,
 95:16, 97:9,
 99:2, 104:10,
 134:13,
 136:20,
 137:4,
 137:15, 138:6
 realtime 109:15
 reason 12:12,
 90:12, 141:12
 reasonable

105:3
 reasons 12:9,
 17:25
 recall 39:1,
 42:21, 43:21,
 88:23
 receive 5:22,
 8:23, 130:7,
 130:17, 132:7
 received 111:4,
 119:3, 119:8,
 119:22,
 139:9, 140:16
 receiving
 138:18
 recent 111:9
 recently 111:3,
 124:18
 receptor 59:20,
 65:22, 82:16,
 83:1, 83:18,
 84:1, 84:5,
 84:10, 84:14,
 84:22, 85:11,
 85:14, 92:1,
 92:4, 98:10,
 100:14
 receptors
 59:24, 60:2,
 60:6, 60:8,
 60:20, 65:1,
 65:13, 66:18,
 66:19, 83:19,
 98:20
 recharge 59:25
 reclaimed
 18:10, 18:15
 recognize 138:1
 recognized
 127:9
 recommended
 93:9
 recompacked
 53:3, 56:20
 record 5:11,
 5:25, 7:23,
 9:10, 97:24,
 137:13,
 138:19,
 139:13,

139:15,
 140:17
 recorded 7:4
 recoverable
 121:4
 recovery
 113:15,
 121:3,
 127:10,
 127:22,
 128:22
 recreate 90:15
 recreating
 41:24
 recreational
 40:16
 rectified 66:15
 recyclable
 124:22,
 126:1, 126:2
 recyclables
 124:24,
 125:24
 recycle 123:18,
 124:21
 recycled 125:3,
 126:7,
 128:11,
 131:6, 131:14
 recycling 6:12,
 122:25,
 123:12,
 123:16,
 124:12,
 125:16,
 125:21,
 125:22,
 126:5, 126:9,
 128:13,
 128:15,
 128:16,
 128:24,
 129:1, 131:11
 red 79:19,
 79:23, 80:9
 reduce 26:4,
 82:18,
 111:25,
 123:18,
 125:10,

126:18	96:2, 110:14	remove 24:15,
reduced 128:10	relate 74:2	24:22
reduction	related 17:13,	removed 24:17,
91:20, 98:14,	47:1, 106:8,	24:18, 36:14,
123:11,	106:12,	51:3, 51:6,
124:11,	109:1, 112:8,	52:17, 53:19
128:14,	119:15,	render 32:5
128:17	123:11, 125:7	renewable
redundant	relates 38:11	113:2, 115:2,
36:11, 61:3	relationship	116:10,
refer 51:9,	10:25	127:11,
51:17, 55:17,	Relative 31:9,	127:16
57:21, 58:12,	39:18, 41:19,	report 19:11,
60:9	43:11, 54:7,	20:1, 20:3,
referred 50:23	65:21, 85:16,	20:4, 20:14,
referring 59:20	95:17, 99:11,	27:3, 67:20,
refers 108:18	99:13, 102:2	77:25, 82:25,
reflect 36:19	relatively	84:25, 85:23,
reflects 18:13	34:3, 35:23,	86:9, 93:14,
refrain 44:19	38:7, 38:12,	94:1, 109:9,
refuse 86:6	51:12, 69:13,	109:13,
regard 75:6	88:18	128:21
regarding	release 59:17,	reported 1:19
86:24, 111:5	59:19, 59:22,	Reporter 1:20,
Regardless	60:10, 60:12,	7:7, 143:2
63:3, 65:22	60:16, 60:22,	Reporter/notary
regards 40:12,	61:2, 61:11,	143:13
131:23,	61:14, 61:21,	Reporting 7:8
132:15	61:24, 66:7,	represent
region 16:2,	73:4, 73:8,	35:12, 58:8,
16:8, 17:17,	73:9, 73:23	58:12, 60:14,
29:23,	releases 73:14,	60:18, 62:20,
125:25, 126:4	73:16	82:19
Regional 5:4,	relevant 19:19	representative
17:3, 27:19,	rely 36:10	7:25, 62:25
27:22, 27:23,	remain 11:1,	REPRESENTING
28:16, 28:18,	114:11	1:24
58:1, 58:3,	remainder	represents
59:4, 60:3,	120:23	16:25, 51:16,
79:25	remains 38:21	53:14
regionally	Remediation	request 7:6,
57:25, 59:12	6:17, 6:19	39:2, 44:18,
regularly 122:7	remember 43:22,	139:15
regulated 94:20	44:2, 75:22	requested 31:1
regulation	Remind 46:6,	requesting 8:20
27:5, 101:12	90:8	require 27:17,
regulations	reminder 7:20,	30:15, 59:17,
5:10, 17:23,	76:23	64:9, 112:5,
25:4, 27:5,	removal 36:11,	117:20
27:17, 59:16,	52:20, 53:23	required 10:15,

