

TRANSCRIPTS FOR CASE #:

DCI2005-00105

The state of the s

LEE COUNTY HEARING EXAMINER MEETING

RE: DCI2005-00105

IN RE: Harper Brothers, Inc. in ref. to Fort

Myers-Harper Mine IPD

Transcript of Proceedings

Before Diana Parker, Chief Hearing Examiner, held at the Hearing Examiner's Hearing Room, 1500

Monroe Street, Fort Myers, Florida, on January

16, 2008.

PRESENT:

Mr. Russell Schropp, Attorney for the Applicant

Mr. Chip Block, Principal Planner

Mr. Rob Spickerman, Assistant County Attorney

Mr. Sam Lee, Natural Resources

Mr. Howard Wegis, Utilities

Ms. Suzie Derheimer, Environmental Sciences

MARTINA REPORTING SERVICES
Courtney Building, Suite 201
2069 First Street
Fort Myers, Florida 33901
(239) 334-6545
FAX (239) 332-2913



1	I N D E X	
2	WITNESSES	PAGE
3	Russell Schropp - Presentation	4
4	Tom McLean - Presentation	36
5	Examination by Mr. Schropp Examination by Hearing Examiner	39 39
6	Kirk Martin - Presentation	43
Ĭ	Examination by Mr. Schropp	59
7	Examination by Mr. Block	59
8	Ed Ladd - Presentation	76
9	Ken Passarella	80
10	Examination by Hearing Examiner	80
10	Chip Block - Presentation	87
11	Suzie Derheimer - Presentation	97
12	Buzic Bernermer Trobbindari	
	Lee Werst - Presentation	100 104
13	Examination by Hearing Examiner	104
14	Howard Wegis Examination by Hearing Examiner	124
15	Examination by hearing braminer	
16	EXHIBITS	
17	NUMBER DESCRIPTION	PAGE
18	Applicant's:	
10	1 Aerial Map	6
19	2 Aerial Map	11
0.0	3 Composite Exhibit	11 22
20	4 Letter from Water Management District to Harper Brothers	2 2
21	5 Letter from Florida Rock to Water Management	22
	District	26
22	6 Approved Phasing Plan 7 New Master Concept Plan	38
23	7 New Master Concept Plan 9 Power Point Presentation by Mr. Martin	43
24		
25		
	·	

1 HEARING EXAMINER: Good morning. I am Diana Parker, Chief Hearing Examiner for Lee 2 County. This is Wednesday, January the 16th, Case No. 3 DCI2005-00105, Fort Myers-Harper Mine IPD. 4 County Attorney have any comments before we 5 6 commence the hearing? 7 MR. SPICKERMAN: No public is present, but if you'd like me to go around the table with introductions. 8 HEARING EXAMINER: Okay, that will be fine. 9 MR. SPICKERMAN: Rob Spickerman, Assistant County 10 11 Attorney. MR. BLOCK: Chip Block with Lee County Community 12 Development. 13 MR. SCHROPP: Russell Schropp with Henderson, 14 Franklin, representing the applicant. 15 MR. LADD: Ed Ladd with Florida Rock. 16 MS. SANVILLE: Lori Sanville, Florida Rock. 17 MR. BLOCK: Madam Hearing Examiner, just for that 18 record also, we also have staff members from Natural 19 Resources, Sam Lee; from Utilities, Howard Wegis; and from 20 Environmental Sciences, Suzie Derheimer, just to put all 21 the staff members on the presentation. 22 HEARING EXAMINER: Okay. Good. 23 All right. Before we get started this morning, I 24 need to swear in everyone who will be testifying. If you 25

are an Attorney and testifying to facts, you should be 1 sworn in as well. So at this point in time if you're 2 going to talk, please raise your right hand. 3 (All witnesses were sworn.) 4 HEARING EXAMINER: All right. Russ, you ready? 5 6 MR. SCHROPP: Yes. HEARING EXAMINER: Let's do it. 7 Thereupon, 8 RUSSELL SCHROPP, 9 called as a witness by the Applicant, having been 10 previously duly sworn, was examined and testified as 11 follows: 12 MR. SCHROPP: Good morning. 13 For the record, I'm Russell Schropp with the 14 Henderson, Franklin law firm here in Fort Myers here today 15 representing the applicant, which is Harper Brothers, 16 Inc., as we've already identified, here with my clients 17 from Florida Rock, Ed Ladd and Lori Sanville who are 18 seated at the table with me. Also Tom May from Florida 19 Rock is out here as well, along with our consulting team, 20 Tom McLean from Hole Montes, Kirk Martin from CDM, and Ken 21 Passarella from Passarella & Associates as well as 22 consultants for Florida Rock, Ron Inge and Tracy Hayden. 23 Just a brief explanation of -- the applicant is 24 listed as Harper Brothers, Inc., and as I've noted the 25

folks at the table with me as my clients are from Florida Rock. Florida Rock purchased Harper Brothers, Inc. in, I believe it was June of 1999.

HEARING EXAMINER: Okay.

MR. SCHROPP: So Harper Brothers, Inc. is a wholly owned subsidiary of Florida Rock Industries.

This is a request to modify a portion of an approved mining operation known generally throughout the years as the Harper Brothers Green Meadow Mine. It has been approved in various phases through various actions throughout the year, and I will basically go through that in just a moment.

But the aspects that we're asking to modify today are limited to three aspects of the approved -- a portion of the approved plan. The first of this aspect is a dewatering. We're seeking clarification that dewatering in accordance with the plans and a process that have been meticulously worked out with the Natural Resources staff and county staff can occur on the remainder of the mining -- on the site.

The second is a modification to the phasing plans that were previously approved by resolution for a portion of the mine.

And the third aspect of this request is to address a wetland impact that inadvertently occurred

during the mining process to approximately .79 acres of wetland area that was inadvertently mined during the recent mining processes.

If I could put some aerials up on the board to help me. I probably should have done this before.

If I could move to the aerials, the larger aerial here, which I guess would be Applicant's Exhibit 1, if I could refer to it in that manner, shows the general location of the mine relative to the surrounding area.

I'll put my hand over generally the area of the mine here so you can see in perspective where it is.

(Applicant's Exhibit No. 1 was marked for identification.)

MR. SCHROPP: This is Alico Road leading eastward from I-75. At this point where Alico bends south, there's an extension or what we called an access road or internal access road back to the mine that has been in place for many years that leads back to the mine.

In perspective here again, this is Alico Road running south and Corkscrew Road at the bottom of the aerial. Just for your reference point, some other projects that have been through the process through the years, particularly in terms of mining.

The Youngquist (ph) Mine is here and also over on

the west side of Alico Road, and then the Rinker Mine, which used to be the old Florida Rock Mine, but through transactions is now owned by Rinker.

HEARING EXAMINER: So everything that's outlined in the purply color there, the hot pinky color, whatnot, is actually mines?

MR. SCHROPP: Yes, that's correct. And, in fact, it does not include this Youngquist Mines on the portion to the west of Alico Road there. And, of course, this old mine area over here, that used to be the old Florida Rock Mine. And you can see some additional mining down on the south side of Corkscrew Road that I believe being the old RMC Mine, in perspective of this area here and, of course, the airport's up at the far northwest corner of the aerial.

This is a little bit more of a closeup of the

Florida Rock Harper Brothers mining operation. I'll refer
to it invariably by different names, either as the Florida
Rock Mine, the Harper Brothers Mine or the Green Meadow
Mine, but that's mainly because I've been involved with it
since about 1984. So my familiarity with it transcends,
I guess, the various names for the mine.

But, just generally, the original mine, and I'll take you through it historically, the original mine for Harper Brothers was approved in 1981. And it basically

applied to the southern part of Section 2. And that -I'm going to put my hand pretty much over what would be
the original mine that was approved in 1981. It was 480
acres. And approved by special exception with a general
excavation permit in 1981.

In 1984, culminating in 1985, the first expansion to the Harper Brothers Mine was requested for rezoning and approved on April 15th, 1985.

And it basically applied to the northern part of 2, Section 2, which is here (indicating), the eastern half of Section 3, which is here (indicating), and the southern portion of Section 35, which is up here (indicating).

So as of -- and that was also approved by special exception in the AG-2 district. So as of 1985, the mining operation approved by special exception in the county consisted of all of Section 2, the east half of Section 3, and the southern portion of Section 35.

And if you look closer at these aerials, you can see the section marks, but probably can't see them from there.

HEARING EXAMINER: No.

MR. SCHROPP: That is how the mine stood after 1985. You may be aware that in the late '80s there were refinements to the zoning regulations that required larger mining operations to go through the Industrial Planned

Development process, so when Harper Brothers looked at expanding the mine again in the late '80s, they proceeded through the IPD rezoning process for the future expansions.

And, essentially, the expansions occurred in this manner. The first expansion occurred in 1988 and covered Section 1 and the northern part of Section 12 over here, which was rezoned in 1988, modified in 1992, and again in 1996, to add additional land over here in Section 11 at this point here, again following the boundary of what's shown there in purple.

Again, that was approved through an IPD, approved in 1992, which actually superseded, I believe, the 1988 zoning resolution, and then a 1996 modification which added the last remaining 80 acres in the southern part of Section 11.

In 2001 there was a modification done to the entirety of what I'll call the expansion mine, and by that I refer to everything that was zoned IPD in Sections 1, 11 and 12, and that basically -- the main change there was to increase the depth of the mining operation to 68 feet, which is the presently permitted depth for the mine expansion area.

That's a general overview of the history of the permitting or zoning of the mining operation that I've

referred to overall as the Green Meadow Mine. 1 The portion 2 that we are dealing with today applies only to the expansion area that was approved by IPD zoning throughout 3 the late '80s and up to 2001 was the last modification. 4 And, again, that is the boundary shown here, 5 Sections 1, 12 and 11. 6 HEARING EXAMINER: All right. So the first part 7 of this, the Section 2, the east half of 3 and the south 8 half of 35, those are still under the special exception, 9 they've never been rezoned to an IPD? 10 MR. SCHROPP: That's correct. 11 12 HEARING EXAMINER: Okay. MR. SCHROPP: With that little bit of overview 13 just to sort of trip through history, I'd like to talk --14 just give an overview of the issues that are associated 15 16 with this request. As I indicated, the first one is dewatering. We 17 18 have requested and are seeking clarification as noted earlier that dewatering can occur in accordance with the 19 process that we have worked out with staff and with which 20 staff concurs. 21 In order to understand the need for this 22 23 clarification, I need to review briefly the history of

clarification, I need to review briefly the history of this portion of the mine and the pertinent treatment of dewatering in past approvals and conditions that were

24

25

issued by the County Commission ultimately in connection 1 with dewatering. So with your indulgence, I'd like to 2 pass out -- I guess, if I could keep everything straight, 3 the second aerial I guess would be Applicant's 2? HEARING EXAMINER: Yes. 5 (Applicant's Exhibit No. 2 was marked for 6 identification.) 7 MR. SCHROPP: If I could pass out a series of 8 zoning resolutions appropriate to this property, both the 9 original mine and the new mine, and ask that that be 10 11 accepted as Composite Exhibit 3 for the applicant. 12 HEARING EXAMINER: Okay. 13 (Applicant's Exhibit No. 3 was marked for identification.) 14 15 MR. SCHROPP: Composite Exhibit 3 is a series of resolutions that have been approved throughout the years 16 17 that reflect the approvals that I just went through historically. And what I'd like to do is just briefly 18 point out the conditions that have been applied to the 19 20 project pertinent to dewatering throughout the years. The first approval, as I indicated, was for the 21 original mine site in the southern part of Section 2. 22 with any luck, if I did my collating right, the first 23 resolution on the top of the package is Resolution 24 Z-81-185. 25

And as you can see, back in the dawn of zoning time for Lee County at the time this mining was approved, there were no conditions attached to the approval at all specifically with regard to the special exception for general excavation.

There was following that in 1983 the second resolution that's in your package as ZAB-83-260(a), and I think I've also got 260 attached to that, which was a reaffirmation of the general excavation permit granted in 1981, was still applicable to the original 480 acres.

And, again, as you can see, there is no condition -- really conditions at all, much less conditions attached to the resolution.

The first expansion to the mine, as I indicated, went to Sections -- north part of 2, east half of 3 and the southern part of Section 35, and that's Resolution ZAB-84-195. And there for the first time dewatering is actually addressed as are a number of other issues in connection with the permit itself or the approval itself.

But if you flip to the final page of that resolution, ZAB-84-195, you'll note there's a condition which says, "No dewatering of the pits which would lower the water level shall be performed." Not an outright ban on dewatering, but a condition saying that no dewatering that would lower the water level, we presume, of the

excavation pit, or perhaps that's open to interpretation, but that was the condition that was approved at that point.

1

2

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

And, again, that condition applies only to Section -- north part of 2, east part of 3, south part of Section 35.

In 1985 we were required under the then existing regulations to obtain a renewal of the original permit that was granted in 1981 for the original 480 acres, and that's the next resolution that's in your packet. It's ZAB-85-49. And at that point in the renewal of that general excavation permit, the county inserted a condition on the approval of the original 480 acres, and that condition pertaining to dewatering in particular is recited as Condition L on Page 3 of the resolution, and it says, "No dewatering of the pits which would lower the water level shall be performed." Essentially the same as the previous resolution that I went over. And given the timing of these two actions and resolutions, they were, I believe, months apart, one in April of '85, one in June of '85, the conditions were made to be -- or reflect the same.

However, at that point, we had what we thought was a significant legal issue between Harper Brothers and what the county was trying to accomplish, that being that

we did not believe that the county had the ability -based on the evidence that was presented at the hearing
and through the application at that time, we believe that
the county did not have the ability to apply new
conditions to the already approved general excavation. So
we filed a suit challenging the validity of the conditions
attached to the renewal permit in 1985.

That litigation hung around for a couple of years, but ultimately was resolved through a stipulation and Settlement Agreement that is the next document contained in the packet. And, basically, Harper Brothers and Lee County at that point agreed on the specific conditions that could be applied to the renewal permit that was approved in 1985.

And, again, we dealt with dewatering in Condition L, but the condition agreed to between Harper Brothers and Lee County at that point was significantly different and reads "Dewatering of the surficial aquifer, i.e. the aquifer above the first confining layer, shall be permitted if approved by the South Florida Water Management District. No dewatering shall be allowed from the sandstone aquifer or any other aquifer below the first confining layer. This provision shall not preclude Harper Brothers from drilling and utilizing wells into aquifers located below the first confining layer if approved and

permitted by the South Florida Water Management District and Lee County."

So at this point we started having a divergence of conditions applicable to dewatering in connection with the mining operation.

Now, keep in mind up to this point we're still just dealing with the original mine and the first expansion which are under the special exception for AG and really aren't a part of the request today, but I point them out just as historical -- for their historical value and also to kind of point out later on the condition of all the dewatering conditions as Florida Rock came into operation of this property in 1999 and 2000.

As I indicated, the expanded mine really started being approved in 1988 under the IPD, and that's the part of the mine that we are dealing with today which are for Sections 1, 11 and 12.

In 1988 rezoning was approved by Z-88-210, and bear with me, I didn't highlight it on this copy of the resolution so it's going to take me a minute to find it.

MR. BLOCK: 9(b).

HEARING EXAMINER: Page 3, Page 4, 9(b).

MR. SCHROPP: Yes. On Page 4, Condition 9(b).

And, again, we have a little bit of a divergence of the condition pertaining to dewatering, but it reads

specifically, "No dewatering of the pits for excavation purposes shall be performed unless permitted by the South Florida Water Management District and expressly approved by the Board of County Commissioners at a later date.

"This condition shall not prohibit the use of ground water in connection with the rock crushing process if done in accordance with the South Florida Water Management District rules and permits."

That was applicable to Sections 1 and 12. It was the initial portion of the expansion that we're dealing with today.

In 1992 the mine added I believe about 480 acres, 500 acres in Sections 11 and 12 of the mining operation, and, again, I'll step to the aerial, to include the northern portions of Section 11, the extreme southern portion of Section 12 at that time. And that was approved by Resolution Z-92-036(a).

There was actually an 036 without an (a), but there was a minor correction that had to be made, so I think I've only provided to you Resolution Z-92-036(a). And that dewatering condition is reflected in Condition 12, and is essentially similar to the '88 condition but says, "No dewatering of the pits for excavation purposes shall be allowed. This does not prohibit use of ground water in connection with the rock crushing operations if

1 approved by the South Florida Water Management District." 2 In 1997 --3 HEARING EXAMINER: Can I stop you there for a second? 4 MR. SCHROPP: Sure. 5 6 HEARING EXAMINER: All right. They've been talking about dewatering of the pits all up until this 7 8 point. Now, all of a sudden we have the phrase "for 9 excavation purposes." What's that supposed to mean? MR. SCHROPP: Well, that's the essence of what 10 11 I'm getting into at the end of this, but the phrases of the pits and for excavation purposes, as I'll go through 12 and momentarily -- we're open to interpretation, differing 13 interpretations I think it's fair to say between staff and 14 Florida Rock as this evolved in the more recent history. 15 16 So if I can go through the conditions, I think I can get to the answer to the question. 17 18 HEARING EXAMINER: All right. MR. SCHROPP: In 1996 and '97, the final addition 19 of property was made to this operation, and it was the 20 21 southerly 80 acres in Section 11, roughly down here where this aerial reflects it has already been excavated. I 22 believe this is an October of '05 aerial, so it's several 23

years old. There's been more excavation than what's shown

on there. But the '96 resolution, actually it's Z-96-068,

24

25

was approved in 1997, Condition 5, has yet another 1 2 dewatering condition that's different from the rest and basically says, "There may be no dewatering in conjunction 3 with this excavation." And I think that's really the only condition that 5 clearly reflects that dewatering is probably -- is not 6 7 permitted as part of the mining in conjunction with this operation. But keep in mind, this resolution applied 8 only to the southerly 80 acres of Section 11, did not 9 modify the remainder of the operation that had previously 10 11 been approved. HEARING EXAMINER: At this point in time then, 12 there are three conditions on the expansion relating to 13 14 dewatering or just two? MR. SCHROPP: I think there's three, but two are 15 16 virtually identical. HEARING EXAMINER: Okay. 17 MR. SCHROPP: And then there's a couple others 18 that are applicable to the old mine. 19 HEARING EXAMINER: Right, to the old mine. 20 since we're not working the old mine, I'm sort of ignoring 21 it. Okay. 22 MR. SCHROPP: That's fine. 23 And then the final action, I guess, that is 24

included in your packet is Resolution Z-00-076, which was

25

approved in 2001. And this does not add a condition on dewatering I don't believe. Chip, correct me if I'm wrong. But I think it relied on the previous approvals that were granted for the remainder of Section 1, 11 and 12. And as I indicated, the primary purpose of this resolution was to increase the depth of excavation from 55 feet to 68 feet over the entirety of the mining operation.

It also modified the phasing schedule, as I recall, to reflect what was then the current proposed operating schedule.

That's a rather painful summary of the zoning history of the project, but you've got it all before you, and I wanted to specifically point out the dewatering conditions.

As Florida Rock took over the mining operations of this project from Harper Brothers in the 1999, 2000, 2001 time frame area and moved into Sections 1, 11 and 12, to a greater degree than what they had been and not realizing that there was this divergence of conditions throughout the entire mine, both the old mine and the new expansion, they engaged in a form of dewatering activity that Mr. Martin will describe for you with greater detail shortly.

This was not intended as a violation of any

zoning condition obviously. It was not hidden, it was not obfuscated in any way, and Florida Rock thought it was a perfectly acceptable thing to do under the conditions that they were aware of. And given the mish mash of conditions, I think it's probably a reasonable assumption that varying interpretations can attach to the conditions.

In particular you've noted that one of the conditions refers, and it's the condition that refers to the bulk of this area that's the subject of the hearing today, one of the conditions indicates that no dewatering for excavation purposes is permitted. It also says no dewatering of the pits is permitted. Kind of begs the question, what is encompassed by the term of the pits and what is encompassed by the term for excavation purposes.

More to the point, Florida Rock at this point had a dewatering permit from South Florida Water Management District which is the agency primarily involved in regulating the use and consumption of ground water, as you know, in the state. And if I may, I probably should pass out the Water Management District permit for the record so that you have it in your file.

HEARING EXAMINER: Now, the Resolution Z-00-076, this was to amend the IPD, to modify the approved phasing schedule and increase the depth of excavation. I note in here that in Condition 6 it talks about the phasing being

amended, and it then goes on to say all previous conditions of Resolution Z-92 and Z-96, et cetera, related directly to phasing are amended by this condition.

They didn't have any -- there was no consolidation of this?

MR. SCHROPP: There was no codification or consolidation of conditions, I believe, Chip?

MR. BLOCK: That's correct.

HEARING EXAMINER: Okay. So that's the closest that it came and that related only to the phasing schedule because typically when they start doing these, they do a -- trying to do a recodification and a voiding of all the previous resolutions rather than being governed by about 16 different resolutions when you've got to figure out what you're doing.

MR. SCHROPP: And that's a wonderful idea, and that's what we're proposing to be done today as you can see from the Staff Report which I'll get into in just a minute. But Chip has taken it upon himself to kind of codify the conditions from all previous resolutions so that we have one set, delete the ones that are no longer applicable and modify the ones that we need to modify at this proceeding and then have only one resolution or instrument that will control what I'll call the mine expansion in Sections 1, 11 and 12.

*±

What I have just passed out to you are two documents, and I don't know if you want to call them separate exhibits or a composite exhibit, but they both reflect the South Florida Water Management District dewatering permit.

HEARING EXAMINER: All right. One is from the
Water Management District to Harper Brothers and the other
one is from Florida Rock to the South Florida Water
Management District. Let's list them as two separate
exhibits, please. No. 4 will be the Water Management
District's letter to Harper Brothers and No. 5 will be the
Florida Rock letter to the Water Management District.

(Applicant's Exhibits Nos. 4 and 5 were marked for identification.)

MR. SCHROPP: You can certainly review these documents in greater detail when you start deliberating on this case. The letter from the District to Harper Brothers dated August 22nd, 2003, actually attaches the dewatering permit that was authorized at that point by the District.