36:17, 52:21, 53:2, 56:13, 66:3, 66:12, 70:18, 75:24, 84:13, 88:23, 89:1, 107:22, 112:7	restricted 80:24	River 29:3, 58:20, 58:23, 59:2, 59:6
requirement 36:8, 55:22, 62:22, 63:6, 101:3	restriction 91:25, 93:25, 96:24, 102:12	Riverview 33:18
requirements 5:17, 5:24, 6:3, 19:25, 47:18, 48:11, 70:19, 110:17, 112:8	restrictions 91:3, 93:8	Road 17:5, 18:9, 26:24, 30:18, 32:7, 32:10, 32:18, 32:20, 32:25, 33:2, 33:8, 33:10, 80:3, 111:11, 126:12, 126:22, 130:5, 130:13
requires 110:15, 110:18	restrictive 80:25	roads 27:21, 107:18, 107:20, 108:21
residence 79:7	result 32:21, 33:4, 60:16, 119:5, 119:23	ROBERT 2:43, 21:15, 34:25, 35:15, 35:18, 36:4, 36:23, 37:8, 37:11, 86:4, 86:15, 86:19, 117:2, 117:8, 117:11, 117:17, 118:1, 118:5, 118:15, 118:19, 129:5
resident 111:10	resulting 36:14, 57:18, 63:2, 83:17	Robin 1:19, 7:7, 12:6, 139:2, 143:2
residential 17:4, 79:6	results 35:11, 62:20, 62:25, 75:23, 84:21, 85:9, 100:12	role 5:11, 39:22, 106:7, 123:10
residents 13:22, 126:20, 126:24	retained 27:16	rolling 29:2
residue 87:8	retains 5:14	rotate 23:5
resistance 54:22	return 42:13	roughly 131:25
resolved 111:9	reuse 123:11, 125:4, 125:7, 125:16	rounds 50:15
Resources 20:1, 48:5, 65:2	reused 128:10	Route 17:6, 23:2, 30:20, 31:12, 31:13, 31:20, 31:23, 32:9, 33:19, 111:11
respect 29:15, 89:11, 119:24	revenues 127:5	Routine 81:13, 96:17, 96:19
respectfully 9:17	review 10:13, 10:16, 10:18, 11:5, 14:16, 16:7, 20:24, 112:6, 136:23	
respond 139:17, 139:24	reviewing 60:3	
responded 111:2	rgrillo@cmaenei nggers.com 2:48	
responds 69:20	rhythmic 101:18	
response 41:17, 41:19	RICHARD 2:36, 13:7, 13:8, 15:19, 129:7, 137:21, 140:9	
responsive 10:22, 138:4	ridges 58:8	
Responsiveness 110:24, 121:19, 138:8	right-hand 31:7, 31:25, 32:15, 55:18, 77:12	
rest 41:10	rise 75:18	
	rises 53:15, 54:12	
	risk 65:1	

rulemaking 78:7
 Rules 5:18,
 5:19, 8:6,
 47:20, 48:12,
 59:23, 64:9,
 66:3, 66:12,
 70:20, 78:8,
 78:13, 85:4,
 96:2, 110:14
 rulings 8:10
 Rumford/mexico
 16:4
 run 135:18,
 141:4
 running 36:3,
 118:22,
 118:23,
 132:25
 runs 29:3
 rural 29:1
 Ruth 1:31,
 4:23, 5:1,
 6:23, 7:15,
 7:18, 76:13

< S >

SA 85:18, 85:19
 safety 108:24
 sales 127:5,
 131:4
 salvage 73:3,
 73:6, 73:24,
 74:6, 74:10
 samples 48:23,
 49:4, 50:10,
 55:13, 66:3,
 66:5
 sand 24:17,
 24:22, 29:18,
 51:5, 51:8,
 51:16, 52:16,
 52:20, 53:12,
 53:17, 53:19,
 53:23, 58:18,
 58:25, 59:12,
 64:21, 72:4
 sands 51:6
 sandy 51:19
 sanitation

26:13
 Sappi 26:12
 satisfactorily
 13:24
 saturated 53:13
 saturation
 53:17
 saved 127:4
 saving 126:19
 saw 125:23
 saying 5:2,
 103:1, 103:2,
 103:25
 scale 17:7,
 109:20
 scarified 53:3,
 56:20
 scenario 83:16,
 84:12, 84:24
 scenarios
 82:24, 84:20,
 85:16, 90:14,
 90:16, 90:17,
 90:18, 90:19
 scenic 27:13,
 34:1, 78:14
 SCFM 113:18
 schedule 38:11,
 38:14, 38:18,
 38:25, 64:11,
 76:10,
 104:15,
 104:17,
 105:10, 130:4
 scheduled 76:12
 scheduling
 39:13
 schematic
 83:24,
 112:11,
 115:20
 School 33:18
 schools 126:20
 scope 5:7
 screen 22:2,
 47:20, 67:10,
 84:6, 141:18
 screened 48:24,
 55:14
 screens 12:13,

27:15
 SCS 11:15,
 27:1, 106:13,
 106:16,
 106:17
 sealant 25:14
 seamless 12:11
 Sean 3:5
 seasonally
 53:13, 53:15,
 53:18
 Second 4:15,
 6:13, 8:13,
 22:14, 31:22,
 33:13, 52:25,
 53:24, 55:23,
 56:9
 Section 5:20,
 14:14, 27:6,
 27:8, 27:9,
 105:8
 Sections 8:5,
 47:19
 secured 110:19
 seeding 107:15
 seeing 45:12,
 67:10, 68:25
 seeking 20:23
 seem 81:24
 seemed 91:21,
 102:25
 seems 105:3
 seen 36:25,
 38:22, 135:15
 seepage 62:9,
 62:10
 segments 38:15
 select 86:11
 send 4:22, 4:25
 Senior 1:30,
 6:23, 15:14,
 106:6,
 106:17, 123:5
 sense 38:23,
 103:18
 sensitive
 59:20, 59:24,
 60:2, 60:6,
 60:20, 65:1,
 65:13, 65:21,

66:18, 66:19, 75:12, 78:17, 79:5	sharing 12:13	131:5
sensitivity	shed 26:2, 28:8	sides 112:18
62:16, 89:12	shedding 39:23	Sigco 124:15
sent 8:17, 140:19	shoreline 79:16	sign 122:6
Sentinel 8:16	short 34:3, 38:7, 38:12, 63:3, 139:24	signals 86:10
SEPTAGE 1:13	shortage 16:18, 128:8	signed 143:8
sequence 38:20, 52:5	shortest 60:19	significant 15:21, 16:18, 19:18, 41:7, 81:12, 95:12, 95:17, 109:18, 110:7, 128:8
series 48:13, 48:16	shortly 49:1	significantly 75:20, 75:24
serious 75:4	shout 76:13	signs 83:4
seriously 75:4	show 42:10, 68:12, 100:17, 102:11, 115:18, 123:23	silty 51:5, 53:11, 56:14
serve 16:14, 128:4	showed 22:25, 25:22, 30:18, 41:13, 45:1, 45:5, 82:12, 82:16, 130:23	Similar 28:13, 29:13, 31:15, 45:8, 54:15, 56:1, 78:16, 89:19, 96:14, 132:20
Service 7:8, 140:19	showing 50:19, 58:2	similarly 52:1
Services 1:6, 1:27, 2:3, 2:6, 4:6, 6:21	shows 18:18, 31:5, 31:8, 33:21, 52:12, 81:22, 84:3, 97:15, 102:11, 115:7, 115:14, 123:25	simply 48:20, 132:20
serving 107:5, 108:21	shredder 87:8	simulate 78:22
session 4:23, 137:23, 141:10	shrubs 107:4	Simultaneous 82:14
set 8:19, 36:5, 36:17, 45:24, 65:25, 69:16, 84:14, 135:3, 136:2, 136:14	shut 141:6	single 70:16, 93:18, 125:21, 125:25, 128:15, 128:23
setback 30:16	side 7:22, 18:21, 32:15, 49:15, 49:16, 57:4, 57:21, 57:22, 57:23, 58:15, 58:16, 58:22, 60:11, 60:18, 63:20, 63:21, 63:22, 63:25, 64:1, 66:1, 71:16, 81:5, 85:1, 124:2, 124:3,	sited 64:25
settlement 35:24		siting 48:2, 55:21
seven 33:13, 49:18		sits 79:8, 80:18
several 17:21, 18:1, 22:10, 24:15, 25:18, 92:8, 99:7		sitting 134:25
severe 75:3		situ 53:4
shaded 24:19, 25:7		situations 99:4
shallow 50:24, 68:17		six 19:23, 33:13, 33:16, 49:24, 59:19, 62:21, 63:5, 66:16, 75:24
shallower 69:20		size 43:11,
shape 28:24		
share 141:18		

50:11, 87:19
 sized 114:4
 slides 12:14,
 22:16, 56:25,
 61:6, 97:19,
 123:3, 123:22
 slightest 109:1
 slightly 23:5,
 101:23
 slope 51:24
 sloped 36:13
 slopes 58:7,
 58:14, 92:23
 slower 107:11
 sludge 119:13
 sludges 117:9
 Sluettich@geosy
 ntec.com 2:32
 slug 50:11,
 55:13
 Smahoney@clf.or
 g 3:10
 small 60:4,
 79:13, 79:15,
 80:12, 84:2,
 91:22, 107:11
 smckenne@wm.com
 2:10
 snapped 19:2
 snapshot 33:14
 snow 26:2
 sodium 73:21
 soft 29:24,
 51:12, 52:8,
 52:10, 52:22,
 53:1, 56:5,
 56:11, 61:25
 soil 18:9,
 18:11, 18:15,
 19:4, 25:11,
 50:10, 55:15,
 70:22, 71:4,
 71:18, 72:3,
 91:14
 soils 18:19,
 50:24, 50:25,
 51:4, 71:24,
 110:6
 Solid 1:14,
 4:6, 4:8,