And I just call your attention, I guess, to one particular condition. Condition 26 on the last page of that permit requires the dewatering process to be conducted -- I'll just read it. "Operation will take place in 100 x 300 foot cells and dewatering effluent will

be routed to recharge trenches, retention areas and previously constructed cells as necessary to contain all dewatering effluent on site and keep recharge trenches above minimum levels."

Mr. Martin will describe in more detail the process that's being used here, but what is envisioned is that we don't dewater from the pits. We dewater from what's called a dewatering cell which opens up the next area to be excavated and become the pit.

Therein lies some confusion in interpreting the conditions we've previously gone through. Harper Brothers didn't view this as dewatering of the pits, they viewed it as dewatering of a dewatering cell that was not precluded by the zoning resolutions that are currently in effect.

I point it out at this point because this condition requires the cells to be 100 x 300 foot cells.

The letter, which is the next exhibit, from Florida Rock to the District confirms a letter of modification to the permit to allow the cells to be an average of 200 feet by 1,000 feet with a maximum of 400 feet by 1,000 feet.

The cells as permitted originally were just found to be too small to do meaningful excavation as part of the process. So the cells are allowed to be up to $400 \times 1,000$ feet.

Under the conditions that I have just described and the dewatering permit that I've just passed out, Florida Rock was engaging in dewatering in Section 11, in Section 1, and a county inspection in late 2005 noted that, and the county wrote us a nice letter saying we think this is a violation of your permits because as we interpret the permits for Section 1, 11 and 12, it says, no excavation of the pits for excavation purposes is permitted for the bulk of the property.

As you recall, the 180 acres section is more explicit and says that no dewatering shall occur. However, at this particular time, and it's interesting that this aerial kind of coincides with the time of the county inspection, that condition I think was applicable, condition of no dewatering was applicable primarily to this area that had already been excavated. And so dewatering was kind of a moot point I guess lawyers would say.

As I have kind of indicated, we believe at the time that we received this letter from the county asserting that it was a violation, we believe there was a certain amount of ambiguity in the conditions that would justify us taking the position that dewatering in the manner that we are conducting it, that Mr. Martin will describe, is not precluded by the existing zoning

regulations or zoning conditions.

However, we thought the more prudent and more certain approach was to try and clarify the conditions by going back through the zoning process, certainly is the more congenial approach and we try to resolve things amicably wherever we can.

So I notified the county that we would be filing an application to, among other things, address dewatering and clarify that dewatering in the manner proposed and conducted on the site is a permitted use under the zoning conditions.

However, I guess I need to state, I guess, for the record that should the zoning action not be successful, I don't want our appearance here to be interpreted as a waiver of any defense to any future code enforcement case that we might have to participate in if this is not resolved through the zoning process.

So at this point that's where we are with regard to dewatering, and I apologize for the depth of the presentation, but I think I needed to get it all out on the record as to where we are.

Attached to the Staff Report there's a letter from Tony Waterhouse of the South Florida Water Management District confirming that the status of the dewatering permit issued by that agency is still active.

The proposed solution we have in this rezoning is to recognize the dewatering under a very specific process with safeguards to ensure that there are no impacts to ground water and a comprehensive monitoring program to detect any issues that may arise in the future be approved at this time. As I indicated several sometimes, Kirk will address that in more detail.

The second aspect of the request today is a phasing modification, and I guess, if I could -- I'll be briefer with this one, much briefer.

The currently approved phasing plan is on the board to the left which probably should be identified as an exhibit, whatever the next one is.

HEARING EXAMINER: It will be No. 6.

MR. SCHROPP: No. 6 would be the presently approved mining plan with phasing on it. And it delineated three separate phases throughout the entirety of Sections 1, 11 and 12.

Phase 1 is shown by this cross-hatched area here, here and here (indicating), and so it was basically intended to be Phase 1 over three separate areas.

Phase 2 would pick up out of this phase, north of that Phase 1 and to the north of that Phase 1.

And then Phase 3, the final phase, was the area here (indicating), that cross-hatched area.

1

2

3

4

5

6

7

8

9

10

11

12 13

14

15

16

17 18

19

20

21

22

23

24

25

The current proposed phase modification delineates a Phase 1, which is primarily Section 11, which is nearly completed at this time. And then a Phase 2, which is broken down into five sub phases for varying years that will follow completion of the excavation in Phase 1.

Tom McLean, the project engineer, will describe the mining process that is used at this point. There's been some changes in equipment through the years and changes in processes, and he'll describe why this phasing approach is required for the current operations process. I'm probably not qualified to get into that level of detail. But that describes or shows the differences in the phases.

But as you can see, the first of the Phase 2 sub phases begins in the center of Phase 1 and then works its way out, Phase 2, Phase 2.2, excuse me, and then 2.3 I've lost, 2.3 here and 2.4 and 2.5 over here. So it basically starts at the center and works its way out and Mr. McLean will go through the reasons for that.

The third aspect of the request today is to deal with the wetland impact that inadvertently occurred. don't know how else to say it. But if I could pass out one additional handout here dealing with that issue.

And where we're dealing with, if I could step to

the -- utilize the currently existing plan, there is a wetland down here in the far southwest corner of Section 11 which was to be preserved and there was a setback from that wetland to the excavation area which you see the cross-hatched area there.

1.4

Currently, the current mine plan on this plan reflects that excavation will occur into the wetland area here and denotes a 3.87 acre impact. That's not entirely accurate, and I'll go over the reasons why.

As reflected on what I just passed out, sometime in 2001, 2002, excavation began in Section 11. During the excavation, the southwest corner of Section 11 where this wetland is located, there was a wetland field that's outlined on the Master Concept Plan, and the mining setback limits between the wetland and the approved mining area was breached, was basically excavated and excavation occurred into an area of the wetland that was a wetland field, if you will, occurred up to an area where there had been a berm established.

And if you can look at the aerials that are attached to the exhibit that I just passed out, you can see the progression.

The first aerial basically reflects the section as it existed in 1998 and the aerial below that reflects the agricultural ditch that was used on the Master Concept

Plan to denote the wetland boundary at that point.

Flipping to 2002 on the next page, you can see where the excavation has occurred as of that point and has excavated the setback area from the wetland as well as a portion of the wetland that existed at that time.

The next aerial just is a before and after quick and dirty comparison of what we're dealing with.

On the fourth aerial, fourth page, the red line depicts an approximate -- the wetland field that was excavated that was shown to be preserved or intended to be preserved as part of the original plan.

The next three slides are, I think, probably the most important for purposes of the presentation. The next one is -- the green line represents the extent of the permitted excavation on the current Master Concept Plan.

You can see that it was -- the excavation is extended past that in areas at this point.

The light blue line represents the extent of the wetland boundary that was shown on the Master Concept Plan. And the distance, the difference between the blue area and green area is not wetland but was upland that was supposed to be setback area. In other words, it wasn't wetland area but was intended not to be excavated as a setback from the wetland area.

The next page reflects that more or graphically

without an aerial but basically shows the same information.

And the last page in your packet actually reflects the acreages that are involved here.

The wetland area impact shown there in the red cross hatching has really been calculated as about .79 acres rather than 3.87 acres of wetland impact. And the total impact area that reflects non wetland area that was excavated that wasn't shown to be excavated on the Master Concept Plan, the total area of impact was 2.26 acres.

I think when we submitted the original Master

Concept Plan modification as part of this application, we simply took the area of the entire wetland and setback area for modification.

So that explains what has occurred and how. It was simply an oversight in the field where existing berms were followed rather than flagging, and we're here trying to correct that situation through essentially after the fact recognition.

The Staff Report addresses the conditions and basically indicates that mitigation and compensation for the impacted wetland will be worked out with the Water Management District prior to issuance of Development Order mining operations permit for the project. And, quite frankly, that may be done by permit modification or it may

be done by consent agreement. We need to visit with the District after this hearing.

That basically concludes my presentation of the issues that are up for discussion today or that we are asking to modify.

I would like to, if I could, address Staff
Report, and, Madam Hearing Examiner, I'm going to work off
the memorandum that Chip filed with you yesterday, January
14th, because that reflects the modified conditions and
findings that are contained -- the most recent proposals
by staff.

And as I indicated in my memorandum to you yesterday, we are in agreement with the conditions and recommendations of staff. There are a few minor tweaks and corrections that I would respectfully suggest in this memorandum.

The first occurs on Page 2, and it's more of just a verbiage change. The finding and conclusion 2.c on Page 2 of that memorandum says that "The requested amended IPD zoning as conditioned is compatible with existing or planned uses in the surrounding area as the proposed dewatering of the excavation is not have," it probably should say "will not have negative impacts on the quality and quantity of water available."

The next minor correction would be on Condition 1

of the amended conditions by staff on Page 3 of the memorandum where it begins "The development use and reclamation of this property shall be in accordance with the ten page Master Concept Plan." The date reflected there is February 22nd, 2007. There was a later submitted plan that occurred at or shortly after Chip did the original Staff Report, so the updated version doesn't reflect the new date on the amended Master Concept Plan.

That date as shown on this exhibit, the last revised date is 09-07-07, September 7th, 2007. So I'd respectfully suggest that that condition be reflected -- reflect that date.

HEARING EXAMINER: Okay.

MR. SCHROPP: Then the only other things I'll talk about are the environmental conditions that are contained in primarily Conditions 20 through 25. And I may need help from Suzie, but Conditions 23 and 25 reflect a 3.87 acre wetland impact. That probably, I would respectfully suggest, needs to be changed to reflect the wetland impact was 0.79 acres based on the information that was just provided to you.

And we'd certainly subsequent to this hearing be happy to submit a revised Master Concept Plan that delineates what we just passed out or reflects more clearly what we just passed out.

The other is, and I'm losing it here, but there 1 was a condition, I think, that dealt with doing a 2 protected species survey. Suzie and I can't find it at 3 this point. For the remainder of the wetland --4 MS. DERHEIMER: No. 12. 5 MR. SCHROPP: No. 12. Thank you. 6 Protected species survey, I think it was staff's 7 feeling that the remainder of the wetland was likely to 8 be -- was intended to be impacted by what we had 9 originally submitted. It is not. We're going to leave 10 11 the remainder of the wetland as it is. Oh, yes, it is 25. HEARING EXAMINER: Okay. I've got two 25s on 12 mine so I think that 25 on the following page should be 13 14 26. 15 MR. SCHROPP: Yes. And the first 25 talks about 16 doing a protected species survey for the remainder of the wetland but that's going to be --17 18 MS. DERHEIMER: I didn't get January 14th, I I only got the 11th. 19 apologize. That's going to be -- the remainder 20 MR. SCHROPP: of the wetland will remain on site. It's not proposed to 21 be impacted. The part that has been impacted, there's 22 really no sense to do a protected species survey because 23 it doesn't exist anymore, so we would respectfully suggest

that that condition can be deleted upon correction of the

24

25

Master Concept Plan that reflects that the remainder of the wetland will remain on site.

I'll let Suzie address whether that's acceptable with her, but I believe it is.

HEARING EXAMINER: Okay.

MR. SCHROPP: With that, I think that concludes our -- at least my portion of the presentation in chief. The remainder of our presentation I would like Mr. McLean to go next, and he'll explain the phasing modification in a little more detail and explain why it's necessary. Next we'll have Kirk Martin address dewatering in a little more depth, explain the process that's involved here and what has been worked out with staff. And then I'd like to have Ed Ladd address just one minor operational aspect of the operations out there that we think further supports the need for the dewatering process that we have proposed.

Ken Passarella is here. I had not planned him to speak directly to this. If you have any wetland questions with regard to the quality of the wetland or the nature of what's been done or anything else, he's certainly here to answer any questions. But the wetland impact is fairly straightforward as we've laid it out.

I didn't think I needed to bring him up for our presentation in chief. But if you do have any questions of him, we're happy to make him available.

HEARING EXAMINER: Maybe you can just answer one question for me, Russ. Is this the only time that a wetland has been impacted during an excavation on this project?

MR. SCHROPP: There -- actually, gee, and Ron may remember this better than I do. There was an impact in Section 1 at one point or did we -- there was an impact to this wetland here inadvertently, 1992. It was in the '90s at some point because we went to staff and administratively resolved it. It was restored, but, again, it was a relatively minor impact to this wetland on the east side of Section 1.

Ron reminded me, it was actually done as part of the farming operation on the site rather than part of the mining. There was no mining occurring at that location at that point. It was the farmer that got a little carried away.

HEARING EXAMINER: It was still part of the AG.

MR. SCHROPP: So that was resolved. As we have done here, we came in at that point and county pointed it out to us and said, hey, it was a mistake in the field and we need to correct it.

HEARING EXAMINER: All right.

MR. SCHROPP: Thank you.

If there's no further questions, I'd like to call

```
Tom McLean as our next witness. He has previously been
 1
     accepted in this forum as an expert in civil engineering,
 2
     and I would tender him as an expert in that field today.
 3
              HEARING EXAMINER: Okay. Civil engineering with
     a specialty in water management?
 5
              MR. SCHROPP: Water management.
 6
              MR. McLEAN:
                           Yes.
 7
              HEARING EXAMINER: Okay. Any objections from
 8
     staff?
 9
10
              MR. BLOCK: No, ma'am.
              HEARING EXAMINER: County Attorney?
11
              MR. SPICKERMAN: No, ma'am.
12
              HEARING EXAMINER: Okay. Accepted.
13
14
     Thereupon,
15
                            TOM McLEAN,
     called as a witness by the Applicant, having been
16
     previously duly sworn, was examined and testified as
17
     follows:
18
19
              MR. McLEAN: For the record, Tom McLean with Hole
     Montes for the applicant. And, again, I'm going to speak
20
     to phasing and the need for the change on the Master
21
     Concept Plan. I'm going to step over there.
22
              As Russell pointed out, this exhibit -- I can't
23
     remember the number, whether it's 5 or 6.
24
              HEARING EXAMINER: That's No. 6.
25
```

MR. McLEAN: -- is the current approved Master Concept Plan from Zoning Resolution Z-00-076, which dealt with the depth change of 50 to 68.

1

2

3

5

6

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

As you can see it has a Phase 1, Phase 2 --Phase 1, Phase 2 and Phase 3. Basically, Phase 1 starts out in the farthest point from the mining operation, and it moves generally towards this point, which is -- you can look on an aerial photograph here, it's moving to this point right here (indicating) which is one of the roadways that allows the off-road dumps to get into the plant. So they were trying -- the theory was to excavate from the farthest points out to the closest point in. And while it saves haul road time, if you will, for the off road dump trucks to get it to the plant, it really would cause the excavator that -- these are large drag lines, electrically operated drag lines, to walk in these linear operations. So they would start at one point and move all the way down and bring it all the way back and start again. And it's a linear process which they're excavating this way and they're just walking it back to the starting point, which is in today's world inefficient with the fuel costs and electric costs.

So what they're asking to do is to go to Exhibit No. 7 or 6?

HEARING EXAMINER: That is going to be No. 7.

(Applicant's Exhibit No. 7 was marked for identification.)

MR. McLEAN: Which is the new Master Concept Plan for this particular case. Again, we've discussed that Phase 1 is over in Section 11, it's approximately 90 to 95 percent complete. In fact, I believe they're excavating in the last northern portion of it.

The new process really will take place in what we call Phase 2, further broken down into Phase 2.1 to 2.5.

They're going to start with what it is called a key cut which runs right down the middle of Phase 2.1, either from the south to the north or from north to south. But it starts the excavation in one direction and actually proceeds in a circular movement from that point forward.

Basically, what it does, it's more efficient because there's less walking time. There's more excavating time.

And, again, in today's fuel costs and power costs, it's a much more efficient process and more cost effective.

One more point I'd like to point out on this particular Master Concept Plan that wasn't addressed. I made reference to they're working toward this line, which is that haul road towards the plant. We actually added an arrow that showed it. It previously was not shown on the current Master Concept Plan. That's the area I'm talking about. It mentions that it goes to the Harper processing

plant. 1 So that is my presentation, short but sweet. 2 Ιf 3 there are any questions. HEARING EXAMINER: Hold on a second. Questions, Russ, of your witness? 5 MR. SCHROPP: Just one. As a result of the 6 7 change in phasing, was there any increase in the actual excavation area proposed for that area? 8 MR. McLEAN: No, sir. 9 MR. SCHROPP: Okay. 10 HEARING EXAMINER: Questions by staff? 11 MR. BLOCK: No, ma'am. 12 HEARING EXAMINER: County Attorney? 13 14 MR. SPICKERMAN: No, ma'am. HEARING EXAMINER: I have a couple of questions. 15 MR. McLEAN: Oh, I'm sorry. 16 17 HEARING EXAMINER: Don't ever walk away without me asking you a question because it's going to happen. 18 MR. McLEAN: I apologize. 19 HEARING EXAMINER: That's all right. 20 Okay. I'm looking at the Master Concept Plan 21 copy that was submitted along with the Staff Report for my 22 review, and this is the proposed phasing which is the same 23 as Exhibit 7 up there. 24 25 The area that's actually got no indication of any

```
kind of little bubbles or triangles or octagons or what
 1
     the heck ever up there, stop signs, whatever those little
 2
 3
     suckers are, that area is a preserve area, those are going
     to not be mined?
                           Correct. They're setbacks from --
 5
              MR. McLEAN:
              HEARING EXAMINER: Okay.
 6
              MR. McLEAN: -- from well fields.
 7
              HEARING EXAMINER: I'm really looking at the big
 8
 9
     one right there.
              MR. McLEAN: Yes, ma'am.
10
              HEARING EXAMINER: All right. I guess my
11
     question is more logistic than anything else. The little
12
     back slashed area which is Phase 2.2, all right, there is
13
     no setback indicated on this for the preserve area. Does
14
     the hard line that indicates the preserve area include the
15
     setback, the mining setback already?
16
              MR. McLEAN: I believe that is the case.
17
              HEARING EXAMINER: All right.
18
              MR. McLEAN: The actual jurisdictional line would
19
2.0
     be within that.
              HEARING EXAMINER: Within that.
21
22
              MR. McLEAN:
                           That dark line, yes, ma'am.
              HEARING EXAMINER: Okay. So that -- okay.
23
              Now, this little fellow walks around, he drags up
24
     the dirt and I suppose at this time we're talking about
25
```

dirt, we're not talking rock yet, or are we talking both? 1 2 MR. McLEAN: Actually, it's going to be rock. Removal of what's called the overburden first, which is 3 the first 110, 120 feet, and I'll let Mr. Ladd speak to 4 the direct process of it, and then the large excavator 5 that we're speaking of actually works on a pad of crushed 6 7 rock and moves -- when you drive up to take a look at it, it's worth taking a look at the size of the machine to 8 appreciate it. 9 HEARING EXAMINER: Okay. So when do they start 10 actually loading the dump trucks? How do they get it from 11 here over to the processing area? Do they have the real 12 big dump trucks, I mean, the ones that have the 12 foot 13 14 tall tires on them and stuff? 15 MR. McLEAN: Yes, ma'am. 16 HEARING EXAMINER: Okay. MR. McLEAN: That's what I referred to as an 17 off-road dump. 18 HEARING EXAMINER: Okay. I'm having a little 19 trouble seeing the actual working of the phasing because 20 if you do 2.1 and then you start doing 2.2, then you come 21 out to do 2.3, how in the heck are you going to get this 22 little guy back there? Because when you get to 2.3 and 23 2.5, 2.2 and 2.1's already dug out. 24

MR. McLEAN: They'll leave paths for the machine,

for the actual haul road -- or the off road dumps to 1 actually move through the site. They won't dig through 2 that last but --3 HEARING EXAMINER: Okay. Because I could see 4 these guys having to get on a pontoon to get across. 5 was going to say that's not going to work. 6 7 Okay. I may have some questions of the environmental person on the little narrow neck there 8 9 between the Green Meadow Road and the preserve area and 10 how wide that is and how much traffic is actually going to be used on that and what measures are being taken to 11 12 protect the preserves from the dust and stuff that are going to come off those vehicles. 13 14 Okay. That's it. Thank you. 15 MR. SCHROPP: That's all I have. 16 If I could, our next witness, I'd like to call 17 Kirk Martin from CDN. He has previously been tendered and 18 accepted as an expert witness in this forum in the areas of geology and water resources, and I would tender him as 19 20 an expert in those fields today. 21 HEARING EXAMINER: Okay. Objections from staff? MR. BLOCK: No, ma'am. 22 23 HEARING EXAMINER: Okay. County Attorney? 24 MR. SPICKERMAN: No objections.

HEARING EXAMINER: All right. Accepted.

```
Kirk, do you have a doctorate or something?
 1
 2
              MR. MARTIN:
                           I do not. A lot of years of
     experience.
 3
              HEARING EXAMINER: Didn't know if we needed to
     introduce you and refer to you as Dr. Martin. We've had a
 5
     few of those doctors in the last mining hearing.
 6
              MR. MARTIN: For some reason, they keep making
 7
     the doctors work for me so somebody likes what I do.
 8
              HEARING EXAMINER: Okay. I'll accept him as an
 9
10
     expert then in geology and water resources.
              MR. SCHROPP: Thank you.
11
12
     Thereupon,
                            KIRK MARTIN,
13
     called as a witness by the Applicant, having been
14
     previously duly sworn, was examined and testified as
15
16
    follows:
               MR. SCHROPP: And I have copies, hard copies of
17
     Mr. Martin's upcoming power point presentation if you'd
18
     like them now or like them at the end?
19
              HEARING EXAMINER: It doesn't make any
20
     difference. I'll mark those down as Applicant's Exhibit
21
     No. 9.
22
              (Applicant's Exhibit No. 9 was marked for
23
24
     identification.)
              MR. MARTIN: I went to power point format due to
25
```

the fact that I've got a lot of slides, but most of them are very quick because what I want to be doing is I'll be showing you some sequency slides that shows the progress of mining, both in a horizontal and vertical view.

Hopefully, it will give you a good picture of what really goes on here.

HEARING EXAMINER: Okay.

MR. MARTIN: Overall I'll give you a site overview similar to what Russell already talked about. I'll talk about the geology of the different materials that we are mining and how we treat those materials. Then get into the mining dewatering methodologies, that's where I'll spend the bulk of my time. At the end I'll talk about the monitoring program we use to assure that there's no off-site impacts or adverse impacts and then summarize at that point.

Site plan is just showing the boundary as Russell talked about. This area is mined out (indicating). This area is currently being mined (indicating). And, of course, Section 1 and 12 are future. It shows the section numbers and then the mining areas that are part of this application. Section 11, Section 12 and Section 1 are the subject of this application.