5:18, 6:11,
 15:23, 19:8,
 19:16, 19:23,
 20:20, 27:11,
 48:12, 59:23,
 78:1, 78:12,
 85:4, 87:23,
 88:2, 88:5,
 88:11,
 101:13,
 117:5,
 123:14,
 123:24,
 128:21,
 130:21, 132:2
 somebody 35:8,
 41:21, 86:9
 SOMERSET 1:7
 sometimes
 54:24, 54:25,
 55:1, 55:2,
 99:7
 soon 115:10,
 130:7
 sooner 134:22
 Sorry 23:19,
 27:9, 36:4,
 46:10, 56:10,
 68:10, 69:18,
 71:8, 71:11,
 88:4, 97:25,
 102:10,
 105:18,
 117:8, 141:8
 sort 45:3,
 45:4, 99:5,
 125:21,
 126:1,
 128:15,
 128:24,
 134:7, 137:5,
 137:12
 sounds 12:5,
 89:16, 90:9,
 99:20,
 101:10, 117:4
 source 18:14,
 81:25, 82:12,
 108:11,
 112:6,

117:18,
 117:21,
 119:10,
 128:17
 sources 81:9,
 81:13, 82:5,
 83:3, 89:23,
 95:11, 95:17,
 107:15,
 108:1, 108:3,
 108:8
 south 24:8,
 24:9, 25:22,
 29:7, 49:16,
 52:2, 57:5,
 57:9, 57:14,
 57:18, 57:20,
 57:22, 58:7,
 59:5, 59:10,
 63:21, 64:1,
 69:15, 71:16,
 131:1
 southeast 18:7,
 18:17, 19:1,
 19:4, 57:5,
 57:9, 57:14,
 57:20, 59:10,
 69:16, 70:5,
 74:4
 southwest
 18:22, 51:22,
 52:1, 52:2,
 52:11, 57:5,
 57:9, 57:14,
 57:20, 59:10,
 67:18, 68:13,
 69:15, 70:5
 sparse 33:3
 speaking 4:13,
 7:21, 7:24,
 13:16, 21:25,
 46:24, 76:24
 spec 90:21
 special 110:2,
 131:9,
 131:10, 132:9
 Specialist
 1:29, 1:31,
 6:22, 6:24,
 127:2, 134:12

specialists	116:13	statements
135:6	Standards	135:13,
specific 9:12,	78:11, 78:22,	135:21,
30:15, 43:20,	82:8, 123:16	136:19,
90:13,	standing 108:24	137:20,
111:14,	stark 35:12	138:13
121:20,	starkly 28:23	states 27:6,
121:21	start 21:5,	27:9
Specifically	21:20, 24:24,	station 17:4,
5:19, 5:20,	37:16, 47:10,	107:22,
8:19, 48:21,	60:8, 76:17,	126:13,
70:20, 87:20,	76:18, 86:21,	126:22,
106:12,	118:25,	130:5, 130:13
110:17	123:21,	statistically
specifications	127:7,	66:5
81:20	130:12,	Statutes 5:9,
specified 8:11,	134:21,	5:20
93:25	136:18,	statutory 6:2
spectrum 46:4	141:2, 141:10	stay 4:13,
spell 12:2	started 4:11,	42:16, 45:17
spellings 12:7	9:24, 77:6,	staying 100:5
spent 108:17	106:3,	steeper 36:18
spikes 133:1	118:21,	steeply 36:13,
spills 132:9	125:11, 141:5	52:3
spoke 70:4,	Starting 23:22,	stenograph
119:9	23:23, 50:21	143:6
spray 95:11	starts 104:2	step 60:1,
spread 81:11,	State 1:1,	60:7, 108:15
110:3	1:21, 7:10,	steps 117:21
Square 2:14,	14:17, 16:11,	stewardship
2:22	16:19, 17:23,	109:17
squares 49:23	25:3, 46:24,	stiff 51:9,
stab 42:25	110:16,	51:10, 51:11,
stability 86:13	112:7,	56:8, 56:19,
stable 16:17,	123:14,	61:13, 61:15,
98:21, 128:6	123:16,	61:25
STAFF 1:24,	123:24,	stockpile 19:4,
9:9, 10:11,	127:2, 128:1,	42:20, 43:12
10:15, 10:16,	128:13,	stockpiled
37:13, 49:18,	129:1,	18:18, 50:25
65:7, 68:3,	134:12,	stockpiles
86:21,	135:5, 143:3	24:16, 43:22,
118:21,	stated 15:19,	43:24, 44:1
118:22,	38:5, 71:2,	storage 25:25,
136:24	111:15,	26:10
stand 30:20,	123:5,	stormwater
32:12, 49:25	127:21,	28:8, 28:9,
standard 56:9,	130:11, 133:3	39:9, 39:24
98:9, 108:7,	statement 9:25,	straight 18:3,
113:16,	13:5, 136:21	101:24, 102:2