The geology as discussed earlier consists of an upper section of what is referred to in the mining

industry as fill material. It's really unconsolidated sand, organics, et cetera. Overburden is another term that's used. That extends anywhere from about 5 to 20 feet in thickness. And that is the area, the material that would be considered for dewatering.

I think the requirements of the conditions require no more than 20 feet of dewatering, but that basically depends on the depth of material, it could be anywhere from 5 to 20 feet of material that would be dewatered.

Underlying that is the limestone. That's the aggregate rock that's mined. That process -- that thickness is somewhere between 40 and 70 feet and no dewatering is proposed there. That's all dug in the wet. And the purpose of the dewatering in the upper material is just to remove this material most effectively, most efficiently in order to get down to the rock material.

Underlying the rock material that's the primary target for the mine is a clay layer that separates the upper water table aquifer from the lower sandstone aquifer, and this clay is very continuous, very -- it provides a very good hydraulic requirement.

Conditions for mining, previous resolutions include no more than -- a maximum depth of 68 feet or the first confinement.

I'll come back to these vertical cross sections later, but I'm going to get into the methodology here a little bit. I'm going to talk about Section 1 because it's a nice big area that we can kind of talk to as to how the process goes. Then after I get done with that, I'll bring you back to Section 11 where the process is already ongoing to show you how that works.

Section 1, as Tom referred to earlier is going to start with a key cut. We essentially created dewatering cell. That cell can be no more than 400 feet by 1,000 feet. I think it's typical it's smaller than that, but that is the maximum extent.

The dewatering cell is cut down to the top of the rock. Water is pumped out of that and where that water goes then is pumped into a perimeter ditch. That perimeter ditch is required to be maintained for the water level in order to essentially clear the hydraulic barrier so that we're not affecting any water levels off site, thus the purpose of that perimeter ditch.

So, again, a dewatering cell, water pumped out of it into the perimeter ditch.

HEARING EXAMINER: Okay. Let me stop you there real quick then. So just for this one cell which is going to still be surrounded by the rest of the dirt and whatnot, the water is coming out of the $400 \times 1,000$ down

to the top of the rock?

Я

MR. MARTIN: Correct.

HEARING EXAMINER: So the rock is not going to really be exposed?

MR. MARTIN: Not at this point. One of the purposes of the key cut is to start getting into some of that rock material. I'll show you that in just a second. But they'll dewater this cell in order to get to that rock material. They'll excavate that to build their path to set their excavator on and start the process.

What you're going to see is a dewatered cell for the upper formation that essentially the next phase will show it, but as that falls along, they follow right behind that digging the rock out after the dewatering cell is filled back with water.

HEARING EXAMINER: Okay. So you're going to take the dirt out -- pump the water out, take the dirt out, put the water back in and then they're going to do the rock?

MR. MARTIN: Right. So the next cell then, you just start moving to this. Again, we're still cutting the key cut right now. You start with a new dewatering cell. The water pumped out of there would go back into the previous cell and still to the recharge trench that surrounds the site.

This process is continued until you get done with

the key cut ditch, at which point you start what Tom described as the circular fashion that just continue on with this. And this continues on and this keeps running the thing and essentially keeps the process moving of dewatering a cell to remove the overburden, moving to the next cell, dewater that, pump that water back in there and then start the excavation for the rock.

HEARING EXAMINER: Now, your trenches along the perimeter, what depth are we talking about on the trench?

MR. MARTIN: It's just barely cut. I have a cross section of that. It's just barely cut into the ground. I think it's like three to four feet deep with usually about two feet of berm on either side of it. They essentially dig out a ditch, make a berm on either side of it to allow water to be able to stack slightly up in that area.

HEARING EXAMINER: I wish you guys had been in the other hearing, I got all kinds of information in the other hearing about dewatering and about perimeter ditches and the trenches and the whole works and whether or not they worked and -- the water level in the ditch is going to be two to three feet?

MR. MARTIN: It's typically maintained near land surface. They are required to maintain that water level at 24 feet above mean sea level.

HEARING EXAMINER: So what's the surface level, though?

MR. MARTIN: 26, 27. Like I say, it's very near land surface.

HEARING EXAMINER: Okay. It's going to be two to three feet below the actual ground level?

MR. MARTIN: Correct.

HEARING EXAMINER: Because my main concern with that is the wetlands, typically your wetlands are, you know, 12 inches or so below the ground level in order to have the water to be a wetland, to stay a wetland. And if you start digging the perimeter ditch too shallow or too deep, it's going to start sucking the water out of the wetland instead of putting the water back in the wetland unless you've got the water in that trench clear up to at least where the wetland was or higher.

MR. MARTIN: That's a good point when we start cutting ditches. I mean, you know, the way we drain lands is cutting ditches and usually that means hauling water off or conveying water off somewhere else. In this case it's a closed system, a closed ditch, and again that water is maintained in the ditch. And I'll get into this, I'll be talking of the monitoring program, where staff did monitoring in the ditch and also 17 monitor wells all around the property, monitor for water level.

HEARING EXAMINER: Okay. Let me ask a question. The monitoring wells, now, they're all around the property. Are there going to be any monitoring wells in or immediately adjacent to any of these wetlands, especially the big one? I see you've got a nice big one there and you've got all those big ones down here in the preserve area. Are you having any kind of monitoring wells in those because if you're not, how can you tell what the water effect is in the wetland area if you're doing everything outside it, if you're monitoring outside it but not within it?

MR. MARTIN: I've got a figure that shows it more clearly. It's real small right here for me to tell. The intent is to monitor for off site water levels and for potential impacts in off site and wetland areas.

Generally, if we're showing that water levels are consistent, and we have a very wide array of a well distributed monitor network, typically you won't find a pathway between those monitor wells where water levels are drastically different. So the monitoring network itself provides good assurance. But, yes, the intent is to show that we're not affecting wetlands or anybody else on site.

HEARING EXAMINER: Okay. Okay.

MR. MARTIN: What I'm going to do now is go to a

vertical cross section. What I have done is shown you the pattern of cell dewatering, again just that upper material is dewatered. Now, I'm going to cut a vertical cross section west to east across here, and we're going to go through the same process.

Just refer back. We kind of zoomed in a little bit on our cross section. We've got our fill material, 5 to 20 feet. We've got our limestone that's 40 to 70 feet there, underlain by clay.

MR. LEE: I'd like to ask a question --

HEARING EXAMINER: Hang on until we get to staff's questions. I'll let you -- Sam, I'll let you ask him questions at that time, some cross-examination questions at that time. He's going to love that.

MR. MARTIN: What I've done here is I've started with the key cut. The key cut is in place here. If you recall, we cut the key cut with those series of dewatering cells. Once it's in there, again it's filled with water and the water in that lake is essentially the same as the ground water level that's surrounding it. Those water levels are the same.

HEARING EXAMINER: Right. And they should be.

MR. MARTIN: Yes.

HEARING EXAMINER: Is that a draw down at all?

MR. MARTIN: No. What you see in the lake, dig a

52 hole next to it in the ground, it's the same water level. 1 HEARING EXAMINER: Okay. I'm not sure I agree 2 with you on that, but we'll go on. I'll let Sam do the 3 questions on those. MR. MARTIN: Here we show an adjacent dewatering If you'll recall in my aerial view, we start with a 6 key ditch and then started the cells going around it. 7 what I have drawn here is a dewatering cell and we're 8 drawing water out of it and creating a draw down. 9 10 What you see is that draw down tends to be attenuated by the large lake here at the key cut. On the 11 other side, where we don't have any surface water body to 12 attenuate that draw down, we get some draw down and it's 13 14 running off site. 15 The modeling we did for this site shows that that draw down does not extend very far. However, we still are 16 applying recharge trenches to make sure there are no 17 18 problems. 19 HEARING EXAMINER: The recharge trench along the 20 perimeter is to ensure that there is no actual draw down from off site? 21 22 MR. MARTIN: That's correct.

HEARING EXAMINER: Okay.

23

24

25

MR. MARTIN: So here I've drawn the recharge trench in there and just to kind of flip back and forth real quick, you can see where the recharge trench has an effect on that water level by creating a constant hydraulic carrier and recharge water to that point so that we don't have any impacts outside of that trench.

Clearly we have impacts here inside the mining area, but outside of the recharge trench there are no impacts.

I'm just going to blow this up a little bit, zoom in. Just to kind of show you a dewatering cell, you've got pumps that go back to the mine pit. Again, this is full of water at all times. And then pumps that go to the recharge trench to create that hydraulic barrier and maintain water levels throughout the site or off site, rather.

HEARING EXAMINER: So those pumps are going to be working all the time then?

MR. MARTIN: That's correct. As long as that cell is being dewatered, those pumps are running. In terms of the process, it's about a four to six week process for each cell to be dewatered. So as soon as that cell is done, they move to the next one adjacent to it and pretty much a continuum and then back pump to that cell. So the total time of dewatering if four to six weeks per cell.

HEARING EXAMINER: Okay.

MR. MARTIN: And then the same thing, I'm just going to show you the sequence, that over time, the lake grows as we continue the process circular to the dewatering process. The large lake is maintained. We pump water into that lake and into the recharge trench as necessary.

Now, this is -- I want to show you something we refer to as vertical exaggeration. Any time we do geologic drawings, we always, in order to be able to see everything, we have to do what's called vertical exaggeration, which means the vertical scale is vastly different from the horizontal scale.

So what I've done just to kind of give you an idea, is I've gotten closer to a realistic scale so when you start stretching that scale back out, you see that -- in this case I've got a mine lake that's about a thousand feet across, a dewatering cell and a recharge trench which you can see, it's in a real scale, the resolution is far different. And I do that because it's easy to get confused. You get so used to seeing those vertical exaggerated drawings, that it's hard to realize what's really going out there. But this is to give you an idea what it really looks like in a real scale.

This is the Section 11 mining area. You recall that was the one to the south. The reason I wanted to

just draw you back to this, is this is ongoing right now.

And, unfortunately, the aerial I have is three or four years old, that's underlaying this. So what I've drawn in here is the current lake size. It is full of water. But, again, this process is going to be continued through 2008 with dewatering cells running along here and perimeter

I believe that Section 11 comes next and then Section 1 and then Section 12.

ditches surrounding the wetlands and off site.

Finally, all the analysis we can do is good, it's necessary, it's prudent, however, in my mind, the best assurances is a good mining program. What we've got is we have continuous water level monitoring, that's essentially a transducer in the ground that takes water levels I believe it's every minute throughout the property at 17 locations.

In addition to that, we have water quality monitoring that's done quarterly at four locations. Those four locations are located near the -- towards the north where the Lee County public supply wells are. So those are monitored quarterly for a number of parameters, physical and chemical parameters.

This is just a map of the monitoring array. And you had asked about wetland locations. So here we've got good monitoring at these. I don't have anything there, I

do have them, you know, on either side of it. But, again, we've got monitor wells at all these wetland locations, so I think the answer to your question is 90 plus percent, yes, on covering the wetlands specifically, maybe not this one.

HEARING EXAMINER: Okay. Okay.

MR. MARTIN: These are just some examples of some hydrographs. This is water levels through time and some of these marked wells. The three at the top are some longer term. These go back to January '82, so this is, you know, quite a long term monitoring. And these are some more recent ones that start back just this year. This is in Section 1 where they were currently mining.

What you can see is essentially the dewatering has been occurring at this site for decades. We had no appreciable effect on any water levels. You see that the highs are fairly consistent, the lows are fairly consistent. I'm going to blow into -- or zoom into one of these in just a minute and show you a more closeup. But essentially you can see there's no effect from our dewatering activities on a regional basis here, either long term or short term.

This is one of the marked wells located fairly close to the property. And, again, January '82 through pretty current. One of the things you can see there, the

highs are fairly consistent at the 27 foot range. The lows average probably in the 23 to 24. But you can pull out specific droughts here. And when people talk about water level changes, I mean, you can see a 1985 drought, '88, '89, 2000, 2001 drought was probably one of the worst we had.

Due to natural drought conditions, we've got water levels that are, in this case, you figure the average low is somewhere in the 23 range. We're down here at 19 feet, so you're looking at four feet of water level difference just based on natural conditions out there. So despite the fact we have consistency in our tops and bottoms, you zoom in, you can see the natural fluctuations that occurred. Again, no impact of dewatering activities on site are apparent in this.

HEARING EXAMINER: Kirk, where was that monitor, the 1892? Do you have any idea in reference to your property?

MR. MARTIN: I think it is this guy. It's one of these.

HEARING EXAMINER: So the original mine started in '81 and then they started monitoring in '82 or started it just say about the same time as the monitoring started. Okay. Is that the only monitoring, long-term monitoring station that you guys have in the area?

MR. MARTIN: No. Again, I have got four -- most of those are located north. Keep in mind that this was the early mining area. I don't know which wells they are. But it may be the corners like 1, 2, 3 and 4. I can confirm that for you.

I have names on them. There are four wells with very long term monitoring that went along with the original mining operation.

Of course, over time, wells have been added to the process. So at current we've got 17 wells and you can see the array is very good.

Just in summary, the fill dewatering that's described has been conducted for many years at the Harper Brothers mine. The methodology has evolved over time. Basically it's proven to be very effective in maintaining off site water levels. Some key characteristics of that is we have limited cell dewatering, fairly small cells both in terms of vertical extent and aerial extent, also in terms of time, and, you know, a month, six weeks of dewatering for any given point in space.

Also, we have a system perimeter trenches that keeps water levels from being affected off site or in any areas that we don't want water levels to be affected, wetlands in particular.

Finally, we have a very extensive monitoring

1 program that assures compliance with the water level and 2 water quality objectives at the site. 3 I'll be happy to answer any questions. MR. SCHROPP: I have one. Kirk, if I could bring 4 you back, and I don't know if you can bring it up there or 5 6 we can work off the hand version, but the Slide 10. 7 And the depth of the water levels in the recharge trench relative to the ground water level, can you 8 compare that? I mean, is the level in the recharge trench, the depth of the recharge trench, is that above 10 the water level, equal to, below? 11 12 MR. MARTIN: It depends on the time of year. the wet season, we're probably near water table. In the 13 dry season we're probably above it in terms of the 14 recharge trench. 15 16 MR. SCHROPP: So in the dry season the recharge trench would be above the water level? 17 18 MR. MARTIN: Very likely. As I pointed out in 19 that one hydrograph, too, if you had a drought condition, 20 water levels in a very dry, dry season could be much lower than that. They're required by the permits to be at 24 21 22 feet NGBD. 23 MR. SCHROPP: Thank you. 24 HEARING EXAMINER: Chip, anything? 25 MR. BLOCK: I think I have one question, and this

is my lack of knowledge of how things work.

Kirk -- for the record, Chip Block -- when you're looking at the recharge trench and monitoring the levels of the wells that you have there, how do you determine that the water levels have decreased below the surrounding area in those monitoring wells to the point that maybe the recharge trench is not working or something? What I'm trying to get at is that I see the monitoring wells around the edge of the mining operation, but the general area may itself have either lower water levels beyond your monitoring area or maybe higher levels beyond the monitoring area.

How do you adjust or can the recharge trench and the amount of water going into it be adjusted to address that point?

MR. MARTIN: It could be adjusted. I think one of the reasons they set up the dewatering permit is to set a stage for that because they wanted something to be simplistic to control. What to some degrees it has a self-regulating aspect.

For example, when you have a dry reason, water levels are lower, the differential head between a recharge trench and below would mean that more water is allowed to be pulled in there. You've got a greater difference in the head from the top to bottom, so more

water's in there. When the water levels are high, less water is probably entering the system because you have less differential. So it's not perfect, but it does have a self-regulating aspect to it.

MR. BLOCK: How do you make the comparison then for your monitoring well and the level of water in that to the ground water level further away from the site so that you know that you're not impacting the surrounding area?

MR. MARTIN: The marked well data are essentially around the perimeter of the site as you saw. If you were to see effects there, either high or low, you would know that you have a problem and you were adding too much water or we've got draw downs that are affecting it.

I don't know of any better way to establish that. Again, you saw the data that were presented. We're not having an effect that you can note in the data set. If you saw some spike ups or spike downs that were not associated with a drought or a flood condition, then, yes, I would look at the site and say are we doing something wrong here. But none of the data over two decades of time have shown anything like that.

Again, the monitoring is kind of our backup assurance. The fact we have small cells, limited time, limited vertical extent, limited aerial extent, that's all part of this plan to minimize the potential for impacts.

The monitoring plan is just to assure that we don't have 1 2 any. 3 HEARING EXAMINER: How deep are the monitoring wells? 4 5 MR. MARTIN: They vary. We've got some that are actually hand dug that are like, you know, 5 or 10 feet 6 We've got others that are 40 feet or so. It varies 7 but it's all tapped into the water table aquifer. HEARING EXAMINER: Dr. Lee, do you want to ask 9 him questions? 10 MR. LEE: Yes. 11 HEARING EXAMINER: State your name, please, for 12 13 the record. 14 MR. LEE: Sam Lee with Natural Resources. Basically, when I review their approach, the main 15 thing I can emphasize is that the recharge trench would be 16 17 utilized but in their estimation it's not considered a quantitative way of conservatively estimating the adverse 18 impact. So that's what I agree with them. 19 It's obvious if I ask him to head the recharge 20 trench for the added water, the draw down will be 21 obviously reduced from the one they estimated without 22 recharge water, sending the water to the recharge trench. 23 So that's what their standing point that we will operate 24

recharge trench but that important was not included in

their modeling explanation. 1 2 HEARING EXAMINER: So, in other words, they did the model without including the effects of the 3 4 dewatering -- or the, I'm sorry, the recharge trench. MR. LEE: With including. 5 HEARING EXAMINER: They did include it. 6 7 MR. LEE: Didn't include it in the model. HEARING EXAMINER: Did not include it, okay, in 8 9 the model. So then the result that they got in the model 10 actually was more conservative because the dewatering trench or the recharge trench over there is going to 11 12 actually make things better instead of worse? MR. LEE: Yes, ma'am. That's what I want to 13 14 re-emphasize everybody. Having said that, I just see your presentation 15 maybe not critical but in methodology, when you write this 16 slide, when you done this one, move on next one, how you 17 going to do this one? Previous slide, you're going to be 18 this one gone, the barrier. How you going to excavate or 19 remove this dirt when you move to next? 20 21 HEARING EXAMINER: There's the rock pad there. MR. MARTIN: I'm going to look at someone else to 22 23 answer that. 24 MR. SCHROPP: Probably Ed Ladd would be the best.

HEARING EXAMINER: Okay. State your name, Ed,

and if you would, answer the question. 1 2 MR. LADD: Ed Ladd, vice president of operations for Florida Rock. 3 MR. SCHROPP: And, Ed, before you get into that, 4 could you explain your duties in connection with the mine? 5 MR. LADD: Sure. My voice kind of carries if 6 that's okay. 7 HEARING EXAMINER: We'll pick you up on the --8 MR. LADD: I don't have a Doctorate or a degree, 9 and I can't say I stayed in a Holiday Inn last night. 10 This is my area of responsibility as far as this mine 11 12 goes. 13 As I understand the question, I'm sorry, one more 14 time for me. MR. LEE: When you got this excavation, then you 15 move up, and you previously said wider water, this barrier 16 is gone, when you do this excavation, move out, how you 17 going to excavate down? 18 19 MR. LADD: This progression, while it shows this 20 way, is also laterally this way. This is where the large drag line sits, this is the pad that it sits on. This is 21 22 the material along with the material directly under it that we excavate, and we pile that about directly above 23 this dewatering cell. And this dewatering cell 24

subsequently moves laterally till we get to the edge

the excavation. Does that answer --

HEARING EXAMINER: No. Because that raises a question for me because you got the darn thing and it's got to sit on the rock pad, okay, but you got a hole in front of it, you got a lake behind it, and you're going to dig out underneath it to put in the hole in front of it so it can move to the hole in front of it and sit on the rock pad there.

How are you going to dig out from underneath it?

I think that's what he's asking, how are you getting rid of that because the creepy crawler thing can't go anywhere, you know. I mean, where is it going to go while it's digging that out to fill in the dewatering cell?

MR. LADD: It moves. If you had, not a profile view, but so to speak a topographical view. The machine sits on this material.

HEARING EXAMINER: Right there.

MR. LADD: And it digs this material and deposits it into the dewatering cell, all right?

HEARING EXAMINER: So it's going to run along the side then, scooping it out behind it and dumping it in and backing up and scooping it out and dumping it in.

MR. LADD: It crawls laterally, if I can show you on this, it may be easier. You're looking at a profile

view. But let's say that it's right up in the top of 2.1, the machine moves laterally along the key cut, depositing the material. It fills the dewatering cell, creates a stockpile. That material is picked up, and as you had asked earlier how is it deposited in the trucks, and it is picked up with loaders and deposited in the trucks. These trucks move towards this point and then ultimately towards the plant.

So while that activity that you see up there, it is going on laterally on this side and then as the machine crosses, goes on laterally on this side, continues on.

And what we do is we continue to make a circular pattern and expand our way through the deposit towards the outer excavation boundaries. Does that make sense?

HEARING EXAMINER: Okay. So it's going to essentially be backing up and digging out and dropping?

MR. LADD: Correct. It sits on a stable foundation pad made of rock like you see in there. And it actually digs into the mine pit as is shown there. And what we're after is we're after this toe of the limestone material, and we dig that back and take our pad out from under it. So we kind of swing to, let's say, the left or the right, dig under water and recover this material and then swing over onto the pad that we have just sat on as we slide back and we dig that out and deposit it over

beside it. We just keep walking our way down the pit that way. So you expand this kind of laterally and maybe even longitudinally as you traverse it.

MR. LEE: So this is not the fill dirt, this is rock out of this here? This is the fill dirt?

MR. LADD: This is a rock pad. This has already been -- the fill dirt has already been -- originally this was this dewatering cell, and then it has been filled in by the rock that we swing and excavate and creates the pad that we sit on, and we create the dewatering cell beside it. And we just continue that process outwardly. I'm obviously not answering the question.

HEARING EXAMINER: I understand what he's saying. Yes.

Sam, what they're doing is when they're digging the rock out, the limestone out, they're putting it in what was the dewatering cell. They're now filling up that dewatering cell, okay, and that's where they take the stuff out and load it in the trucks and stuff. Then when they get to a certain spot, they stop on that because the creepy crawler is moving around and he's still digging, but what's going to happen is that as he comes around this way, he's now starting to dig into what had been his pad before, all right. And he's going to crawl all the way around digging out his pad and dumping it in that

dewatering cell while he's digging out the limestone underneath. And then he's got to move over to what used to be the dewatering cell on the limestone that he's deposited there and start digging next to it to dig out the dirt for his next dewatering cell.

If you've ever done any sewing, it's like making a square with a sewing machine, okay. That kind of thing.

MR. LEE: I guess I haven't a degree in mining for that.

Okay. Thank you.

Next question, can you show me that trench, the recharge trench all around the circumference of the property? That's okay.

You would excavate trans force before you start first or at same time, especially in the beginning or end of the project. When you excavate continuous trans here, my concern would be, as Madam Hearing Examiner pointed out, higher ground like here maybe necessarily sending the water may cause impact here in the beginning stage when you -- during the middle of the dewatering, you're going to keep sending water. But I'm afraid not considering about the contour elevation difference if you keep excavating three, four feet, continuous from here to here, then you may -- wetland here, send the water to down

here causing draw down, how are you going to address that issue?

MR. MARTIN: Let me make sure I'm clear what you're worried about is prior to adding water to the trench, you're worried about it being a consistent form of drain to existing lands.

One of the things -- the trenches are now and it was surveyed according to the storm water permit that's in place with the Water Management District, I can't tell you what the dimensions are, but it was permitted by the District according to the topography of the wetland, the wetlands that are there, and so forth. But the District has approved that and it is built at this time.

Like I said, once the dewatering is in place, the water is being pumped to the trench, I don't see its effect, but if you do have a situation where you have higher topography in, say, the northeast, the ditch is only being dug deep enough to get that water level to that 24 feet range, I would guess, I don't know this for a fact, but I would guess that you would only be digging in the trench as deep as you need to go in that area. So, essentially, you could have the bottom of the ditch at this location being a different level than the bottom of the ditch at this location. So you're not necessarily incising deeper and form it into the formation because of

drainage.

MR. LEE: And you're higher than this water table?

MR. MARTIN: I don't know the answer to that. It was permitted to the District. We could look into those levels to see exactly what they are. I can't tell you right now.

MR. LEE: And that would not be lower than existing water table because it's not necessarily sending water --

HEARING EXAMINER: Okay.

MR. MARTIN: I think it's a good point in terms of the condition. Obviously we're going to look into a situation or condition that violates the District permit. So I think we need to look at those together would be the way to do that.

MR. LEE: You need more capacity but not excavating deeper than any water table.

MR. MARTIN: I'm just seeing if anybody knows exactly how deep those are and so forth. We can check on that, Sam, it's a good question. Again, it is according to the District permit. We can look into that and see if there's any issue. My gut feeling is that because, like I say, it should be higher topography at that location, it would not be in incising deeper there because we're at a

higher elevation already so we're only digging down to the point where we need to be able to put that water level.

HEARING EXAMINER: Sam, let me ask you a question now, make sure I understand what you were just saying. I understand your concern because that was essentially the same concern that I had. But you actually brought in more of the ground level elevation off the site in your example to Kirk. Now, I understand about not having the recharge trench lower than the water table. Which one? The water table is underground but the wetland is going to have a different water level than the water table in an upland area. So what are we talking about here when you say the water table? Are we talking about the upland water table?

MR. LEE: I thought this was not going into the wetland, it's outside of the wetland.

HEARING EXAMINER: Right. But if it's lower than the water in the wetland, it's going to suck the water out of the wetland.

MR. LEE: You can add that -- that's a very good point. You can add that one for excavating the trench, not only the water table but water level would be sometimes higher than the water you find under ground?

MR. MARTIN: I'm going to respond -- I'm going to look at Ken Passarella, our environmental consultant, because most of the wetlands in this area I have not seen a water table condition where you actually have a different water level in the wetland than you do. So my contention would be that water level is the same. But, again, it's a good question. In order to respond to Sam's question in your comment there, we just need to look at the bottom elevation of the ditch and make sure we're not incising too deep that would cause a drainage situation.

HEARING EXAMINER: Yes. Because that would be my concern, particularly since in looking at the -- I'm hoping that's the east side. The east side and the south side of this Section 1, that looks like a major wetland area out there, and if that recharge ditch becomes lower than the wetland elevation, whatever, yes, you're just sucking the water right out of -- whether it's on the site or off the site, you're sucking the water right out of the wetlands next door. Instead of being able to give back to them, you're actually taking away from them.

MR. MARTIN: Again, Sam's questions are essentially before we start putting water into it. Once we start putting water into it, I don't think this question would be of issue. And once the mine is done, I don't think it's of issue. But just to clarify, Russell,

I think what we want to do in my opinion, based on this 1 commentary, is to look at the bottom elevations of those 2 trenches and make sure we're not incised too deep. 3 HEARING EXAMINER: You guys work that out then. 4 Anything else, Sam? 5 MR. LEE: Another minor point, if I may. This is 6 one I think you have that one copied from Frank Winslow. 7 HEARING EXAMINER: Yes. It was attached to the Staff Report I have. 9 MR. LEE: I just noticed that draw down depths 10 is up to 20 feet. We have it up to 18 feet. Just a 11 minor cosmetic change. Maybe you can have him resupply 12 this. 13 MR. MARTIN: I could probably resupply a figure. 14 I believe that the modeling was done to 20 feet. So what 15 you're looking at is just the figure, doesn't illustrate 16 17 how deep that goes. HEARING EXAMINER: All right. Is that still 18 Figure 10 in the calculated dewatering cell --19 MR. LEE: Right. 20 HEARING EXAMINER: You need to look at the draw 21 At the 1,000 feet it says .06 feet draw down. All 22 down. But in the explanation it is talking about a .6 23 24 draw down. You guys --MR. LEE: Mine has a .421 draw down. 25

```
1
              HEARING EXAMINER: Well, maybe I got in the wrong
     one. Yes, I do. Okay. So the .6 must have been the
 2
 3
     first one that I got, because I wrote down the question on
     that one. I don't know where the other one went to.
     that attached to your memo, Chip?
 5
              MR. BLOCK: The more recent one given to staff
 6
     that I have available to me was attached to the
 7
 8
     memorandum.
              HEARING EXAMINER: Okay.
                                        That's what I'm looking
 9
           That's the one you're referencing is --
10
              MR. LEE: Yes.
11
              HEARING EXAMINER: Okay. So it's .421.
12
              All right. Well, that other one was obviously
13
     incorrect then because this one says .4 and it's supposed
14
15
     to have been a smaller draw down than the original, so the
16
     other graph was incorrect. Okay.
17
              MR. LEE: And that text accompanied by this
18
     figure is that each excavation takes seven weeks?
19
              HEARING EXAMINER: Four to six I think they
     said.
20
21
              MR. LEE: Seven weeks, the number of days is 42
22
     days I count on my fingers. Seven is 49 days.
23
              HEARING EXAMINER: So you're only running it six
24
     days a week?
25
             MR. MARTIN:
                           Yes.
```

```
MR. LEE: But still work they may have to
 1
     maintain that 49 days.
 2
 3
              MR. MARTIN: I told Sam we get seven weeks worth
     of work done in six.
 4
              HEARING EXAMINER: He didn't buy that, huh?
 5
              MR. LEE: Off days, I don't know. Next day pump
 6
 7
     more water to the backup.
              HEARING EXAMINER: I'm assuming that the pumps
 8
     are running 24/7.
 9
              MR. MARTIN: Yes.
10
              HEARING EXAMINER: Otherwise, you know, I mean,
11
     there would be no point in having the darn things.
12
              MR. LEE: Four fingers come up with 42 days.
13
              That's all.
14
15
              HEARING EXAMINER: Thank you, Sam.
              Anything else of Kirk?
16
              All right. Folks, let's take an almost ten-
17
    minute break. Let's be back here, please, at five minutes
18
     after 11:00. Water only in this room, please, and we'll
19
20
    continue on with the applicant's presentation.
21
              (A recess was taken.)
              HEARING EXAMINER: Okay. Let's go back on the
22
23
    record.
24
              Okay. We're done with Kirk Martin. Your next
25
    witness.
```

1 MR. SCHROPP: It would be Ed Ladd again. 2 HEARING EXAMINER: Okay. MR. SCHROPP: And as we previously indicated, 3 he's the operations director of the mine, and I wanted him 4 to briefly address one other aspect of the operation for 5 6 the request we have here today. 7 Thereupon, 8 ED LADD, called as a witness by the Applicant, having been 9 previously duly sworn, was examined and testified as 10 follows: 11 12 MR. LADD: As you saw, and I thank you because you did an actually better job than I probably could have 13 14 done of addressing how we encompass this area. I wanted to also, as I previously said, the 15 trucks that carry the material to the processing plant, 16 17 while this aerial delineates the entry point to the plant, 18 the roads that access the stockpiled material tend to move to try to get to the material. So it's not always a 19 corridor right here that stays in place. 20 21 HEARING EXAMINER: Okay. 22 MR. LADD: The other portion of this that I wanted to reiterate, the machine that we use is a very 23 large electric drag line. It weighs just short of three 24 25 million pounds. If you can envision, it's the size of a

small warehouse with a long boom on it. It's a very large machine.

Just the sheer weight of it alone is an obvious safety concern for us at all times. So the dewatering of the fill pit, as we kind of alluded to in there, and the replacement within that fill pit void with the rock, allows us the structural capacity to support this machine as well as the stability. So the machine needs to sit rock on rock at all times, otherwise it's at risk of sinking, if you will.

If we did not dewater, and this is one of the biggest reasons we went to the large electric machine, first off that it's economical, second off that it uses electrical power in a cleaner environment, the second thing that would happen is if we came in and were not allowed to dewater that cell and build that rock on rock pad, we'd have to introduce much smaller diesel operated machines, non electric, and we'd have to transport fuel back to these diesel machines at all times to keep them excavating, to keep the material, being the fill, from filling that void and to use kind of a good analogy of -- I can give you another one.

If you can envision a clear cake mixing bowl full of sand with water on top of it and you take a teaspoon and you try to dig a hole in it, it never happens. If you

1 pour the water off the cake mixing bowl, you can dig the 2 sand. And that's really the analogy that dewatering allows us to do. It gives us structural stability and 3 also keeps us in a cleaner environmental program without 4 5 the diesel fuel. That was really my point. HEARING EXAMINER: How long have you been 6 operations director for Florida Rock? 7 MR. LADD: About five years. 8 HEARING EXAMINER: Okay. And is it this specific 9 10 mine or were you in another mine and moved over to this mine? 11 MR. LADD: This mine is one of about 18 that are 12 under my direct responsibility. All of Florida and the 13 14 Bahamas. HEARING EXAMINER: That must make nice trips. 15 MR. LADD: It sounds really good the first time 16 17 or second time you go. And after about the tenth time, it's just not as fun anymore. Trust me. 18 19 HEARING EXAMINER: Okay. How much experience 20 have you had? I understood five years with Florida Rock. 21 What's your previous experience? 22 MR. LADD: I have been in mining and site-related activities and underground installation right here in Lee 23 County since 1979. 24 25 HEARING EXAMINER: Okay. Have you worked with

1 any of the other mines in the area? MR. LADD: Well, the old Florida Rock Mine, which 2 3 is currently the Brinker Mine, yes, I was there as well. HEARING EXAMINER: Okay. Questions of your 4 witness? 5 Questions by staff? 6 MR. BLOCK: No, ma'am. 7 8 HEARING EXAMINER: Okay. MR. LADD: Thank you. 9 10 HEARING EXAMINER: Thank you. 11 MR. SCHROPP: Madam Hearing Examiner, I believe 12 that concludes our case in chief on the issues that we've 13 brought forth today for your consideration. indicated, Ken Passarella is here if you have any specific 14 15 wetland questions or issues with regard to the wetland impact that we are trying to address or any other issues 16 associated with wetland. I mention that because Ken has a 17 18 deposition this afternoon and needs to leave shortly. So 19 if you do have any questions or think his input might be important, now would be the time. 20 21 HEARING EXAMINER: Now would be the time. 22 MR. SCHROPP: Thank you. I'll bring Ken 23 Passarella up. Thank you. 24 And as he's coming up, I believe he has previously been tendered and accepted as an expert in 25

wetland ecology, and I would tender him as an expert in 1 2 that field today. 3 HEARING EXAMINER: Any objection, Suzie? MS. DERHEIMER: No. 4 HEARING EXAMINER: Okay. Accepted. 5 6 Thereupon, 7 KEN PASSARELLA, called as a witness by the Applicant, having been 8 previously duly sworn, was examined and testified as 9 follow: 10 HEARING EXAMINER: You are sworn in, Ken? 11 12 MR. PASSARELLA: Yes, I am. HEARING EXAMINER: Okay. State your name for the 13 record. 14 MR. PASSARELLA: For the record, my name is Ken 15 Passarella with Passarella & Associates. President and 16 principal ecologist with Passarella & Associates. 17 18 HEARING EXAMINER: Okay. The question that I have really relates to the proposed phasing plan and that 19 20 one little teeny neck right there at the end. See the dog's head that sticks out, a little ear up and the whole 21 bit? Yes. All right. Right there at his muzzle, that 22 one little area right in there, how wide is that? No, the 23 part that's -- yes, right there. How wide is that; do you 24 25 know?

```
MR. PASSARELLA: How wide is that mining area
 1
     right there?
 2
 3
              HEARING EXAMINER: Yes. How wide is the area?
              MR. PASSARELLA: Tom, do you have a scale?
 5
     could scale it off for you?
              MR. McLEAN: For the record, Tom McLean with Hole
 6
 7
     Montes.
              Are you talking about this strip of 2.4?
 8
 9
              HEARING EXAMINER: Yes, that's what I'm talking
     about.
10
              MR. McLEAN: Approximately 300 to 400 feet.
11
              HEARING EXAMINER: 300 to 400 feet wide.
12
13
              MR. McLEAN: That's 2.4. And then there's a
14
     section of 2.1 that's probably in the 100 foot range.
              HEARING EXAMINER: Okay. So somewhere, say, 400
15
     to 500 wide. All right. And when they get out there and
16
17
     they start specifically digging the overburden, there's a
     lot of dust involved. Have you guys made any kind of
18
19
     management plan or anything to keep down -- I mean,
20
     there's dust involved in mining the rock, but at least
     it's wet. But with the dirt, it's dry. Have you made any
21
22
     kind of plan or thought about any kind of a plan to
     protect those wetlands from that flying dust?
23
24
              MR. PASSARELLA: I would defer to Florida Rock,
25
     but I do know they have a dust management plan where they
```

have to water the roads and keep things watered to minimize the amount of dust flowing in the area. But I don't know the details of that. It's an operations issue, and I would defer to them on an explanation of that.

HEARING EXAMINER: Okay. But that's watering the roads and stuff. What I'm concerned about is when they're actually doing the excavation. If they're doing a water cell, I mean one of the dewatering cells there, and they're digging out the dirt and they've already taken the water out, when they start digging that dirt out, there's going to be a lot of dust flying. Is there anything --

MR. SCHROPP: That might be Ed's area.

MR. LADD: Ed Ladd again.

It's actually not as dusty as you're envisioning. We're digging a hole in the ground and we're getting a certain amount of moisture content that stays residual in the dirt even though you're dewatering and taking that out. The moisture content in that dirt that you're digging is probably in the 16 to 17 percent range.

HEARING EXAMINER: Enough to get it to hold together?

MR. LADD: Right. So you really aren't seeing the dust there that I think you're envisioning. In addition to that, we do utilize a pretty intensive dust management program with large water trucks that run

through their hourly and spray.

HEARING EXAMINER: Is there going to be any storage, any piles of dirt along any of the perimeter of that wetland area?

MR. LADD: Typically, no. The dirt in piles, that leaves the site as well.

HEARING EXAMINER: Because I know they've got a 100 foot setback for, I think it was the piles, stockpiles, 100 foot setback. But when you get a nice breeze going and you get nice dust, it will cover everything. So -- okay.

MR. PASSARELLA: As far as dust having a negative impact on the wetlands, I mean, in southwest Florida we have a lot of agricultural operations out in these rural areas. And during certain times of the year, there is no vegetation on those agricultural fields so it's not unusual even to get dust blowing around and then dirt moving around as a result of that. And I haven't seen any negative impact from the result of those agricultural operations from dust blowing off of those into, you know, maybe whatever may occur in the adjacent wetlands. I mean, we have a lot of healthy wetlands out in that area. I haven't seen any negative impacts as a result of that.

HEARING EXAMINER: My concern is that, you know, we're talking about a 12 hour day, Chip? Is this a 12

hour day operation?

MR. BLOCK: It could be 24. There's no limited hours of operation.

HEARING EXAMINER: All right. So we're talking about the wind in a natural setting versus a manmade setting here because you've got the trucks going through, you've got the creepy crawler dumping stuff, you've got the -- it's just a whole lot of things contributing to the wind factor and the dust bowl that it's going to end up or can end up.

I just wondered if there was any kind of plan involved -- have there been anything on any of the wetlands, any of the other wetland areas that you know of?

MR. SCHROPP: The only thing I would note also, and, Ken, you may know, I believe there's a required setback from excavation to wetland boundaries that's fairly significant as well.

MR. PASSARELLA: Right. It varies depending on, you know, the draw down effect, potential draw down effect of the excavated area. It's regulated through our DEP permits or our South Florida Water Management District permits for the project.

MR. LADD: If I can, I wanted to make sure you had a good picture of this, but the piles of dirt that you are talking about and within that area from the wetland

1. out into our active mining area, we've got berms for the recharge trench operation and once again the dirt is in 2 still a very wet condition. 16, 17 percent moisture is 3 really high. Most of the customers really would like it 4 5 down in the 4 to 5 percent. HEARING EXAMINER: So you guys are actually 6 taking it right out of the cell and putting it right into 7 the trucks for delivery? 8 MR. LADD: Yes. 9 10 HEARING EXAMINER: So you're not actually going to be having any kind of stockpiles of the dirt itself, 11 but the rock will be stockpiled? 12 MR. LADD: The rock will be stockpiled, that's 13 14 correct. The dirt is a valuable commodity. It's leaving there just as fast as it's being excavated. So I wanted 15 to make sure you were comfortable that we really don't 16 have that dust condition happening. 17 HEARING EXAMINER: Okay. I'll do a site visit 18 19 and you guys can convert me. I don't have any other questions of this witness. 20 Anybody else have questions of this witness? 21 MR. BLOCK: I do not. Suzie? 22 HEARING EXAMINER: Suzie? 23 MS. DERHEIMER: No. 24 25 HEARING EXAMINER: Thank you.

MR. SCHROPP: With that, our group is available for any follow-up questions. I guess I would note at the conclusion here of our presentation, that we did have a meeting out in the neighborhood with residents nearby. I believe that occurred back in September of last year, September of 2007, and tried to address the issues and concerns that they had. And it was well attended. And I suspect the reason they're not here is because we probably did a pretty good job of addressing those issues and concerns.

HEARING EXAMINER: Can you tell me off the top of your head, Russ, what some of those concerns were?

MR. SCHROPP: I did not attend the meeting, so Lori or Ed.

MR. LADD: Ed Ladd again.

Once again, our adjacent neighbors attended along Mallard Lane and some of the surrounding area. As you can probably imagine, when you get them in a room, the primary concerns were truck traffic issues and questions about blasting and schedules of blasting. That was really primarily what we talked through at that meeting.

HEARING EXAMINER: And they didn't have any noise or lighting concerns or anything specifically?

MR. LADD: I don't recall any lighting concerns at all. And the noise, if there was any conversation

```
1
     about it, it was probably related to the dump trucks
     traveling up and down the roads as I recall. Anybody
 2
 3
     else?
              HEARING EXAMINER: Okay. The electric digger
 4
     thingie tends to be a lot quieter than the diesels.
 5
              MR. LADD: It is extremely quiet. The diesels
 6
 7
     are somewhat the opposite.
              HEARING EXAMINER: They are very loud.
 8
              Okay. Thank you.
 9
              MR. SCHROPP: Thank you. That's all we have.
10
              HEARING EXAMINER: All right. Chip, are we ready
11
     to make staff presentation?
12
              MR. BLOCK: Yes, ma'am.
13
     Thereupon,
14
15
                            CHIP BLOCK,
     called as a witness by Staff, having been previously duly
16
     sworn, was examined and testified as follows:
17
              MR. BLOCK: Good morning.
18
              For the record, my name is Alvin "Chip" Block.
19
     am with the Department of Community Development, Principal
20
     Planner. I have taken the oath today for this public
21
     hearing, and I would like to be accepted as an expert
22
     witness in land use planning and zoning. I have been
23
     previously tendered as such in this forum and would again
24
     like to be accepted for this case.
25
```

HEARING EXAMINER: Okay. Any objections from the applicant?

MR. SCHROPP: No objection.

HEARING EXAMINER: All right. Accepted.

MR. BLOCK: Madam Hearing Examiner, first of all, what I will relate to and discuss is very quickly Mr. Schropp's presentation from the standpoint of history on the case. He does have a little bit more history on this case than I do, because he goes back to the 1981 case and, unfortunately, I was not able to be involved with or was it fortunately not being able to be involved with the Harper Brothers mining operation up until 1988 when the first IPD zoning application came in.

At that point that's approximately the same time I started beginning handling the mining operations in Lee County, and this may have been my first one, or very close to my first ones. So since that time, I have been the planner involved with this particular mining operation. So between Russell and myself, I think we can provide the history.

As to what Russ has talked about during the presentation on history, I really have nothing to say as to -- negative toward that. I believe he presented the history correctly to you with use of the resolutions and the intents and even the settlement agreement that was

involved with this.

With that being said, you do have a staff review of this case. It's actually contained in two separate documents, one being a Staff Report of September 18th, that would be in the lower left-hand corner of the Staff Report, as to this last printed date, September 18th, 2007.

This has been supplemented by a memorandum from my office of January -- dated January 14th.

The original staff recommendation on this case was a recommendation to approve the phasing and the wetland impacts but not to approve the dewatering request.