stream 49:18, 61:12, 61:16, 61:20, 67:19, 67:20, 67:23, 68:5, 68:18, 68:19, 69:4	78:1	supply 58:20, 59:1, 59:6, 59:13, 59:24, 60:5, 61:22, 62:2, 64:22
streams 60:4, 68:4, 68:8, 68:16, 68:24, 69:1, 69:2, 87:9, 110:2, 129:23, 131:10, 132:7	submitting 138:20, 140:6	support 47:21, 48:12
Street 2:38, 2:45, 3:7, 138:4	subphases 24:2	supports 47:23, 123:14, 123:16
stretch 33:8	subsequent 17:20	suppose 90:16
strong 54:18, 56:2, 70:6, 74:15, 79:13	subsequently 49:6	suppression 91:18
strongly 58:10	subset 6:6	surface 24:6, 24:13, 29:13, 36:19, 49:17, 50:22, 50:25, 51:25, 52:2, 53:3, 53:15, 53:21, 54:10, 54:12, 54:15, 57:2, 57:3, 57:17, 58:13, 59:25, 63:10, 64:4, 67:3, 67:14, 68:11, 68:15, 75:18, 75:19, 83:14, 110:4
structure 52:7, 57:6, 57:12, 57:16, 58:10, 59:11	subsurface 48:9, 49:5, 50:5, 50:9, 52:15	surfaces 57:1, 63:18
struggle 119:18	Successful 124:12, 126:9	surprise 40:21
studied 48:8	successfully 20:17	surrounding 27:21, 28:5, 29:13, 34:12, 34:15, 80:10, 107:4, 131:1
studies 20:10, 78:6	sufficient 13:24, 113:23	Survey 58:19, 83:2
study 27:4, 31:1, 33:25, 35:11, 45:15	Sugarloaf 124:15	Susanne 1:17, 5:3
style 69:10	suggests 87:1	swear 15:3, 15:6, 23:8, 23:15, 46:2, 46:17, 77:9, 77:12, 105:15, 105:22
subcells 24:2	suitability 20:14	sweeper 107:18
subgrade 24:23, 53:23, 56:14	suitable 18:19	sweeping 138:5
subgrades 53:20	Suite 3:7	
subject 9:7, 88:7	summarize 108:9	
submission 19:12	summarizes 55:6, 59:7, 62:17, 62:23, 64:6	
submissions 6:6	summary 64:16, 85:9	
submit 138:21, 138:24, 139:19	summer 64:8	
submittal 46:25, 112:5	sump 37:6, 60:21, 60:23, 61:11, 61:14, 61:21	
submittals 47:9	sumps 24:9, 25:21, 60:10, 60:16, 60:23, 61:12, 61:18	
submitted 5:16, 19:17, 20:20,	supervision 47:2	
	supplemental 116:12	
	supplemented 49:21	

swell 25:13
 swings 75:16
 sworn 9:4,
 105:17,
 105:19,
 105:20
 symbol 83:2
 symbols 50:3,
 64:5, 81:1,
 81:2
 synthetic 116:1
 systems 24:25,
 25:17, 61:4,
 64:24,
 106:20,
 112:2, 114:7,
 116:7, 127:10

< T >

table 55:6,
 62:17, 62:23,
 100:9,
 100:11,
 100:15,
 100:17
 talked 42:19,
 42:20, 43:1,
 94:1, 121:18,
 124:17
 tank 26:10
 tanker 26:11
 tanks 25:25,
 36:3
 TARBUCK 1:30,
 6:23, 37:24,
 37:25, 38:3,
 39:17, 40:4,
 40:5, 40:6,
 70:12, 70:13,
 70:15, 71:1,
 71:8, 71:10,
 71:20, 72:8,
 72:10, 72:11,
 91:8, 91:9,
 121:16,
 121:17,
 122:11,
 129:16,
 129:17,

 129:25,
 136:3, 136:4
 target 81:1
 tarps 107:16,
 116:1
 tax 80:11
 taxpayers 13:22
 team 10:6,
 108:23, 131:4
 Technical 1:27,
 6:20, 10:13,
 11:23, 13:17,
 137:1
 technician
 119:20
 technological
 12:12
 technology
 12:10
 temperature
 98:18
 Temporary 28:7,
 107:16,
 116:1, 127:3,
 131:5
 tend 75:9,
 102:1
 termed 62:14
 terminology
 48:20
 terms 14:22,
 39:23, 70:1,
 78:15, 95:12,
 135:16,
 137:13,
 137:25,
 138:20,
 139:13
 terrain 28:5,
 82:3
 terrain-based
 82:7
 test 50:14,
 55:15, 55:16
 tested 52:23,
 53:4, 56:15,
 56:20
 testify 105:12
 testimony 5:22,
 7:9, 9:3,