With that recommendation, the applicant needed to sit down and ask for a continuance of this case to allow them to sit down with county staff, go over the dewatering proposal and provide information to staff. And we have done that on a number of occasions since the continuation of this particular case. We have either sat down and talked with the applicant and their representatives or have shared information back and forth as to the dewatering and dewatering modeling associated to the operation.

With that happening, we have come to the point at this time, based upon the background information on the memorandum and our understanding of the permitting through

the Water Management District, that we are now satisfied that the applicant has addressed the concerns that the staff had raised as to a recommendation of denial of dewatering. And the January 14th memorandum provides the Hearing Examiner a recommendation of approval of all three aspects of this application. The phasing change, the changes to the wetland impacts and also the change to allow for dewatering of this particular mining operation.

The memorandum also includes a change in the findings under the Comprehensive Plan policies, goals, policies and objectives that we have raised because we now find that the proposed dewatering of the operation will -- is not expected to have any impacts on the well field operation immediately adjacent to this nor to the private wells in the area based upon the modeling that has been done.

And as pointed out by Dr. Lee during his question and answer of Kirk Martin, they did a conservative approach in their modeling and that conservative approach was to not consider the trenching that was being proposed and looked at the dewatering model associated to that.

And even under the conservative approach, staff felt comfortable that there were going to be no adverse impacts. But following that, knowing that they were going to go with the trenching provisions, Dr. Lee and Natural

Resources staff, Lee Werst who is also here today, were satisfied that adverse impacts on surrounding users, whether they be the private wells or the utility location, wells associated to that, there were going to be no impacts, and that is why we're able to recommend approval of this.

As Russell pointed out during his presentation, he is correct that I felt it necessary in this application to try to codify all of the conditions from the previous zoning actions contained within this area, the new mining area that they've been talking about, the expansion as they have put it during their presentation.

So I have attempted through this memorandum to codify all of the conditions associated to this mining operation so that we have one document to fall back on for enforcement proceedings rather than looking at three separate ones.

And since dewatering is being recommended for approval, it takes away the areas of where the language is different in the three resolutions for dewatering activities, whether they be dewatering is not allowed within the excavation pits versus dewatering is not allowed as part of the mining operation. It just codifies everything together and creates the ability to dewater subject to following the modeling information provided by

CDM and also complies with the approvals of the Water Management District.

The memorandum also includes the new findings and conclusions to assist the Hearing Examiner. What Mr.

Schropp has pointed out under -- in the second page under 2.c as to a change in the language, we have absolutely no problem with that where he asks that it be considered a statement that dewatering of the excavation will not have negative impacts on the quality and quantity of the water available is a correct statement. We have no problem changing that on Page 2 of the memorandum of the Staff Report for the Hearing Examiner.

As to Condition 1 on the third page, I apologize,
I still have not learned how to paginate -- provide page
numbers on these without typing them individually.

HEARING EXAMINER: You need a secretary, they're wonderful.

MR. BLOCK: However, due to the budget, I don't think the planner is going to have a secretary to do that. So I'm learning through our internal services staff a way to do that, but I still haven't learned that process.

Going to Condition 1, Mr. Schropp asked that the Master Concept Plan date be changed from February 22nd, 2007, to the September 7th, I believe it was, 2007, 09-07-07 date.

Examiner, that really all they're doing is changing one sheet. It's Sheet 7 of 10 of the Master Concept Plan.

Really, that's the only change. So my opinion is that it would be better worded that the Master Concept Plan is still the same state of the stamped received date of February 22nd, 2007, with the exception of Sheet 7 of 10 which will reflect a revised date associated to it that will be received when, as Mr. Schropp pointed out, they need to make some slight changes on that sheet for I believe it was the wetland impact acreage that you were noting and actually depicting the impacts, the actual impacts of the mining operation area, where it was going to be -- or has been mined at this time.

So I think what we need to do is just keep that date blank and as the applicant provides us that new sheet, it will have a revised date on it and that will be the sole exception. And then we will put those pages together for the Board of County Commissioners when it goes to them. And also as part of the resolution should the Board of County Commissioners approve the case and for that matter presuming that you would also recommend approval of the case to the Board of County Commissioners.

The other item was the actual acreage associated

to a couple of conditions, and that is the acreage of wetland impact, changing it to 0.79 acres, if my notes and memory is correct on that.

HEARING EXAMINER: Right.

MR. BLOCK: And we have -- I don't think Suzie has any particular problem with that because it identifies the changes that the applicant has noted as to the actual impacted area.

Also have a note here that says that we're going to need new language to address the depth of the lake trench recharge as Mr. Martin was pointing out during his presentation and needs to work that out, so I think we need to keep the record open on that regard, too. So we're looking at keeping the record open for at least two points at this time. That being a revised Sheet 7 of 10 of the Master Concept Plan, and the conditional language regarding the depth of the trench, recharge trench.

In summary to my portion of the presentation, staff has recommended approval of this case, of the three changes that are being proposed by the applicant with the conditions as outlined in the staff memorandum and as corrected during this public hearing.

I do have with me today from county staff, Lee
Werst from Natural Resources, Howard Wegis from utilities,
and Suzie Derheimer from Environmental Sciences. I know

Suzie has a short presentation that will address a few points that she needs to make. I also know that Lee Werst has a very short presentation from the standpoint of making a point concerning I believe it was the monitoring wells and some things that had -- that I actually asked of Kirk Martin that I think he needs to clarify to help the Hearing Examiner know how the monitoring wells work and go from there. And Howard Wegis does not have a presentation to make, but knowing that we're next to the county well field operation, I will point out that all staff has looked at this, the three divisions and departments that I've talked about have looked at this, and they concur with the staff recommendation of approval, but should you have questions on the well field operation, Howard is here to answer those questions and Natural Resources is here to answer any questions regarding the ground water modeling and all and Suzie is here to answer any questions on Environmental Sciences. But from my standpoint I'm finished with my presentation and open it up to questions either of the Hearing Examiner or the applicant or County Attorney. HEARING EXAMINER: Questions of this witness by

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

HEARING EXAMINER: Questions of this witness by the County Attorney?

MR. SPICKERMAN: No questions.

MR. SCHROPP: I have no questions.

1 HEARING EXAMINER: Chip, I have a bunch of -- I don't know whether to go ahead and try to get the rest of 2 them out of the way and then bring you back up or just go 3 4 ahead and --MR. BLOCK: If you don't have a lot of guestions 5 associated to the other division --6 7 HEARING EXAMINER: I might to Lee Werst and Sam Lee if he's still here, whatever. I may have questions, a 8 few of them regarding the modeling. 9 MR. BLOCK: I think Lee can answer the questions 10 on the modeling so if you would like to go to the other 11 members of county staff and have them completed and go 12 13 from there and come back to me, you're welcome to do that. HEARING EXAMINER: Let's do that. Let's at least 14 get Suzie so she can go on to whatever she wants to do, 15 if she wants to get out of here. 16 17 MR. BLOCK: I don't know why she would want to do 18 that. HEARING EXAMINER: We can take her out of turn 19 and then -- because I do have quite a few questions for 20 you and I don't want to hold everybody up totally. 21 22 MR. BLOCK: Fine. Then I'll turn it over to Suzie and then to Lee, and if you've got questions, you 23 24 can ask them.

HEARING EXAMINER: All right. Thank you.

25

1 Thereupon, 2 SUZIE DERHEIMER, called as a witness by Staff, having been previously duly 3 sworn, was examined and testified as follows: 4 MS. DERHEIMER: Hi. For the record, Suzie 5 Derheimer, Environmental Sciences. I have been sworn. 6 And I have been deemed an expert witness in past hearings 7 Я in environmental planning, and I request to do so today. HEARING EXAMINER: Okay. Any objections from the 9 applicant? 10 MR. SCHROPP: No objections. 11 HEARING EXAMINER: All right. Accepted. 12 13 MS. DERHEIMER: I just want to clarify a couple 14 of things that was presented by the applicant, and I think Chip did address the wetland acreage. 15 16 Based upon what was submitted by the applicant at this hearing, and that it is -- a new Master Concept Plan 17 18 is changed to reflect those -- that wetland acreage, environmental staff doesn't have an issue with changing 19 20 Condition 23, the wetland acreage. 21 Given that it has not been officially reviewed by 22 Southwest Florida yet, I'd like to make sure that the plus or minus is included in there. 23 24 HEARING EXAMINER: Okay. Plus or minus 7 --25 MS. DERHEIMER: Right. I don't want to say

exactly seven nine because these conditions tend to be taken very literally, so plus or minus would probably be appropriate in case Southwest Florida does offer a smaller or greater impact.

Also, in the original Environmental Science

Condition No, I believe it's 25, I apologize, I don't have
the January 14th memo, I have the 11th, so it's a

different condition.

HEARING EXAMINER: Okay. The original 25 was prior to the Development Order approval. The Development Order plans must delineate a minimum of 396 acres.

MS. DERHEIMER: Okay.

HEARING EXAMINER: Is that it or are you --

MS. DERHEIMER: On the memo January 14th, No. 25, states that prior to Development Order approval, the applicant must submit for review and approval by the Division of Environmental staff a current protected species assessment. This condition was written based upon the current MCP, which identifies an impact of 3.87 acres, which according to this MCP does depict an impact to cypress and indigenous habitat.

Based upon that, staff was requiring a protected species assessment of that area. Based upon what was submitted by the applicant at this hearing and will be documented on the Master Concept Plan, there are no

proposed impacts, there are just existing impacts. 1 So if a new MCP is submitted to show just existing impacts, then 2 the protected species survey, Condition No. 25, should not 3 be required. Okay. Does that make sense? 4 5 HEARING EXAMINER: Yes. MS. DERHEIMER: Okay. Thank you. And I think 6 7 that was the two issues. And I'm just really here for any other questions that you may have. 8 HEARING EXAMINER: Okay. Questions by County 9 Attorney of this witness? 10 11 MR. SPICKERMAN: No questions. HEARING EXAMINER: Questions by the applicant? 12 13 MR. SCHROPP: No. 14 HEARING EXAMINER: Suzie, I actually don't have any questions either. Thank you, ma'am. 15 16 MS. DERHEIMER: Thank you. MR. BLOCK: At this moment I'll have Lee Werst 17 come up, Madam Hearing Examiner, from Natural Resources. 18 As he comes up, he has been previously accepted, but I'll 19 let him kind of go through his background and ask that he 20 21 be accepted as an expert witness. MR. WERST: Lee Werst for the record. I have not 22 been sworn and I have been previously accepted as a 23 24 witness in monitoring and hydrogeology and also have experience with dewatering, too. 25

Thereupon,

LEE WERST,

called as a witness by Staff, having been first duly sworn, was examined and testified as follows:

HEARING EXAMINER: Thank you. State your name again for the record.

MR. WERST: Lee Werst, Lee County hydrogeologist.

Now, what I'd like to bring to your attention, if I may, please, is a couple of points that I don't think were discussed and I apologize. I was late in to the hearing this morning. But I'd like you to be aware that the area that they're going to be working in, and I believe it's Section 12, is or was up until six months ago an agricultural area, so, therefore, the ditches that are introduced also as hydraulic trenches were in existence since 1981.

Now, I don't think that the whole picture, that everybody understands that. So prior to any dewatering taking place, these are ditches that already are established and are there. So, therefore, natural water levels for monitoring that are established prior to any construction, during construction and even after construction will show what's going on as you well understand.

With that being in mind, I would like you to be

also aware that the ditches not only -- the way farming was done out there was the ditches were filled from water from the existing mine. It was pumped from the mine to flood irrigate this agricultural area, okay, and that's not well known also.

Usually in an agricultural water use permit from the South Florida Water Management District, water level monitoring is not always something that's very prevalent, especially in the earlier years.

Now, what I'd also like you to be aware is with a dewatering permit that's established by the South Florida Water Management permit, it actually is a more controlled permit.

They actually put regulations in the permit that staff gauges will be installed, surveyed and installed in these hydraulic trenches, ditches, so that water levels are maintained at a certain level which is usually on or around the mean season high water level, mean season high -- wet season water table.

HEARING EXAMINER: Wet season.

MR. WERST: Yes, ma'am. And that way it's constantly at a saturated point so that you're more aware. And, again, it's a more controlled environment this way, rather than the previous way of agricultural use which flooded and then let go and flooded and let go.

The other point that I'd like to bring out is

there were 17 monitoring wells that have been established

located throughout this very large project. So in event

you will actually be able to establish an ambient water

level in areas that are not being dewatered nor mined. So

you can at that point use that -- and that's how I plan on

reviewing this project also when water levels are

submitted to me, you can actually see what the natural

going on.

HEARING EXAMINER: Now, let me ask you a question. That's what you plan. Is there a condition that sets out that they will provide you with the monitoring data from all 17 of the monitoring wells, not just the ones in close proximity to what's actually being mined at this point?

ambient water level is as compared to how it's being

adjusted with a hydraulic trench and the dewatering that's

MR. WERST: Yes, ma'am. As a matter of fact, a package was just submitted to me yesterday from those wells and that's a good thing. With that in mind, the information is submitted to me quarterly and reviewed.

Of course, now please keep in mind that the wells actually have monitoring trolls is what they're referred to in the wells that actually take per minute readings.

So you're seeing -- you're literally watching water levels

as they happen, and that's how the data that Mr. Martin introduced to you also is from that monitoring device.

HEARING EXAMINER: So, now, when you've got the minute by minute play here of that data and stuff, all right, when you get the quarterly report, is that a compilation, a summarization or all of that dad gum minute by minute byplay?

MR. WERST: Every minute by minute replay.

HEARING EXAMINER: So you get to go through the whole little fellow, huh?

MR. WERST: God bless Excel. That's why you've got hy drographs. Yes. And that's exactly what we do is we look at that and we can look at it. If we see something particular, technically the way we'll look at it first would be to look at certain spikes or high points within the hydrographs that are also provided. And then if it's something that looks way out of the norm, we're going to refer back to that point to see.

What we'll also take in consideration, please keep in mind that we're going to also take into consideration rainfall or there lack of, and droughts that are going on also because we have to take that in effect of what the ambient water level should be. Okay?

HEARING EXAMINER: Okay. Anybody have any questions of this witness?

MR. SCHROPP: No. 1 MR. BLOCK: No. 2 HEARING EXAMINER: I've got several. 3 MR. WERST: Fire away. HEARING EXAMINER: All right. Looking at Chip's 5 latest submittal, which is January 14th, okay, the CDM 6 7 transmittal, okay, it says, the very front page, it was sent to Sam Lee from Frank Winslow. It says, "Attached is 8 the revised modeling writeup based on on-site slug 10 testing." I'm assuming the slug testing is not the little 11 critters? 12 MR. WERST: You're absolutely correct. 13 14 very good question. What that is it's a measure of transitivity. The way that's performed is it's a 15 calculated volume of water, and it can be done two ways, 16 17 either a calculated volume of water can be drawn out and then it's a measurement of time to see when that water 18 recovers back. 19 20 HEARING EXAMINER: When the water comes up? MR. WERST: Or vice versa. It's a calculated 21 amount of water that is in a tank and at that point it's 22 released down the well. They know the time that it takes 23

to get down the well, and then again they measure the

amount of time of recovery and that's what a slug test is.

24

25

1 HEARING EXAMINER: Okay. I would not have made it that. 2 The next thing that -- okay, so it says several 3 slug out tests were performed and resulted -- I'm on the 4 5 second page now -- and resulted in the same K value which is your hydraulic conductivity value. 6 MR. WERST: That's correct. 7 HEARING EXAMINER: Now, when they say several 8 tests were performed, are they talking about this 9 particular monitoring well or this particular section or 10 this particular area or are they talking about several 11 over the site? 12 MR. WERST: Yes, ma'am. I would have to probably 13 refer that question closer to Mr. Martin if I could. I 14 believe it was throughout the site is where they were 15 16 done, and that's what they're looking to is to establish a transitivity throughout the site of what it is. 17 HEARING EXAMINER: All right. Because the other 18 hearing that we had on trans -- and et cetera and et 19 cetera, everybody kept saying but it's not homogeneous, 20 it's not homogeneous. So you can't take it in one spot 21 and expect it to be the same some place else. 22 MR. WERST: That's the whole idea, yes, ma'am. 23 HEARING EXAMINER: That's the purpose of my 24

25

question.

Now, I have another one in here. Okay. 1 2 they're doing the hydraulic -- I'm looking now at the next page which is Harper Brothers Mine, it starts with the 3 numerical draw down model, then it goes to model geometry 4 5 and development. MR. WERST: Yes. 6 HEARING EXAMINER: And in the middle of the 7 second, the biggest, fattest paragraph there where it has 8 the 200 rows, 200 columns, it says that the hydraulic 9 conductivity from slug testing performed on an on-site 10 monitor well completed in the unconsolidated sediments at 11 12 the project site. So I'm assuming that that means that the slug testing was only done through the dirt. 13 MR. WERST: That's correct. 14 HEARING EXAMINER: It didn't go into the rock at 15 16 all? MR. WERST: Yes, ma'am. And if I can explain the 17 idea behind that. 18 19 HEARING EXAMINER: Yes, sir, please. MR. WERST: It's probably constructed to the 20 depth that they will be dewatering to. So that you can 21 establish the material, that only material that you're 22 affecting right there. You're not going to affect below 23 an intake of a pump. You're only going to affect at the 24

pump or above it.

25

HEARING EXAMINER: Now, my next question with that is one of the first things in the power point showed me the ripple effect, you've got dirt, you've got -- you know, I mean, it's not a clean cut line as far as the rock is concerned.

MR. WERST: You're correct.

HEARING EXAMINER: So if you're taking a 20 foot section of dirt and you're determining what the hydraulic conductivity is and it's all dirt, isn't that going to be a different conductivity if you get halfway through this and then you've got pockets of rock in the middle of this little sucker --

MR. WERST: Yes, ma'am.

HEARING EXAMINER: -- so that you may end up with only ten feet of actual honest to God dirt?

MR. WERST: And I would probably, if I could, refer back to Mr. Martin on that, but also keep in mind that it doesn't really jut up and down.

HEARING EXAMINER: I know.

MR. WERST: I think that that picture is kind of a little bit over exaggerated. It's more of a gradual incline is the way it is. And keep in mind with that gradual incline, their dewatering level will also be raised, too. Yes, ma'am. They're not going to -- the proposal is not to dewater any lower or into the rock at

all.

HEARING EXAMINER: Okay. Now, what if you've got a situation where you have a three ton limestone rock completely surrounded by sand, all right. They're going to dewater to the top of that three ton rock and then when they get around to actually digging, they're going to dig that three ton rock out and now we've got sand underneath it?

MR. WERST: Yes.

HEARING EXAMINER: Okay. So then their test would actually only be to that rock itself if they actually did the conductivity test? It would be to the rock itself?

MR. WERST: If that existed, that potential does exist, yes, ma'am.

HEARING EXAMINER: Because I've seen some of the mines on my site visits where they are out there and they are digging out the dirt, and they get some enormous boulders.

MR. WERST: It's referred to as cap rock, commonly known, yes, ma'am. And, technically, in some areas they'll probably be below that because it may come up because there is sand a little bit lower than that which may extend down to 20 feet.

HEARING EXAMINER: Okay. So it says that they

came up with -- the hydraulic conductivity value from the 1 2 slug testing is consistent with the range of hydraulic conductivity value for sands in literature, and that's 3 3 to 283 feet per day for well sorted sands. 4 MR. WERST: Yes. 5 6 HEARING EXAMINER: I'm assuming that we're 7 assuming that what they have out there is well sorted sand. 8 9 MR. WERST: Yes, ma'am. 10 HEARING EXAMINER: Okay. All right. Then they go on with "A vertical hydraulic conductivity of 4.5 feet 11 per day was assumed since the horizontal K values are 12 typically two to five times higher than the vertical K 13 14 values." What is this? 15 MR. WERST: Okay. I'm sorry, which paragraph are 16 we on? 17 HEARING EXAMINER: The very bottom sentence of the 200 row model. 18 MR. WERST: Still the same paragraph. 19 20 HEARING EXAMINER: Same paragraph, bottom 21 sentence. What is that telling you? What does that tell you and then you tell me. 22 MR. WERST: Okay. What they're saying with that, 23 the vertical hydraulic conductivity, in other words, the 24

25

movement of the water.

1 HEARING EXAMINER: Up and down. 2 MR. WERST: Up and down. 3 HEARING EXAMINER: Not sideways. MR. WERST: Right. Is two to five times higher than the values technically in the sand. So it -- please, 5 would you step up and explain that maybe in the model. 6 7 think Kirk with the slug test can explain that a little. HEARING EXAMINER: 13 days of mining hearing and all of this stuff comes in and I'm working my way into 9 getting a Ph.D. I mean, I'm going to ask for college 10 11 credit here one of these days. 12 MR. BLOCK: If you get it, please let me know 13 because I will ask for it too. HEARING EXAMINER: You want to go, too, huh? 14 MR. BLOCK: Yes, ma'am. 15 16 HEARING EXAMINER: All right, Kirk. 17 MR. MARTIN: You have a number of questions I'll try and respond. One of the questions you have most 18 19 recent was the idea of horizontal permeability being different than vertical permeability. The slug test 20 actually measures permeability. What they typically do is 21 22 they measure -- there's actually different ways to do 23 them, but the ones we did were for measuring horizontal permeability. 24

HEARING EXAMINER: Okay. So the slug test that

25

you all did was the horizontal. 1 2 MR. MARTIN: Correct. HEARING EXAMINER: Not the vertical. 3 MR. MARTIN: Correct. We typically only use 4 vertical slug tests when we're looking at clays, things 5 like that. They don't really work that well in sand. 6 7 But, again, what we measured was horizontal permeability. 8 In sands the vertical permeability is typically less than horizontal permeability by a factor of two to 9 10 If you go into certain rock types it can be greater than that. Some of like in limestones we typically use 11 12 like a ten to one. And the reason for that is because 13 gravity is affecting things so it gets compacted and 14 things lay down in layers. So there's some preferred permeability between the layers less so in a vertical 15 So what happened there, because we had data for 16 17 the horizontal permeability to create the model, we used these assumed values for the vertical to create the model. 18 19 HEARING EXAMINER: Okay. All right. So then this is the model that said at 1,000 feet you're going to 20 have a .421 draw down? 21 22 MR. MARTIN: That's correct. 23 HEARING EXAMINER: Okay. Next question, down at the very bottom sentence in that section, "The river, 24

drain, and evapotranspiration packages were not used in

25

the model." Why?

MR. MARTIN: This was a very simple model. The idea was just to show what draw down was occurring in a very simplistic approach, very conservative approach as Sam Lee testified to earlier.

Whenever you start using all the components of the model, you start getting a more complex model, that means you have to get more data. You have to calibrate more data. So it's real easy to say I'd like to model everything, but it's a major undertaking. So what you want to do is design your tools to answer the questions at hand. In this case we have a question about how far away could we assume in a conservative analysis draw down would occur and to what magnitude that would be. So this approach was taken.

You get into talking to world class modelers, at least in my opinion the ones who really get it are the ones who go as simple as possible because the more complex you go, the more unknowns you have to make up information for. So what you want to do is design your tool to answer the question.

HEARING EXAMINER: All right. Okay. I understand about the model and what you guys have done and what you came up with at 1,000 feet and what you came up with at 2,000 feet or

2,500 feet, whatever it was. But it seems to me to get a real honest to God picture of what the true draw down is going to be, you'd have to use at least the evapotranspiration packages because you're looking at a major lake out here.

When this is all over and done with, man, you know, you got lots of water and not a whole lot of dirt or anything else. It just seems to me that that should have been part of the assumptions or the review in that because we're looking at, what, 900 acres; is that the size of the mine overall?

MR. SCHROPP: Probably close to it.

HEARING EXAMINER: That's a pretty dad gum big hole in the ground.

MR. MARTIN: If I could, again going back to the idea that we want to design our tools to address the question, the idea of whether this is to be a mine or not was not in question. The mine is already approved. What the question was, is there any effect on the dewatering that's been proposed. This was the approach that was taken to show that.

When you don't use some of the other modules and the model, evaporation, rainfall and so forth, you're assuming that all those things are equal. So you could apply them to the model, but you'd apply the same amount

to the pre model and the post model. So they have no net effect.

HEARING EXAMINER: So you're holding them essentially as constant.

MR. MARTIN: Correct. What we're looking at is what is the net effect of the dewatering, and the dewatering only. And that's again a very simple tool applied here.

HEARING EXAMINER: Okay. What is drain? You've got the river, drain, and evapotranspiration packages. What is drain?

MR. MARTIN: MODFLOW has modular components. You can add and take away different components to create the model you want. It has many, many -- there's probably almost 20 of them right now with the MODFLOW. A drain package essentially -- let me step back a bit. A MODFLOW model consists of a grid. It's actually a cube of grids. You've got vertical stacking and you've got an array of grid cells. Taking a drain package is a way to try and simulate a drainage feature such as a canal, ditch or something. What it is is taking a row of cells and establishing a constant head for different time series.

It's just a way of simulating a drainage effect.

A river package is a little more complex, in that you can
do the same thing. You can create a linear river, but

that -- in the module, the MODFLOW, that use allows you to adjust that river with flows and different heads for different times whereas a drain package is typically held at a constant level.

HEARING EXAMINER: That's interesting. I would have thought the river would have been more of a constant.

Okay.

MR. MARTIN: You had a couple of further questions that I could probably address if you want me to.

HEARING EXAMINER: Okay.

MR. MARTIN: You had a question about the varying thickness of the sand and how that affected the permeability. That's a great question. Essentially the slug test, we calculate permeability. Transitivity is fact -- contains both permeability and thickness. So the more thickness you have, the more transitivity. We are modeling, our entire analytical approach, we use the full 20 foot as our assumed maximum thickness. So in all cases, all analysis are done at the highest transitivity we could use. So any of the dewatering cells of lesser depth, we have less water withdrawn from them, less effective. So we can use the worst use. But you're right, varying thickness does change -- it may not change permeability, which is something you kind of alluded to,

```
but it does definitely change transitivity because the
 1
     thickness is a factor.
 2
              HEARING EXAMINER: Okay. All right. That makes
 3
             I think that may be all that I have. Let me look
     sense.
 4
     through the -- as I said, you give me a little bit of
 5
 6
     knowledge and you're in trouble.
 7
              Have you guys done the retrenching, the perimeter
     trenching system on the rest of the mine?
 8
              MR. MARTIN: That would be a question for
 9
10
     Harper -- Florida Rock.
              MS. SANVILLE: Retrenching all around the mine
11
     due to the pre-existing order issued by the South Florida
12
     Water Management District back in the early '80s, and it
13
     is that that has been utilized for agricultural throughout
14
     the years and now being converted over.
15
              HEARING EXAMINER: Over to a --
16
              MS. SANVILLE: Dewatering trench.
17
              HEARING EXAMINER: State your name, please, for
18
     the record.
19
              MS. SANVILLE: I'm sorry, Lori Sanville from
20
     Florida Rock.
21
              HEARING EXAMINER: All right. I don't have
22
     anything else marked on the other tests and stuff that I
23
     have in here, so that must have been it.
24
              Okay. If I think of anything else, I will call
25
```

you back up. 1 MR. WERST: One last point, Madam Hearing 2 3 Examiner. Has it been established that dewatering will stop within 100 foot of a public supply well? Has that 4 been established to you also so that you're aware of it? 5 6 HEARING EXAMINER: I think they're within --7 they're a mile away from a public well, aren't you, guys? MR. WERST: There's actually a proposed well 8 9 field. If you'll look, you'll see semi circles on the 10 exhibit. Chip is pointing to that right now. 11 HEARING EXAMINER: Those are wells? MR. WERST: Yes, ma'am. 12 13 HEARING EXAMINER: Okay. 14 MR. WERST: One thing I'd like you to be aware of is the way it's designed is, of course, a hydraulic trench 15 16 will be there. And that's going to be maintained the whole time, and they will dewater up to within 1,000 feet 17 18 and then the rest of that point it will be constructed in 19 the wet as to not cause any greater damage. 20 Hence, that's why you see the number a thousand foot, this is what's going to happen at a thousand foot. 21 22 Okay. 23 HEARING EXAMINER: Oh, I see. Okay. So it's

actually a thousand feet from those wells?

MR. WERST: If I may be so bold as to just raise

24

25

my voice a little. Well exists, for example, here, here and here. And at that point the circular area is a 500 foot setback, okay. But what's also not necessarily pointed out is 1,000 feet away is where the dewatering operation will stop and the excavation will continue but dewatering will not.

HEARING EXAMINER: And that's in the conditions?

Did I miss that in the conditions?

MR. WERST: That was supplied to us as part of the dewatering operation plan.

HEARING EXAMINER: Do I have that, Chip?

MR. BLOCK: I believe -- for the record, Chip
Block. I believe that's part of the dewatering CDM -yes, it's part of the CDM information if I remember it
correctly. If you look at the second to last paragraph on
their -- Harper Brothers Mine numerical draw down model,
that page, and go down to the bottom, it begins to
allude -- actually, the first paragraph under modeling
scenario talks about operations performed, second line,
performed over an area 400 feet by 1,000 feet, the area of
one dewatering cell. And then it goes on down to say has
a draw down -- second paragraph, draw down in distance of
1,000 feet.

What that is alluding to is that that's going to be a 100 to 1,000 foot setback from any well if I remember

the intent of this correctly. 1 2 HEARING EXAMINER: That doesn't tell --3 MR. BLOCK: It doesn't come out well enough to 4 you. HEARING EXAMINER: That doesn't tell me that. 5 That just simply tells me that this is 1,000 feet from 6 where they're dewatering, the draw down effect is going to 7 be .4 feet. 8 9 MR. WERST: Without a hydraulic trench in place. 10 HEARING EXAMINER: In between, okay. Yes, ma'am. So, therefore, please 11 MR. WERST: 12 keep in mind that as Dr. Lee also alluded to, the 13 hydraulic trench was not in that model so it will maintain a much higher water level, subsequently no damage to any 14 well. 15 16 HEARING EXAMINER: What I understood you to say 17 was that they can't dewater within a thousand feet of those wells, and I don't remember seeing that condition 18 19 anywhere. MR. BLOCK: From a condition standpoint, I don't 20 believe it's in there, from a condition standpoint, 21 22 because it was a part of the dewatering, the model. HEARING EXAMINER: 23 The model, all right. 24 model forms a basis for a bunch of conditions that are not recognized in the approval? 25

MR. SCHROPP: The model was adopted by reference in a particular condition proposed by the staff.

MR. BLOCK: In Condition 10.

MR. WERST: If I may ask a quick question of the applicant. I believe it was submitted to us as a dewatering plan, which would be a plan of suggested steps that would happen in cell per cell per cell. And in addition, it was a statement that was made within that dewatering plan or dewatering narrative at that point in time that said they would not water, or dewater, I'm sorry, within 1,000 foot of a potable supply well.

HEARING EXAMINER: Okay. Now, I understand what Chip's condition is saying and I understand because you've read all that other stuff. I haven't seen it, it's not in here.

I'm concerned that if this goes to the Board of County Commissioners, they're going to want that stated point blank, you know, full face flat out. Because then that's something that they can definitely point to and say there's no misunderstanding here, folks. We told you 1,000 feet. No dewatering within 1,000 feet. Because I'm not saying that you guys aren't going to do your job, but, you know, I mean, once this dad gum model gets shoved in a cabinet somewhere, it will get pulled out once in a blue moon for review or whatnot. I think it's better to

have -- if you've got prohibitions like this, they need to 1 be stated in the approval. 2 I mean, I'm just more comfortable with everybody 3 knowing what --4 MR. WERST: If I may be so bold as to make a 5 suggestion here. Maybe if the applicant could just 6 resubmit or electronically submit to both staff again and 7 also yourself the dewatering action plan or dewatering 8 plan, then you would have a copy --9 HEARING EXAMINER: Then I could attach that as --10 11 MR. WERST: -- of it attached as part of the Staff Report, yes, ma'am. 12 HEARING EXAMINER: It's not this big, is it? 13 MR. WERST: No, no, it's very thin. 14 HEARING EXAMINER: I would feel better if it were 15 attached. If we're not going to include specific 16 conditions that if we can attach the plan itself so that 17 it becomes a part of the approval. I mean, that came as a 18 surprise to me when you made that statement because that's 19 not the way I read that, you know, that isn't the way that 20 I read that and somehow the other missed that, which is 21 not saying much. 22 MR. SPICKERMAN: That plan specifically covers 23 this requirement. 24

MR. WERST: Setback for dewatering, yes, sir.

25

And I believe upon review, you'll see that it clearly states that.

HEARING EXAMINER: Okay. We're going to have to leave the record open anyway so we can just have that submitted, too, and we'll mark that and attach it as an exhibit to the recommendation that goes to the Board of County Commissioners.

I actually, Lee, at this point in time I think I have questions now of Chip. You may be called back up.

MR. WERST: Not a problem. I'm -- I think the next couple of days, and I apologize, I was discussing some other things while you were talking about the plan. Would you like me to stay here until 1:00, is that what you're asking?

HEARING EXAMINER: What time is our next hearing? All right. Hang loose here until one o'clock. We may be able to finish it. If we don't, we'll have to decide on another day to come back. It shouldn't be more than a couple of hours max because there's just no way to get it done today, not with the hearings that we've got scheduled this afternoon.

But I do have -- anybody have any questions of Lee on anything I have asked or anything else you want to ask for the record?

MR. SCHROPP: No.

1 HEARING EXAMINER: Okay. 2 MR. WERST: Thank you. HEARING EXAMINER: Chip, I have several. 3 MR. BLOCK: The final staff member that's here is Howard Wegis from utilities. Howard was available in the 5 event that there was a question about the well field 6 7 operation that you now recognize as along the northern portion of this site. 8 HEARING EXAMINER: Yes, I missed that. 9 MR. BLOCK: And the impact of this operation as 10 conditioned which is inclusive of our understood area of 11 12 no dewatering within 1,000 feet of the well heads. 13 Howard is here to answer any questions you might 14 have concerning that. HEARING EXAMINER: Okay. Let me have Howard come 15 16 up, please. 17 I don't know that I specifically have any questions, but I don't know that --18 19 MR. WEGIS: For the record, Howard Wegis, 20 utilities. And I was sworn. HEARING EXAMINER: Spell your last name. 21 MR. WEGIS: W-e-g-i-s. 22 23 HEARING EXAMINER: And you are sworn in, Howard? 24 MR. WEGIS: Yes, ma'am. 25 Thereupon,

called as a witness by Staff, having been previously duly sworn, was examined and testified as follows:

HOWARD WEGIS,

HEARING EXAMINER: Have you had an opportunity to look at the model that Lee Werst was just referring to?

MR. WEGIS: No, ma'am. I was consulted with Natural Resources. I don't have the expertise to review that model. Although I have been in utilities for 23 years, I'm not a modeler. But I relied on Natural Resources review of that model and their recommendations.

HEARING EXAMINER: And they told you that it was their understanding based on their review of the model and the discussion and whatnot contained in the modeling report that there would be no draw down activities occurring within 1,000 feet of the county's wells?

MR. WEGIS: Yes, ma'am. And with use of perimeter -- you know, they informed me about the .4 foot draw down without the perimeter ditch and then with the perimeter ditch, essentially no draw down, and I didn't see an adverse impacts to our abilities to withdraw from the well fields.

HEARING EXAMINER: Okay. Are there monitoring wells anywhere around those particular wells that run along the north boundary of I think that's Section 12?

MR. WEGIS: Utilities does not have any

monitoring wells, I believe, in that general vicinity. 1 HEARING EXAMINER: Okay. 2 MS. SANVILLE: For the record again, Lori 3 Sanville. 4 We have installed three new public water supply 5 monitoring wells within those areas within the last six 6 months, and then we have a fourth one over on the other 7 side of getting into the older part of the mine section to 8 9 treat one of the public water supply wells over there. And those have all been within the last year and they all 10 have those same data loggers which monitor every minute. 11 HEARING EXAMINER: Okay. All right. 12 MR. WEGIS: Madam Hearing Examiner, just to clear 13 this up a little bit is that Natural Resources is 14 15 responsible for compliance with well field protection ordinance, their division that handles that. That's --16 just so you understand, that's why utilities doesn't get 17 real involved with that aspect, the monitoring. 18 HEARING EXAMINER: So tell me what your wells --19 educate me, what do the wells do at this point? I mean, I 20 see them in pretty close proximity to each other --21 MR. WEGIS: Yes, ma'am, they're spaced every half 22 There's actually what we call a cluster of wells. 23 mile. There's one surficial well, shallow well, and one 24 sandstone well, that first confining unit. And there are 25

1 production wells for drinking water. 2 HEARING EXAMINER: So you actually are pumping out of them? 3 MR. WEGIS: Yes, ma'am. 4 And then this run approximately five miles to the 5 west of there and we have a water treatment plant there. 6 HEARING EXAMINER: That's the one that's on Alico 7 8 Extension? MR. WEGIS: It's one mile north of the bend in 9 Alico basically. You know, the bend in Alico Road? 10 11 HEARING EXAMINER: It's one mile north of it. MR. WEGIS: One mile north. 12 MR. BLOCK: There is another well field that was 13 14 up there -- for the record, Chip Block -- that runs along that section line that's one mile north of Alico Road, and 15 16 there is a plant that's south of the airport, if I 17 remember correctly. 18 MR. WEGIS: Green Meadows water treatment plant. HEARING EXAMINER: Okay. I'm not familiar with 19 20 that one. There's one something down here close to the 21 Corkscrew and Alico Road. 22 MR. WEGIS: Yes, ma'am. That's Corkscrew water treatment plant. This is our Green Meadows water 23 24 treatment plant, formerly owned by Florida Cities Water Company. Currently owned -- which I do want to point out 25

while I'm up here, I see the date on these two exhibits is in '99. I believe in '99 these wells were owned by Florida Cities Water Company, and that probably explains why they're labeled on those exhibits as Florida Cities Water Company wells. It would actually be Lee County utilities water.

HEARING EXAMINER: Okay. So you guys, to your knowledge, there's been no problem with the existing mine causing problems with draw down or any other adverse impacts on the operation of those wells?

MR. WEGIS: No.

HEARING EXAMINER: Anybody have any questions of this witness?

MR. SCHROPP: No.

MR. BLOCK: No, ma'am.

What Mr. Wegis just pointed -- you asked him a question about monitoring wells. If I understood Mr. Martin's presentation on power point, if you go to the hard copy, Page 14, it says -- there is a power point there that says, monitoring program and it has yellow dots throughout it. If I understood Mr. Martin correctly, those are the monitoring well locations and you'll note that they've got monitoring wells in and around where the utility site is located at.

HEARING EXAMINER: Right.

1 MR. BLOCK: And Kirk is still here if you have 2 any more questions. HEARING EXAMINER: There's no wells south of the 3 north part of Section -- I'm sorry, that's Section 1, 4 isn't it? There's nothing south of that then? 5 MR. MARTIN: Lee County public supply wells 6 here, here and here. We have them marked. 7 8 are the four wells that are monitored quarterly for a whole slew of parameters specifically looking for water 10 quality. 11 HEARING EXAMINER: The one in the middle is a 12 well? 13 MR. MARTIN: Yes, ma'am. 14 As a matter of fact, I would refer to this as the pool table but these are all wells. Those are all 15 setbacks from the monitor. That's been out there for 16 17 decades. 18 HEARING EXAMINER: And that's water in that one, 19 too? 20 MR. MARTIN: Yes, ma'am. 21 MR. WEGIS: Just to clear something up. are proposed sites. The existing wells that run along 22 23 this section line, township line one mile north is 24 easements for wells and there's proposed well sites there 25 and that's why those --

In those three areas? 1 HEARING EXAMINER: MR. WEGIS: Yes, ma'am. Still like the pool 2 table. 3 HEARING EXAMINER: All right. Chip, I've got 4 some questions. 5 MR. BLOCK: Yes, ma'am. 6 7 HEARAING OFFICER: First off, when you did your 8 assessment in this case, you did no assessment of the DRGR, the prohibitions and whatnot on the DRGR, and I was 9 wondering why that was. I mean, this property is in the 10 DRGR. 11 12 MR. BLOCK: If I can maybe expand on your question to understand the point of the question. Are you 13 talking about the current DRGR moratorium? 14 15 HEARING EXAMINER: No. What I'm talking about is 16 the -- under the DRGR, Lee Plan policy, as an explanation 17 of the purpose and the goals -- the purpose and the intent and whatnot, and it has a statement in there dealing with 18 no impact to the historical water levels. 19 20 MR. BLOCK: Yes, ma'am. HEARING EXAMINER: My question to you was, 21 22 looking at the fact that we're looking at a four-tenths of 23 a foot draw down, that to me is an impact, and I don't understand why you did not do the Lee Plan analysis on the 24 DRGR knowing that the Board of County Commissioners is 25

really hot on this issue at this point.

MR. BLOCK: I'll answer the question this way.

We looked at the impacts of the proposed operation along with dewatering and its impacts on -- the potential draw down and the water impacts, ground water impacts.

Your assumption of a .4 plus draw down would occur in the event that they don't have trenches, the recharging trenches.

The applicant is committed to recharging trenches around this site, so the effect is, if I've understood everybody's statements correctly to my professionals in Lee County staff, is that there is no draw down associated to this operation. So staff was quiet on the impact of the draw down because there is no draw down, and that the project had been previously found consistent with the Lee Plan for the DRGR under the previous zoning applications of IPD. So we did not believe that there was a need to address that in the Staff Report. But I will place on the record that we do not believe that there are any impacts on the ground water supply in this area by allowing dewatering.

We've stated it but we haven't really said it in the findings and conclusions.

HEARING EXAMINER: And because on Attachment H from one of the statements that's made in here, this is

the Lee Plan narrative by the applicant, it states in there that land uses in these areas, talking about the DRGR, must be compatible with maintaining surface and ground water levels at their historic levels according to Policy 1.4.5, and then it goes and talks about permitted uses include mineral mining, land mining, or whatever. But my point is here, and I understand what you're saying and, I think you should have really put that in the Staff Report --

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: -- but my question is that the modeling, and that was one of the things that Dr. Lee said when he was standing up there, the modeling that they're doing has already been affected, the water level has already been affected by the agricultural endeavor that's on the property, possibly by the other mine in the area, so that we don't know what the historic water level is. So how can we find that this is consistent with that purpose of Policy 1.4.5 at this point? That's what I needed some further explanation from staff on, because your Staff Report talked about the well field and went on and on about the well field, which was nice, but the DRGR has got this major issue out there about the potential effect that mining is having or will have or can have on ground water levels.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: And historic ground water levels. I just didn't see any analysis on that, and it just kind of concerned me that that was sort of, you know, not brought up knowing how the Board's already focused on this area anyway. And the finding of -- previous finding of consistency with the Lee Plan to me does not automatically transfer from one request to the next.

I think it needs to be reviewed each time, and if there's been a reinterpretation of the plans and the Lee Plan policies, or whatever, that interpretation, the newest interpretation needs to be in effect and needs to be considered when a new request comes in. So --

MR. BLOCK: And I understand your concern, Madam Hearing Examiner. I have heard it and will address it in future cases.

I think for this case, this section of the policy that talks about it, and I'll re-read it as you have said, land uses in these areas must be compatible with maintaining surface and ground water levels at their historic levels according to Policy 1.4.5. And then it goes on to say other things.

And I think what we have pointed out is that there is a history that Mr. Martin has supplied as part of this case that's shown in the power point of historically

going back and even identifying the historic water levels under the agricultural operations that were occurring in the '80s, and that has been provided to staff and has been provided historically, and it's demonstrating through this application.

And it may not be stated in the report, but I think what I'm hearing from staff is that we do not believe that there is going to be any adverse impacts or draw down of the water, either surface or ground water levels below what has been occurring at least under the agricultural operations and that takes us back into the '80s. As to go before that, I don't know if we've got that information. Maybe the applicant can further address that. But staff feels comfortable that there is no further impacts beyond what has been happening under the agricultural operations.

HEARING EXAMINER: Okay.

MR. SCHROPP: May I add at this point? I was going to make the same point that Chip I think just made, that there is evidence in the record, and I'd like to have Mr. Martin at the appropriate time come up and address it, but that evidence of historical water levels in the area does date back to 1981 or '82 which predates the DRGR land use classification in this county, and, of course, was adopted in 1990 so I think provides the evidence

necessary to make some findings that you're concerned about.