 15:6, 23:16,
 45:23, 46:18,
 72:18, 77:13,
 105:22,
 135:14,
 138:18, 141:2
 testing 49:7,
 50:2, 50:10,
 55:9, 55:12,
 55:13, 55:18,
 56:7, 56:23,
 82:21, 90:9,
 90:15, 91:4
 tests 50:11,
 50:12, 69:23
 textile 125:8,
 125:16
 texture 34:6
 Thanks 37:11,
 38:3, 40:6,
 44:24, 45:23,
 72:11, 76:4,
 86:15, 91:10,
 97:22,
 118:20,
 121:17,
 129:6,
 137:22,
 138:10
 themselves
 9:16, 117:18
 theoretical
 60:9, 60:11,
 61:24
 theoretically
 61:14
 theorized 61:9,
 61:17
 thereafter
 21:6, 64:15
 thereby 126:19
 they'll 89:1,
 102:1
 they've 92:23
 thickening 52:4
 thickens 52:10
 Thickness 71:7,
 71:8, 71:13,
 71:18, 71:24,
 72:2, 72:5

thinking 91:15	51:16, 54:4,	44:3, 44:12,
thinner 45:19,	54:7, 54:11,	50:21, 52:1,
92:22	54:12, 54:14,	53:21, 54:12,
Third 8:13,	54:16, 54:19,	71:19, 72:6,
28:20, 131:22	54:23, 55:2,	82:13, 84:8,
thorough 14:1	55:3, 55:24,	93:21, 104:7,
though 33:4,	55:25, 57:11,	138:3
44:5, 44:18,	57:13, 61:19,	topics 11:6,
89:24, 96:13,	62:1, 62:4,	19:21, 123:13
98:11, 134:19	74:12, 74:13,	topographic
three 8:11,	74:15, 74:17	29:5, 29:6,
14:10, 28:17,	timing 64:6,	29:8, 29:14,
28:19, 32:7,	139:12	58:4, 58:7,
41:2, 48:25,	tip 137:5	58:8
49:16, 55:12,	tire 118:10,	topography
61:7, 61:21,	125:7	29:2, 51:25,
64:15, 66:2,	tires 118:11,	52:6, 52:15,
81:14, 84:18,	126:10	57:6, 58:4,
85:15, 94:9,	Title 8:5	58:9, 58:13,
94:16, 95:7,	Todaro 2:20,	59:11, 70:8
100:1,	10:5, 97:20,	total 50:6,
104:18,	97:23, 97:25	123:8, 132:1,
105:12,	today 6:16,	132:25
119:14	10:4, 10:7,	touched 137:5
three-and-a-hal	10:24, 11:11,	tough 104:11,
f 29:7,	12:25, 13:17,	130:21
40:14, 40:22,	14:5, 14:19,	towards 40:15,
40:23, 41:4	14:22, 31:7,	40:17, 41:22,
three-quarters	31:25, 46:25,	57:14, 59:5,
32:8	47:7, 47:10,	59:12, 64:21,
throughout	79:18, 131:9,	67:18, 100:2,
9:18, 16:23,	137:4,	114:22
45:18, 63:13,	137:23,	townmanager@tow
71:4, 72:6,	138:11	nofnorridgewo
125:14,	together 47:8	ck.com 2:41
127:17,	toll 115:22,	towns 127:22
133:22	115:23	townspeople
TIERNEY 1:33,	Tom 29:6,	138:7
7:1, 44:16,	40:12, 40:15,	tracked 133:21
44:17, 74:21,	40:19, 41:7,	traffic 109:6,
74:22, 94:6,	41:23	119:13
94:7, 94:13,	tonight 137:17,	train 99:8
95:1, 95:4,	139:15,	training 125:1
95:21, 95:24,	139:17	transcribed 7:5
122:18,	tons 126:2	transcript 7:5,
122:19,	took 14:10,	7:6, 7:13,
134:2, 134:3,	82:10, 82:17	7:23, 138:25,
136:10,	tools 108:12	139:4, 139:6,
136:11	top 40:17,	143:5
till 51:14,	42:3, 42:6,	transcripts

139:8	107:22,	43:12
transfer 17:4,	110:18,	undercarriages
126:12,	111:14,	107:23
126:22,	118:10	underlain 51:8,
130:5, 130:13	trucks 26:11,	51:11, 51:14,
transferred	117:18,	54:6, 61:12
113:6	117:20,	underlying
transportation	118:5, 118:7	62:1, 64:20
119:12, 126:7	true 143:4	underneath
transporter	truth 15:7,	25:4, 25:8
110:14	15:8, 23:17,	understand
transporters	46:19, 77:14,	41:8, 43:13,
107:22,	105:23,	43:17, 70:24,
110:15	105:24	88:3, 134:11
trash 132:2	try 90:14,	understanding
travel 47:14,	137:6	14:1, 42:9,
47:23, 59:15,	trying 43:16,	49:5, 90:22,
62:7, 62:12,	133:20	103:25,
62:14, 62:18,	tune 14:19	138:24, 139:4
62:20, 62:22,	turn 4:15,	understood
62:23, 63:4,	4:19, 12:20,	94:21
63:6, 65:14,	46:1, 46:9,	undifferentiate
65:16, 65:17,	77:6, 122:24	d 50:23, 51:4
65:22, 66:16,	turned 124:23	undisturbed
68:20, 75:22,	turning 31:20	70:22, 71:18,
98:24,	two. 34:20,	71:24, 72:3
108:21, 109:7	71:11	unit 53:11,
traveled 33:9	type 73:15,	53:24, 54:7,
traveling 17:8,	81:22, 86:24,	54:8, 54:21,
33:12, 68:1,	87:15, 92:9,	55:9, 78:20
111:10,	92:10, 92:20,	units 17:21,
111:14,	96:15, 99:18	22:11, 27:25,
117:19	types 59:25,	48:25, 50:20,
treatment	92:12, 95:14,	51:17, 53:10,
26:13, 117:9	95:16, 97:7,	54:1, 54:19,
tree 45:6	113:11,	55:5, 55:8,
trees 18:15,	113:13,	56:3, 57:15,
29:24, 30:1,	115:21,	64:20, 81:14,
30:2, 30:20,	131:19,	82:15
32:12, 33:4,	131:21	University
43:5, 45:10,	Typically 41:1,	127:1, 134:23
45:15, 45:16,	48:22, 51:5,	unless 4:13,
45:20, 79:13,	51:13, 51:15,	4:14, 4:16,
79:15, 107:4	73:15, 75:17,	5:2
tri-annually	115:3, 139:7	unlikely 60:23,
64:15		61:3
triangles 49:19		unmuted 44:19
trickling 25:19	< U >	unrealistically
truck 95:11,	ultimate 5:11	63:1, 63:2
95:15,	ultimately	unreasonable

33:25	63:4, 112:10,	34:8, 38:9
unreasonably	116:9	vehicle 33:11,
27:7, 27:12,	utility 110:6,	134:24
34:14, 116:21	132:5	vehicles 17:7,
unrelated	utilize 42:24	31:19
111:7, 124:20	utilized 16:13,	velocity 62:9,
unsaturated	128:2	62:11
50:24	utilizing 110:8	verify 73:1,
unsuitable		90:9
42:20, 43:11,	< V >	Verrill 2:13,
43:22	V. 20:5	2:21, 10:3
until 14:13,	vacuum 26:19,	version 128:20
39:4, 134:20,	112:25,	versus 82:14,
142:2	114:19,	85:18, 85:20,
unwanted 7:22	114:20,	85:21, 91:5,
upgrade 126:12	114:23,	121:4
upgraded 126:22	115:24, 116:3	Vertical 54:22,
upgradient	valleys 29:10	55:6, 55:16,
57:22, 63:20,	value 10:25,	56:16, 56:21,
63:23	133:21	61:17, 61:19,
upper 18:4,	values 55:7,	69:18,
31:4, 31:24,	55:21, 55:24,	112:20,
32:20, 33:20,	55:25, 75:10	113:24,
34:4, 36:19,	valves 114:9	115:17,
51:9, 53:25,	Vantage 27:20,	115:19
56:8, 56:19,	30:14, 30:24,	vertically
61:13, 61:25,	30:25, 31:2,	61:24
69:12	31:10, 31:22,	vested 40:3
uppermost 53:11	32:5, 32:7,	vet 13:21
upward 61:19	32:18, 32:23,	VI 20:6
upwards 54:25	33:16, 34:19,	via 1:21, 26:11
upwind 98:14,	43:3	vibrating 49:24
99:3	variable 54:24	Vice 3:5,
urban 110:6	varies 104:10	106:16
useful 50:4,	variety 29:9,	Victoria 1:26,
120:12	89:20, 124:13	6:18
users 124:25	various 55:8,	video 4:15,
uses 27:12,	59:25, 89:15	4:18, 4:20,
29:17, 29:22,	vary 113:13	46:9
40:19, 45:16,	vegetated	VIDEOCONFERENCE
78:14, 78:18,	18:15, 19:4,	1:19
79:5, 79:8,	26:21, 28:15,	view 22:25,
107:9,	40:2, 99:18	41:6, 42:4,
109:25,	Vegetation	83:25, 91:4,
110:1, 127:14	28:20, 29:23,	141:16
using 7:16,	30:4, 30:9,	viewing 27:8,
8:9, 43:2,	32:20, 33:2,	28:22, 34:15
44:19, 51:23,	34:18, 89:18	viewpoints
55:8, 55:12,	vegetative	29:11
62:14, 62:24,		views 27:7,