As I said, Mr. Martin can probably address it more thoroughly than -- with some oral presentation.

HEARING EXAMINER: Okay. I'd like him to go over all six of the graphs shown on the water level hydrographs when he comes up because I see a marked difference in the top and the bottom given just the location of the line that is shown on the first graph, and I can't -- you know, it's a little small so -- but not the bottom level, I mean, but the one with the six on it. I need him to sort of walk me through.

There are several questions that I need to ask you, Chip, on your findings of fact.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: All right. Here are two in specific where you indicate there will be no negative impacts on the quality and quantity of water available to the nearby well field operations.

MS. BLOCK: Yes, ma'am.

HEARING EXAMINER: Now, there are also residential uses not close, I think half a mile away, I think they indicated somewhere in here I read. But was it your finding on the -- that there was going to be no negative impacts on the nearby well field operations

because they are the closest thing?

MR. BLOCK: Yes, ma'am. The private wells in that area are further away from this particular site down off of Mallard and a couple of other locations down there. That's the closest private wells. And if we are not experiencing any adverse impacts on the nearest well field operations, as far away as those are, it is not expected that there will be impacts on those private wells in the immediate area, so, yes.

HEARING EXAMINER: Okay. But the next one down is your No. 4 which talks about the proposed activity of dewatering the mining operation is appropriate at the subject location as proposed is not expected to have a detrimental impact on the nearby well field operations and private wells. So you do discuss them there.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: I guess this goes back then to the discussion we just had about the historic water table.

MR. BLOCK: Yes, ma'am. And, again, I would just reiterate that we do not believe that there's any additional adverse impacts that have been demonstrated through our review of the modeling that will have an adverse impact on the ground water supply in this area.

HEARING EXAMINER: Okay. Going to your conditions.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: Condition No. 2.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: Page -- heck if I know.

MR. BLOCK: We'll just say Condition 2 and go from there.

HEARING EXAMINER: It's Page 4 of your January

14th memo. All right. Condition No. 2 indicates that,

second sentence, "If staff determines that changed

conditions on or near the property result in the threat of

detrimental impacts to the public health, safety or

welfare not considered at the time of this rezoning, then

staff may propose modifications to these conditions deemed

necessary."

Now, how or when or where is the threshold for threat? I mean, it does, it doesn't, it might? Is this a might have an adverse? I have never seen result in the threat, and for code enforcement purposes, since I get to sit on these things, what does this mean? Where did that come from?

MR. BLOCK: Okay. This condition came from a previous -- I'm not sure, one of the three -- one of the three previous zoning actions granted for this overall mine expansion area. And at the time that we wrote this condition, we wrote it when we did not have the expertise

1 on staff to be able to try to model and anticipate potential threats on, in this case, the well field 2 operations. So we were planning through the monitoring 3 efforts to be able to monitor what was happening in the 4 5 monitoring wells and then if we came across a potential 6 area of either from a -- some type of operation, whether it be the mining operation itself with the potential for 7 contamination of the water because of diesel fuel or oils 8 9 getting into the lake and thus potentially having an 10 impact on the well field operations or some other unknown threat that through microorganisms not necessarily related 11 12 to diesel but other microorganisms that might be in the lake and thus potentially threatening the well field 13 operations, we wanted to have some type of condition 14 associated to it so that we could refer back and try to do 15 16 some type of, you know, correction of the potential 17 problem that might threaten the well field operation out there. 18 19 I know That doesn't give you any level of good 20 feeling, no comfort. 21 MR. SCHROPP: May I elaborate on that? HEARING EXAMINER: 22 In terms of process if your concern 23 MR. SCHROPP:

is if it's going through a code enforcement process --

HEARING EXAMINER: How to enforce this, yes.

25

24

MR. SCHROPP: 1 I don't think the condition 2 envisions it going through a code enforcement process. you look at it, it says prior to the Development Order for 3 Phase 2.3, staff may propose new conditions. If the 4 applicant is okay with those conditions, Development Order 5 gets issued. If the applicant is not --6 7 HEARING EXAMINER: If not, I get to see it as an 8 appeal. 9 MR. SCHROPP: -- then we bring it to you. 10 it doesn't come to you in the context of a code enforcement matter, it comes to you in the context of here 11 are some new conditions, is there justification for these 12 13 new conditions. If we disagree with that, we have the right to bring it to you as an appeal. If we don't 14 disagree with it, then the conditions are fine, then life 15 goes on. 16 17 HEARING EXAMINER: All right. I have to think 18 about that. 19 MR. SCHROPP: And as Chip says, this is a 20 condition that actually you'll find in one of the previous resolutions that was there. The only change we made was 21 the phasing change. 22 23 HEARING EXAMINER: Okay. The Condition 13 on 24 like Page 6 or 7.

MR. BLOCK: Yes, ma'am.

25

HEARING EXAMINER: I am not sure I understand why the condition was worded this way, mining operations may not impact wetlands located on the subject property, I think there should have been a comma there, except as they be granted in Case DCI2005 -- well, that's this case -- MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: -- and is provided for in Condition 23.

MR. BLOCK: Yes, ma'am.

HEARING EXAMINER: Why are we listing the case numbers? Is this for future -- assuming that we're going to have future cases or --

MR. BLOCK: This is an attempt by myself again in a codification intent to keep the conditions that were effective within the resolutions. And in this case you can even see the resolution. I didn't take out the parenthetical statement of Z-96-068, but that's where it was adopted. So the period on the first line would disappear, is intended to disappear. Really the parenthetical statement should have disappeared also for the resolution number.

And then it would follow up "We have wetland impacts associated to this case only." And that's where the underlining comes in as being granted in this case number and provided for in Condition 23.

Condition 23 outlines the specific impacts that have happened to wetlands as being sought as part of the amendment to this application. And I just stated Condition 23 because it specifically identifies that there is a certain acreage, in this case 0.79 acres, as we've heard of jurisdictional impact associated to this application. And we're only approving that.

Previously to this point the mining operation, the expansion, was not to allow any impacts on wetlands which if I can refer to help the Hearing Examiner out a little bit, I'll take the microphone with me, one thing that hasn't been stated strongly, but I think has been inferred, is that if you look at the original Master Concept Plan, this area down here in the southwest corner was just a wetland area. It wasn't a preserve. So we needed something -- staff needed something in the time of 1996 to identify that that wetland should not be impacted, and that's where we were coming from as part of that. We were not going to allow the impacts to the wetlands.

Well, it's now happened. What's going to happen now? That's why we're going through the public hearing process. The applicant indicates it was inadvertence, we're addressing that point.

HEARING EXAMINER: So why can't we just simply say except as may be provided for in Condition 3 herein

1 below and just take out the DCI case number? MR. BLOCK: That's fine. 2 HEARING EXAMINER: Because it's going to get you 3 the same place. 4 MR. SCHROPP: Yes. 5 6 MR. BLOCK: I think what I had was I had the case 7 number and didn't have that condition before and then we added the condition, so I added it in here. 8 HEARING EXAMINER: All right. That makes me feel 9 a little better because throwing a case number in the 10 middle of it and then you've got future -- everybody is 11 going to go back and look at that prior case, try to 12 figure out what's going on. 13 All right. The next page, Condition 18. 14 MR. BLOCK: Yes, ma'am. 15 HEARING EXAMINER: Last sentence of this 16 condition, "Instruction includes signs posted and clearly 17 visible at the scale house, the office and the egress 18 point onto Corkscrew Road." This little fellow don't 19 touch Corkscrew Road. I've hunted all over trying to find 20 a road where you got down to Corkscrew on from this little 21 22 guy. 23 MR. BLOCK: You're absolutely correct. MR. SCHROPP: Should be Alico Road. I don't know 24 25 if that's what it says in the original condition or not.

1 MR. BLOCK: It may very well --HEARING EXAMINER: I think it does. 2 I think I saw -- and I'm going duh. By that point in time then I 3 had totally moved the mine from where it was to somewhere 4 5 over here trying to get it down to Corkscrew Road. Okay. 6 So this is Alico Road. MR. BLOCK: This is Alico Road, yes, ma'am. 7 HEARING EXAMINER: All right. 8 MR. SCHROPP: Then the original condition does 9 10 read that way. 11 HEARING EXAMINER: That's what happens when you 12 supercopy. MR. BLOCK: Yes. 13 HEARING EXAMINER: All right, let me see. 14 understand this is a codification, but, Chip, do we have 15 to have Deviations 1, 2, 3? Those all deal with section 16 line setbacks. We haven't had section line setback 17 requirements since the middle '90s. Do we need to keep 18 19 doing this? I mean, is this necessary as part of the codification because even if they got involved --20 MR. BLOCK: I know exactly what you're getting 21 22 at, Madam Hearing Examiner. HEARING EXAMINER: 150 foot, you know, there's 23 no violation at this stage. 24 MR. BLOCK: Russell and I struggled with this 25

```
because he asked me the exact same question, and I said
 1
     I'd rather keep them in there, Russell, from the
 2
     standpoint of historical value to take it backwards.
 3
                                                            But
     we are codifying it. The rule doesn't apply. All
 4
     deviations have been approved, particularly those
 5
     deviations from section lines which means under today's
 6
     rules, those section line setbacks don't apply like you
 7
     said. I think you can strike them out if you'd really
 8
 9
     like to.
              MR. SCHROPP: But if you do that, only Deviations
10
     2 and 3 I think apply.
11
              HEARING EXAMINER: You're right, it's 2 and 3.
12
              Okay. And if you want to -- Deviation 2 and 3, I
13
     can just indicate that this deviation is, although
14
     approved, is a moot issue as setbacks from section lines
15
     are no longer required in the Land Development Code.
16
              MR. BLOCK: Yes, ma'am.
17
              HEARING EXAMINER: That way then that will take
18
    care of the whole situation.
19
              MR. BLOCK: I have no problem with that
20
21
    whatsoever.
              HEARING EXAMINER: But I'm thinking why are we
22
23
     doing this. Okay.
24
              MR. SPICKERMAN: Can we put those at the end,
25
     then, so then the deviations go in order for what's going
```

```
to be shown on the MCP instead of having a 1, a 2 and then
 2
     a 5?
           You know what I mean?
              MR. BLOCK: Or you can just indicate --
 3
              HEARING EXAMINER: Well, I've got Deviation 1, 2,
 4
     3, 1 and 1.
 5
 6
              MR. SPICKERMAN: So Deviation 1 or 1 or 1 could
     be renumbered for when we put the resolution together.
 7
              MR. BLOCK: I think what Rob is talking about is
 8
     that you keep Deviation 1, strike -- I think you can
 9
     strike 2 and 3, just strike that out and if you need a
10
     clarification as to why they were taken out, indicate it.
11
12
     And then the following two deviations behind that now
     become Deviations 2 and 3 and when the applicant redoes
13
     the Master Concept Plan, they can just make that same
14
15
     correction.
16
              HEARING EXAMINER: Okay.
              MR. BLOCK: Just give us 1, 2 and 3.
17
              HEARING EXAMINER: All right. I'll do it or I'll
18
     have the secretaries make the switcheroo on that.
19
20
              All right. Actually, we may be done, Chip.
     me look at the original one that I went through here
21
     first, see if I have anything else.
22
              All right. I don't have anything else written
23
24
     down that I need to ask you questions on, Chip. That was
     it. You have been grilled enough. Anybody else have any
25
```

1

follow-up on anything that I have asked?

MR. SCHROPP: Nothing for Chip, but if I could have Mr. Martin address the issues that you discussed about historical water levels.

HEARING EXAMINER: Yes, I would like to have him up here and we may be able to finish up and not have to come back.

MR. SCHROPP: You understood the question.

MR. MARTIN: One of the points that was brought up was the differences on the hydrographs between the upper three and the lower three. The primary difference there is in the time frame. The upper three represent about 25 years worth of data. The bottom three represent about eight months worth of data. I just did a quick calculation. That's a difference of about 35 to 40 times.

HEARING EXAMINER: Are you --

MR. MARTIN: What I was going to say is I just did a quick calculation. That's about a time difference of about 35 to 40 times. So each of those is about an inch long. Imagine stretching those hydrographs out on the upper part to a meter, you can see it's a real, real flat line that would look very similar to those ones down below. So it's a time frame difference we're looking at.

HEARING EXAMINER: Okay. So -- all right. It's

```
just very misleading with the one below the other.
 1
 2
              MR. MARTIN: I apologize for that. I should have
 3
     brought it up when it was on the screen even.
              MR. SCHROPP: Maybe we can submit a larger
     version of that post hearing so that you have it, don't
 5
     have to squint.
 6
 7
              HEARING EXAMINER: That would be good. I have a
     magnifying glass back there, but I'm not sure how well
 8
 9
     that's going --
              MR. SCHROPP: I don't think even that's going to
10
     pick it up.
11
              MR. MARTIN: My apologies for that.
12
13
              MR. SCHROPP: If we could, maybe submit a larger
     version of that.
14
              HEARING EXAMINER: I'd like that.
15
              MR. SCHROPP: But also from a historical
16
    perspective what does that -- can you elaborate a little
17
    bit on what that shows?
18
              MR. MARTIN: Again, I think I made this in the
19
20
     primary presentation, but the data show that there hasn't
     been any appreciable change in water levels. And what we
21
     typically look at is the highs and the lows and the
22
     duration of any peaks and valleys. And it shows that over
23
     25 years nothing has changed.
24
25
              Now, that -- the monitoring data does not predate
```

```
agricultural, so I'm guessing there's some agricultural
 1
     effects in here; however, it does predate the mining
 2
     activities and does predate DRGR designations and so
 3
     forth.
              In my opinion we have a very strong record to
 5
     show that the mining is not causing an effect but it may
 6
 7
     or may not reflect some agricultural activities.
 8
              MR. SCHROPP: Just projecting forward if you can
     from the present requests or approval, would you expect it
 9
10
     to have any appreciable or any impact at all on what the
11
     hydrographs would show?
              MR. MARTIN: Not at all. As I alluded to
12
     earlier, the process that Florida Rock is using has
13
     evolved over time. It's always been improved. So I'd say
14
     if anything things are better from now on. But at this
15
16
     point I don't see any effect the mining has had thus far.
     I would not expect any in the future.
17
              MR. SCHROPP: So no effect on the historical
18
19
     ground water flows or levels resulting from this
     application?
20
              MR. MARTIN: That's correct.
21
22
              MR. SCHROPP: That's all.
23
              HEARING EXAMINER: All right. Any other
     rebuttal?
24
25
              MR. SCHROPP: I don't believe so. I appreciate
```

your time and indulgence on this but I think we're --

HEARING EXAMINER: All right. I can't tell you what I'm going to do on this, because I haven't figured out what I'm going to do on the other one yet either. I mean, the historical aspect, the impact to the ground water levels is a concern. I understand the testimony. I need to go back through the entire record because a lot of this is coming at me kind of fast. I need to go back through the entire record.

I need to see that exhibit in a larger scale if possible. I don't know yet what my feelings are on this. And I will tell you that if you guys want this thing before May, don't hold your breath because I'm still on Volume 13 of 17 on that 13-day hearing and I still have -- I've still got to write that one and I've got about eight or ten cases in my rack in there that I have to make decisions on, recommendations on. So needless to say, I am slightly backed up.

I mean, if we could cancel all the hearings between now and the end of February, I'd be all caught up.

MR. BLOCK: If you'd like for me to make that note, I'd --

HEARING EXAMINER: Go back and continue them all until April or May.

MR. SCHROPP: Two items if I may in response to 1 2 that. 3 HEARING EXAMINER: Oh, God, if you're asking for an expedited, I'm going to shoot you. 4 MR. SCHROPP: I'm not going to run that risk. 5 But time is a little bit sensitive to the applicant here 6 7 in connection with their activities. As we indicated, we're nearing the end of excavation on Section 11 and hope 8 to move into Section 1 rather expeditiously. If it would 9 10 help, and I don't know whether you were going to do this or not, but were you going to have the hearing 11 transcribed? 12 HEARING EXAMINER: Yes. It's been four hours and 13 something with this amount of technical detail, I have 14 transcribed. It's easier for me to read the word from the 15 horse's mouth than to try to figure out what the girls 16 17 have heard. 18 MR. SCHROPP: We were going to offer to do that. HEARING EXAMINER: No, I'll automatically order 19 20 that. Thank you. 21 MR. SCHROPP: The other thing is obviously, you know, I know you had a 13-day hearing on another 22 application and I know what it was all about. And I can 23 appreciate that, but I have -- you know, I have no ability 24 to address what was presented in the other hearing so I'd 25

ask you to confine to what was presented here on the 1 2 We worked very diligently with staff and took a continuance on this matter, which probably put us after 3 the hearing that you're talking about, but worked very diligently to come up with a plan that was acceptable in 5 all respects, I believe, to Natural Resources. 6 HEARING EXAMINER: Your plan, your request is 7 different than the other one. So, I mean, there are 8 different criteria, there are different considerations. 9 So, I mean, I would not use the same measuring stick for 10 both. It just would not fit. 11 12 MR. SCHROPP: I appreciate that. HEARING EXAMINER: So let me see what I can do. 13 14 If I can ever break free of this other one, things will

start to come out rapidly. I'll see what I can do for you.

15

16

17

18

19

20

21

22

23

24

25

MR. SCHROPP: I appreciate it. And we understand your situation. If you need to make the site visit as well, you're more than welcome.

HEARING EXAMINER: I'll have my secretary call and set up something so that I can wander out there.

All right. Anything else from anybody? Okay.

MR. SCHROPP: Holding the record open for some --

HEARING EXAMINER: That's right. We're keeping the record open for a condition regarding the recharge

```
1
     trenches, revision of Sheet 7 of the Master Concept Plan,
 2
     and the submission of that graph.
              MR. SCHROPP: The hydrograph.
 3
              HEARING EXAMINER:
                                 The hydrograph.
 4
              MR. SCHROPP: A larger version that's more
 5
 6
     readable.
              HEARING EXAMINER: The water level hydrograph.
 7
              MR. SCHROPP: And also there was a dewatering
 8
     plan that was referenced that you wanted to attach perhaps
 9
10
     as a condition.
              HEARING EXAMINER: Right. I want the dewatering.
11
12
              MR. SCHROPP: And we'll submit that. We think it
     might have been attached to the original Staff Report, but
13
     we're not sure that that was the latest version, so we
14
     will make sure the latest version is submitted with that.
15
16
              HEARING EXAMINER: Okay. Time frame?
17
    Friday?
              MR. SCHROPP: Next Friday, that's fine with me.
18
              HEARING EXAMINER: Okay. I mean, I can give you
19
20
     longer than that if you need it.
              MR. SCHROPP: We should be able to get it done by
21
22
    next Friday.
23
              HEARING EXAMINER: All right. Next Friday then,
24
    that will be the 26th.
25
              MR. SCHROPP: No, excuse me, it's the 25th.
```

```
1
               HEARING EXAMINER: It's Friday, whatever, 5:00
           If you need additional time, let me know.
 2
     p.m.
               All right. This hearing is closed.
 3
               (Hearing concluded.)
 4
 5
 6
 7
 8
 9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
```

1	STATE OF FLORIDA)
2	COUNTY OF LEE)
3	
4	I, Roberta June Bishop, Registered Professional
5	Reporter, do certify that I was authorized to and did
6	stenographically report the foregoing proceedings, and
7	that the typewritten transcript, consisting of pages
8	numbered 1 through 152, is a true record.
9	Dated this 13.6 day of February, 2008.
10	
11	Roberta June Bishop, RPR
12	Roberta dung Bishop, RFR
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

_ ' _
'05 17:23
'80s 8:23 9:2 10:4 116:13
133:3,12
'81 57:22
'82 56:10,24 57:22 133:23
'85 13:20,21
'88 16:22 57:5
'89 57:5
'90s 35:8 142:18
'96 17:25
'97 17:19
'99 127:2,2
- 0 -

0.79 32:20 94:2 140:5 036 16:18 06 73:22 **09-07-07** 32:10 92:25

- 1 -

1 6:8,13 9:7,19 10:6 15:17 16:9 19:4,18 21:25 24:4, 7 26:18,19,21,23,23 27:2, 6,16 31:25 35:7,12 37:4, 5,5 38:5 44:20,22 46:3,8 55:9 56:13 58:4 72:14 92:13,22 128:4 142:16 144:1,4,5,5,6,6,6,9,17 149:9 153:8 **1,000** 23:20,21,24 46:10,25 73:22 111:20 112:25 117:17 118:4,20,23,25 119:6 120:11,21,21 123:12 124:15 **1.4.5** 131:5,19 132:21 10 59:6 62:6 73:19 93:3,7 94:15 120:3 100 22:25 23:16 81:14 83:8,9 117:4 118:25 11 9:9,16,19 10:6 15:17 16:13,15 17:21 18:9 19:4,18 21:25 24:3,7 26:18 27:2 28:3,11,12 38:5 44:22 46:6 54:24 55:8 149:8 110 41:4 **11:00** 75:19 11th 33:19 98:7 **12** 9:7,20 10:6 15:17 16:9, 13,16,22 19:5,18 21:25 24:7 26:18 33:5,6 41:13 44:20,22 49:10 55:9 83:25,25 100:13 124:24 120 41:4 **13** 110:8 138:23 148:14 13-day 148:14 149:22 14 127:19 14th 31:9 33:18 89:9 90:4 98:7,14 104:6 136:8 150 142:23 152 153:8 15th 8:8

16 21:14 82:19 85:3 16th 3:3 17 49:24 55:15 58:10 82:19 85:3 102:2,15 148:14 18 73:11 78:12 141:14 **180** 24:10 **1892** 57:17 18th 89:4,6 **19** 57:10 1979 78:24 **1981** 7:25 8:3,5 12:10 13:9 88:9 100:16 133:23 **1983** 12:6 **1984** 7:21 8:6 **1985** 8:6,8,14,23 13:7 14:7,14 57:4 **1988** 9:6,8,13 15:15,18 88:12 1990 133:25 1992 9:8,13 16:12 35:8 1996 9:9,14 17:19 140:17 **1997** 17:2 18:1 1998 28:24 **1999** 5:3 15:13 19:17 1:00 122:13