28:21, 34:14, 40:17	voluntary	113:24, 115:17
violate 124:24	131:23, 132:10,	west 18:23,
violators	132:18,	29:19, 30:23
110:23	132:23, 134:6	western 15:24,
virtual 13:1	volunteered	16:4, 127:20
virtually 9:22, 32:22	133:5	wet 51:13
Visibility		wheels 107:23
6:11, 21:23, 22:15, 27:20, 32:16, 32:22, 33:7, 33:10, 34:16, 35:1, 38:4, 38:11, 39:19, 39:21	< W >	whenever 80:13
visible 34:10, 40:1, 42:11	wait 39:4	whereby 17:10
vision 29:11, 31:19	waiting 123:2, 134:24	Whether 5:23, 35:21, 42:10, 66:6, 74:10, 137:13, 138:8
visit 17:24	walk 18:1, 47:12	whole 6:1, 13:12, 13:20, 15:7, 23:17, 39:5, 46:18, 71:5, 72:7, 76:14, 77:13, 80:19, 105:23, 121:12, 129:1
visual 27:3, 27:15, 27:17, 30:11, 30:14, 30:25, 31:11, 31:14, 31:15, 32:4, 33:24, 34:2, 34:19, 38:5, 38:6, 43:2, 45:12, 45:15	wall 26:8	widely 102:4
visualize 53:16	wanted 39:18, 39:19	Wilkinson
visuals 45:1, 45:4	wants 39:7, 122:8	11:15, 27:1, 105:12, 105:21, 105:25, 106:13, 106:15, 111:20, 120:11, 120:14, 120:21, 121:1, 121:8, 122:24
vital 16:5, 127:21	wash 107:22, 118:10, 118:12	Wind 79:13, 79:14, 88:7, 88:8, 88:13, 89:9, 89:11, 89:15, 98:5, 98:6, 98:23, 99:2, 99:5, 99:12, 99:14, 99:18, 99:19, 107:5, 107:12
voice 8:1	wastes 128:10	winter 45:21, 82:19
Volume 19:24, 20:2, 20:3, 20:5, 20:6, 38:17, 43:21, 43:23, 43:24, 43:25, 44:2, 44:7, 44:9, 54:4, 125:24, 132:1, 134:8	watch 131:4	wintertime 45:8
volumes 19:24, 43:20	waterbodies	
voluminous	60:1	
10:14	Watering 107:10	
	waves 79:15, 89:8, 89:11, 89:19	
	ways 118:2	
	weak 54:24, 55:4	
	website 9:11, 122:6, 140:22	
	week 140:7	
	weekly 133:11	
	weeks 139:8	
	weight 101:22	
	weighted 101:20	
	welcome 118:16, 120:5	
	wells 26:18, 49:9, 49:11, 49:15, 50:13, 55:13, 59:3, 59:24, 64:2, 64:3, 65:25, 66:4, 112:21,	

wire 49:24
 wish 12:8
 wishes 8:1
 Within 17:16,
 19:22, 24:18,
 25:21, 27:15,
 27:21, 28:17,
 36:2, 36:5,
 43:25, 48:18,
 48:24, 50:7,
 53:21, 58:7,
 58:21, 79:23,
 102:13,
 102:23,
 108:22,
 109:17,
 110:13,
 111:3,
 112:16,
 124:1, 124:4,
 124:7,
 124:20, 143:3
 Without 16:17,
 31:16, 91:24,
 100:5, 126:5,
 128:7
 witness 7:9,
 12:14, 45:24
 witnesses 9:4,
 9:6, 11:9,
 13:21, 15:2,
 21:21, 45:25,
 105:11
 Wllkinson
 111:18
 wondering
 35:20, 35:24,
 38:9, 45:7,
 92:9, 94:14
 wood 33:1,
 87:6, 110:5,
 126:10, 131:6
 wooded 18:23,
 18:25, 29:17,
 42:3, 42:6,
 42:10
 wooden 92:22
 woods 19:5,
 29:24, 29:25
 word 96:3

work 10:12,
 12:10, 15:18,
 48:1, 50:1,
 73:25, 78:9,
 94:3, 96:18,
 100:20,
 111:11,
 130:16,
 131:4,
 139:11, 140:7
 worked 10:21,
 16:22, 20:17,
 47:8, 134:14,
 137:2
 working 13:1,
 22:23, 41:10,
 47:2, 88:16,
 93:10,
 102:22,
 103:14,
 103:15, 110:3
 Works 22:23,
 124:15,
 139:12
 worst 90:16
 wrap 47:15
 written 6:5,
 140:12,
 140:18

 < Y >
 Yafrate 11:19,
 21:23, 22:22
 yard 73:3,
 73:6, 74:7,
 74:10
 year 15:16,
 27:4, 30:3,
 30:8, 45:18,
 62:22, 63:5,
 64:15, 66:2,
 66:16, 68:23,
 68:24, 75:24,
 102:17,
 104:18,
 106:21,
 113:17,
 113:18,
 115:3,

115:13,
 116:16, 122:3
 year-round
 53:13
 yearly 133:7,
 133:15
 years 16:15,
 16:23, 22:20,
 22:21, 22:24,
 28:3, 59:19,
 78:5, 106:18,
 108:16,
 108:17,
 123:6, 123:9,
 128:5
 yellow 16:6,
 79:24, 127:23
 yellow-orangish
 79:22
 yielded 55:19
 younger 30:4
 Yup 22:6,
 36:23, 71:12,
 97:18, 98:1,
 98:2, 100:10,
 105:20

 < Z >
 zone 33:5,
 54:18, 102:14
 Zoom 1:21,
 4:12, 6:15,
 7:17, 7:19,
 8:9, 23:5,
 141:6