- 2 -

28:1,10,10,16 10:8 11:4, 6,22 12:15 13:5 26:22 27:3,15,17 31:17,19 37:4, 5 38:9 58:4 92:11 136:2, 5,8 142:16 143:11,12,13 144:1,4,10,13,17 2.000 112:25 **2.500** 113:1 **2.1** 38:9,11 41:21 66:1 81:14 2.1's 41:24 2.2 27:17 40:13 41:21,24 **2.26** 30:10 **2.3** 27:17,18 41:22,23 138:4 2.4 27:18 81:8,13 2.5 27:18 38:9 41:24 2.c 31:18 92:6 20 32:16 45:3,7,9 51:8 73:11,15 107:7 108:24 114:15 115:19 **200** 23:20 106:9,9 109:18 **2000** 15:13 19:17 57:5 **2001** 9:17 10:4 19:1,18 28:11 57:5 **2002** 28:11 29:2 2003 22:18 **2005** 24:4 **2007** 32:5,10 86:6 89:7 92:24,24 93:7 **2008** 55:5 153:9 22nd 22:18 32:5 92:23 93:7 23 32:17 57:2,9 97:20 124:8 139:8,25 140:1,4 **24** 48:25 57:2 59:21 69:19 84:2 24/7 75:9

25 32:16,17 33:11,13,15 98:6,9,14 99:3 145:13 146:24 **25**s 33:12 25th 151:25 26 22:22 33:14 49:3 **260** 12:8 **26th** 151:24 27 49:3 57:1 **283** 109:4

- 3 -

3 8:11,16 10:8 11:11,13,15 12:15 13:5,15 15:22 26:24 32:1 37:5 58:4 109:3 140:25 142:16 143:11,12,13 144:5,10,13, 3.87 28:8 30:7 32:18 98:19 300 22:25 23:16 81:11,12 **35** 8:12,17 10:9 12:16 13:6 145:15,20 **396** 98:11

- 4 -

4 15:22,23 22:10,13 58:4 74:14 85:5 119:8 124:17 130:6 135:11 136:7 **4.5** 109:11 **40** 45:13 51:8 62:7 145:15,20 **400** 23:20,24 46:10,25 81:11,12,15 118:20 **42** 74:21 75:13 **421** 73:25 74:12 111:21 **480** 8:3 12:10 13:9,13 16:12 **49** 74:22 75:2

- 5 -

5 18:1 22:11,13 36:24 45:3,9 51:7 62:6 85:5 144:2 **50** 37:3 **500** 16:13 81:16 118:2 55 19:6 **5:00** 152:1

- 6 -

6 20:25 26:14,15 36:24,25 37:24 73:23 74:2 138:24 **68** 9:21 19:7 37:3 45:24

- 7 -

7 37:24,25 38:1 39:24 93:3,7 94:15 97:24 138:24 151:1 70 45:13 51:8 **79** 6:1 30:6 7th 32:10 92:24

- 8 -**80** 9:15 17:21 18:9 - 9 -9 43:22,23 **9(b** 15:21,22,23 **90** 38:5 56:3 900 113:10

- A -

95 38:5

abilities 124:20 ability 14:1,4 91:24 149:24 **able 48:15** 54:9 71:2 72:19 88:10,11 91:5 102:4 122:17 137:1,4 145:6 151:21 above 14:19 23:4 48:25 59:10,14,17 64:23 106:25 **absolutely** 92:6 104:13 141:23 accept 43:9 acceptable 20:3 34:3 150:5 accepted 11:11 36:2,13 42:18,25 79:25 80:5 87:22,25 88:4 97:12 99:19,21,23 access 6:17,18 76:18 accompanied 74:17 accomplish 13:25 accordance 5:17 10:19 16:7 32:3 according 69:8,11 70:21 98:20 131:4 132:21 accurate 28:9 acre 28:8 32:18 acreage 93:11,25 94:1 97:15,18,20 140:5 acreages 30:4 acres 6:1 8:4 9:15 12:10 13:9,13 16:12,13 17:21 18:9 24:10 30:7,7,10 32:20 94:2 98:11,19 113:10 140:5 across 42:5 51:4 54:17 137:5 action 18:24 25:13 121:8 actions 5:10 13:19 91:10 136:23 active 25:25 85:1 activities 56:21 57:14 78:23 91:21 124:14 147:3,7 149:7 activity 19:22 66:9 135:11 actual 39:7 40:19 41:20 42:1 49:6 52:20 93:12,25 94:7 107:15 actually 7:6 9:13 12:18 16:18 17:25 22:18 30:3 35:5,13 38:13,22 39:25 41:2,6,11 42:2,10 62:6 63:10,12 66:19 71:6 72:4,20 76:13 82:7,14

85:6.10 89:3 93:12 95:5 99:14 101:12,14 102:4,8, 16,23,24 108:6,11,12 110:21,22 114:17 117:8, 24 118:18 122:8 125:23 126:2 127:5 138:20 144:20 add 9:9 19:1 71:21,22 114:13 133:18 added 9:15 16:12 38:22 58:9 62:21 141:8,8 adding 61:12 69:4 addition 17:19 55:17 82:24 120:8 additional 7:11 9:9 27:24 135:21 152:2 address 5:25 25:8 26:7 31:6 34:3,11,14 60:14 69:1 76:5 79:16 86:6 94:10 95:1 97:15 113:16 115:10 130:18 132:15 133:13,21 134:3 145:3 149:25 addressed 12:18 38:20 90:2 addresses 30:20 addressing 76:14 86:9 140:23 adjacent 50:4 52:5 53:21 83:21 86:16 90:14 adjust 60:13 115:2 adjusted 60:14,16 102:10 administratively 35:10 adopted 120:1 133:25 139:18 adverse 44:15 62:18 90:23 91:2 124:20 127:9 133:8 135:6,21,23 136:17 aerial 6:7,22 7:15 11:4 16:14 17:22,23 24:13 28:23,24 29:6,8 30:1 37:8 52:6 55:2 58:18 61:24 76:17 aerials 6:4,7 8:18 28:20 affect 106:23,24 affected 58:22,23 115:13 131:14,15 affecting 46:18 50:22 61:13 106:23 111:13 afraid 68:22 after 8:22 29:6 30:18 31:2 32:6 46:5 47:14 66:20,20 75:19 78:17 100:22 150:3 afternoon 79:18 122:21 AG 15:8 35:18 AG-28:14 again 6:20 9:2,8,10,12 10:5 12:11 13:4 14:15 15:24 16:14 35:11 36:20 37:18 38:4,17 46:20 47:20 49:21 51:2,18 53:10 55:5 56:1,24 57:14 58:1 61:15,22 70:21 72:7,21 76:1 82:13 85:2 86:15.16 87:24 100:6

101:23 104:24 111:7

113:15 114:7 121:7 125:3 135:19 139:13 146:19 agency 20:17 25:25 aggregate 45:12 ago 100:13 agree 52:2 62:19 agreed 14:12,16 Agreement 14:10 31:1,13 88:25 agricultural 28:25 83:14, 16,19 100:14 101:4,6,24 116:14 131:15 133:2,11, 16 147:1,1,7 ahead 96:2,4 airport 126:16 airport's 7:14 Alico 6:15,16,20 7:1,9 126:7,10,10,15,21 141:24 142:6,7 all 3:21,24 4:4,5 8:16 10:7 12:3,12 15:12 17:6,7,8,18 19:13 21:1,12,20 22:6 23:2 25:20 35:23 37:17, 18 39:20 40:11,13,18 42:15,25 45:14 48:18 49:24 50:2,6 51:24 53:11,16 55:10 56:2 61:24 62:8 65:20 67:24, 24 68:13 73:18,22 74:13 75:14,17 77:4,9,19 78:13 80:22 81:16 84:4 86:25 87:10,11 88:4,5 90:5 91:9,14 93:2 95:10,17 96:25 97:12 102:15 103:4,6 104:5 105:18 106:16 107:9 108:1,4 109:10 110:9,16 111:1,19 112:6,22 113:6,24 115:19,20 116:3,4,11,22 119:23 120:14 122:16 125:10,10,12 128:15,15 129:4 134:6,16 136:8 138:17 141:9,14,20 142:8,14,16 143:4 144:18,20,23 145:25 147:10,12,22,23 148:2,19, 20,24 149:23 150:6,22 151:23 152:3 allow 23:19 48:15 89:14 90:8 140:9,19 allowed 14:21 16:24 23:24 60:24 77:16 91:21,23 allowing 130:20 allows 37:10 77:7 78:3 115:1 allude 118:18 alluded 77:5 115:25 119:12 147:12 alluding 118:24 almost 75:17 114:15 alone 77:3 along 4:20 39:22 47:13 48:8 52:19 55:6 58:7 64:22 65:21 66:2 83:3 86:16 123:7 124:24

already 4:17 14:5 17:22 24:16 40:16 41:24 44:9 46:6 67:6,7 71:1 82:9 100:19 113:18 131:14,15 132:5 Although 124:8 143:14 Alvin 87:19 always 54:9 76:19 101:8 147:14 ambient 102:4,9 103:23 ambiguity 24:22 amend 20:23 amended 21:1,3 31:19 32:1.8 amendment 140:3 amicably 25:6 among 25:8 amount 24:22 60:14 82:2, 16 104:22,25 113:25 149:14 analogy 77:21 78:2 analysis 55:10 112:13 115:20 129:24 132:3 analytical 115:18 another 18:1 45:2 73:6 77:22 78:10 106:1 122:18 126:13 149:22 answer 17:17 34:21 35:1 56:3 59:3 63:23 64:1 65:1 70:4 90:18 95:15, 16,17 96:10 112:11,20 123:13 130:2 answering 67:12 anticipate 137:1 any 3:5 11:23 14:22 19:25 20:2 21:4 25:15,15 26:5 34:18,21,24 36:8 39:3,7, 25 43:20 46:18 50:3,4,7 52:12 53:4 54:8 56:16 57:17 58:20,22 59:3 61:14 62:2 68:6 70:18,23 79:1,14,16,19 80:3 81:18, 21,22 83:2,3,3,18,23 84:11,12,13 85:11,20 86:2,22,24,25 88:1 90:13 94:6 95:16,18 97:9 99:7, 15 100:18.21 103:24 107:25 113:19 115:21 117:19 118:25 119:14 122:22 123:13,17 124:25 127:9,12 128:2 130:19 132:3 133:8 135:6,20 137:19 140:9 144:25 146:21,23 147:10,10,16, 17,23 anybody 50:22 70:19 85:21 87:2 103:24 122:22 127:12 144:25 150:22 anymore 33:24 78:18 anything 34:20 40:12 55:25 59:24 61:21 73:5 75:16 81:19 82:11 84:12 86:23 113:8 116:23,25 122:23,23 144:22,23 145:1 147:15 150:22 anyway 122:4 132:6

anywhere 45:3,9 65:12 119:19 124:23 apart 13:20 apologies 146:12 apologize 25:19 33:19 39:19 92:13 98:6 100:10 122:11 146:2 apparent 57:15 appeal 138:8,14 appearance 25:14 applicable 12:10 15:4 16:9 18:19 21:22 24:14,15 applicant 3:15 4:10,16,24 11:11 36:16.20 43:14 76:9 80:8 88:2 89:13,19 90:2 93:16 94:7,20 95:21 97:10,14,16 98:16,24 99:12 120:5 121:6 130:9 131:1 133:13 138:5,6 140:22 144:13 149:6 Applicant's 6:8,13 11:4,6, 13 22:13 38:1 43:21,23 75:20 application 14:3 25:8 30:12 44:22.23 88:13 90:6 91:8 133:5 140:3,7 147:20 149:23 applications 130:16 applied 8:1,9 11:19 14:13 18:8 114:8 applies 10:2 13:4 apply 14:4 113:25,25 143:4,7,11 applying 52:17 appreciable 56:16 146:21 147:10 appreciate 41:9 147:25 149:24 150:12,17 approach 25:3,5 27:11 62:15 90:19,19,22 112:4, 4,15 113:20 115:18 appropriate 11:9 98:3 133:21 135:12 approval 11:21 12:3,19 13:13 90:5 91:5,19 93:23 94:19 95:13 98:10,15,16 119:25 121:2,18 147:9 approvals 10:25 11:17 19:3 92:1 approve 89:11,12 93:21 approved 5:8,10,14,15,22 7:25 8:3,4,8,13,15 9:12 12 10:3 11:16 12:2 13:2 14:5,14,20,25 15:15,18 16:3,16 17:1 18:1,11 19:1 20:23 26:5,11,16 28:15 37:1 69:13 113:18 143:5,15 approving 140:7 approximate 29:9 approximately 6:1 38:5 81:11 88:14 126:5 April 8:8 13:20 148:25 aquifer 14:18,19,22,22 45:20,21 62:8 aquifers 14:24

126:14 128:22 130:3

area 6:2,10,11 7:10,13

9:23 10:3 19:18 20:9 23:9 24:16 26:19,24,25 28:4,5,7,16,17,18 29:4, 21,21,22,23,24 30:5,8,8, 10,13,14 31:21 38:24 39:8,8,25 40:3,3,13,14,15 41:12 42:9 44:18.19 45:4 46:4 48:16 50:7,9 53:6 54:24 57:25 58:3 60:6,9, 11,12 61:8 64:11 69:21 71:12 72:3,15 76:14 79:1 80:23 81:1,3 82:2,12 83:4,22 84:20,25 85:1 86:17 90:15 91:10,11 93:13 94:8 98:23 100:12, 14 101:4 105:11 118:2, 20,20 123:11 130:20 131:16 132:6 133:22 135:3,9,23 136:24 137:6 140:14,15 areas 23:1 26:21 29:17 42:18 44:21 50:15 58:23 83:15 84:13 91:19 102:5 108:22 125:6 129:1 131:2 132:19 aren't 15:9 82:22 117:7 120:22 arise 26:5 around 3:8 14:8 40:24 49:25 50:2 52:7 60:8 61:10 67:21,22,25 68:13 83:17.18 101:18 108:6 116:11 124:23 127:23 130:10 array 50:17 55:23 58:11 114:18 arrow 38:23 ask 11:10 50:1 51:10,12 62:9,20 71:3 89:14 96:24 99:20 102:12 110:10,13 120:4 122:24 134:13 144:24 150:1 asked 55:24 66:5 92:22 95:5 122:23 127:16 143:1 145:1 asking 5:13 31:5 37:23 39:18 65:10 122:14 149:3 asks 92:7 aspect 5:15,24 26:8 27:21 34:14 60:20 61:4 76:5 125:18 148:5 aspects 5:13,14 90:6 asserting 24:21 assessment 98:18,23 129:8, 8 assist 92:4 Assistant 3:10 associated 10:15 61:18 79:17 89:21 90:21 91:4, 14 93:8,25 96:6 130:12 137:15 139:23 140:6 Associates 4:22 80:16,17 assume 112:13 assumed 109:12 111:18 115:19 assuming 75:8 104:11

106:12 109:6,7 113:24 139:11 assumption 20:5 130:6 assumptions 113:9 assurance 50:21 61:23 assurances 55:12 assure 44:14 62:1 assures 59:1 attach 20:6 121:10,17 122:5 151:9 attached 12:3,8,12 14:7 25:22 28:21 73:8 74:5,7 104:8 121:11,16 151:13 attaches 22:18 Attachment 130:24 attempt 139:13 attempted 91:13 attend 86:13 attended 86:7,16 attention 22:21 100:8 attenuate 52:13 attenuated 52:11 Attorney 3:5,11 4:1 36:11 39:13 42:23 95:21,23 August 22:18 authorized 22:19 153:5 automatically 132:8 149:19 available 31:24 34:25 74:7 86:1 92:10 123:5 134:18 average 23:20 57:2.9 aware 8:23 20:4 100:11 101:1,10,22 117:5,14 away 35:17 39:17 61:7 72:20 91:19 104:4 112:12 114:13 117:7 118:4 134:22 135:3,7

- B -

back 6:18,19 12:1 25:4 37:18,20 40:13 41:23 46:1,6 47:15,18,22 48:6 49:14 51:6 52:25 53:10, 22 54:15 55:1 56:10,12 59:5 66:21.25 72:19 75:18,22 77:19 86:5 88:9 89:20 91:15 96:3,13 103:18 104:19 107:17 113:15 114:16 116:13 117:1 122:9,18 133:1,11. 23 135:17 137:15 141:12 145:7 146:8 148:7,8,24 backed 148:18 background 89:24 99:20 backing 65:23 66:16 backup 61:22 75:7 backwards 143:3 **Bahamas** 78:14 ban 12:23 barely 48:10,11 barrier 46:17 53:12 63:19 64:16 based 14:2 32:20 57:11 73:1 89:24 90:15 97:16 98:18,22,23 104:9 124:12 basically 5:11 7:25 8:9

9:20 14:11 18:3 26:20 27:18 28:16,23 30:1,21 31:3 37:5 38:15 45:8 58:15 62:15 126:10 basis 56:21 119:24 bear 15:19 become 23:9 144:13 becomes 72:15 121:18 **before** 3:5,24 6:6 19:13 29:6 64:4 67:24 68:15 72:22 133:12 141:7 148:13 began 28:11 beginning 68:16,20 88:15 begins 27:16 32:2 118:17 begs 20:12 behind 47:13 65:5,22 106:18 144:12 believe 5:3 7:12 9:13 13:20 14:1,3 16:12 17:23 19:2 21:7 24:19,21 34:4 38:6 40:17 55:8,15 73:15 79:11,24 84:15 86:5 88:23 92:24 93:11 95:4 98:6 100:13 105:15 118:12,13 119:21 120:5 122:1 125:1 127:2 130:17,19 133:8 135:20 147:25 150:6 below 14:22,25 28:24 49:6, 10 59:11 60:5,23 106:23 108:22 133:10 141:1 145:24 146:1 bend 126:9,10 bends 6:16 berm 28:19 48:13,14 berms 30:16 85:1 **beside** 67:1,10 best 55:11 63:24 better 35:6 61:14 63:12 76:13 93:5 120:25 121:15 141:10 147:15 between 13:24 14:16 17:14 28:15 29:20 42:9 45:13 50:19 60:22 88:19 111:15 119:10 145:10 148:20 beyond 60:10,11 133:15 big 40:8 41:13 46:4 50:5. 5,6 113:13 121:13 biggest 77:12 106:8 **Bishop** 153:4 bit 7:16 10:13 15:24 46:3 51:7 53:8 80:22 88:8 107:21 108:23 114:16 116:5 125:14 140:11 146:18 149:6 blank 93:16 120:18 blasting 86:20,20 bless 103:11 **Block** 3:12,12,18 15:21 21:8 36:10 39:12 42:22 59:25 60:2 61:5 74:6 79:7 84:2 85:22 87:13, 15,18,19 88:5 92:18 94:5

96:5,10,17,22 99:17

104:2 110:12,15 118:12,

13 119:3,20 120:3 123:4, 10 126:13,14 127:15 128:1 129:6,12,20 130:2 131:10 132:1,14 134:15, 20 135:2,16,19 136:1,3,5, 21 138:25 139:6,9,13 141:2,6,15,23 142:1,7,13, 21,25 143:17,20 144:3,8, 17 148:22 blow 53:8 56:18 blowing 83:17,20 blue 29:18,20 120:24 board 6:5 16:4 26:12 93:19,21,23 120:16 122:6 129:25 Board's 132:5 body 52:12 **bold** 117:25 121:5 boom 77:1 both 11:9 19:21 22:3 41:1 44:4 58:18 115:16 121:7 150:11 bottom 6:21 60:25 69:22, 23 72:9 73:2 109:17,20 111:24 118:17 134:8,10 145:13 bottoms 57:13 boulders 108:19 boundaries 66:14 84:16 boundary 9:10 10:5 29:1, 19 44:17 124:24 bowl 77:23 78:1 84:9 breached 28:16 break 75:18 150:14 breath 148:13 breeze 83:10 brief 4:24 **briefer** 26:10,10 briefly 10:23 11:18 76:5 bring 34:23 37:18 46:6 59:4,5 79:22 96:3 100:8 102:1 138:9,14 Brinker 79:3 broken 27:4 38:9 **Brothers** 4:16,25 5:2,5,9 7:17,19,25 8:7 9:1 13:24 14:11,16,24 19:17 22:7, 11,18 23:11 58:14 88:12 106:3 118:16 brought 71:6 79:13 132:5 145:9 146:3 bubbles 40:1 **budget** 92:18 build 47:9 77:16 built 69:13 bulk 20:9 24:9 44:13 bunch 96:1 119:24 buy 75:5 byplay 103:7

- C -

cabinet 120:24 cake 77:23 78:1 calculate 115:15 calculated 30:6 73:19 104:16,17,21

calculation 145:15,19 calibrate 112:8 call 9:18 21:24 22:2,21 35:25 38:9 42:16 116:25 125:23 150:20 called 4:10 6:17 23:8 36:16 38:10 41:3 43:14 54:10 76:9 80:8 87:16 97:3 100:3 122:9 124:2 came 15:12 21:10 35:20 77:15 88:13 109:1 112:24,25 121:18 136:21 137:5 can't 8:19 33:3 36:23 64:10 65:11 69:9 70:6 105:21 119:17 134:9 140:24 148:2 canal 114:20 cancel 148:19 cap 108:20 capacity 70:17 77:7 care 143:19 carried 35:16 carrier 53:3 carries 64:6 carry 76:16 Case 3:3 22:17 25:16 38:4 40:17 49:20 54:16 57:8 79:12 87:25 88:8,9,9 89:3,10,14,18 93:21,23 94:19 98:3 112:12 129:8 132:17,25 137:2 139:5,5, 10,15,23,24 140:5 141:1, 6,10,12 cases 115:20 132:16 139:12 148:16 caught 148:20 cause 37:14 68:20 72:10 117:19 causing 69:1 127:9 147:6 CDM 4:21 92:1 104:6 118:13,14 CDN 42:17 cell 23:8,13 46:10,10,13, 20,23 47:8,11,14,19,21,23 48:5,6 51:2 52:6,8 53:9, 18,20,21,22,24 54:17 58:17 64:24,24 65:14,20 66:3 67:8,10,17,18 68:1, 3,5 73:19 77:16 82:8 85:7 118:21 120:7,7,7 cells 22:25 23:2,16,16,19, 22,24 51:18 52:7 55:6 58:17 61:23 82:8 114:19. 21 115:21 center 27:16,19 certain 24:22 25:3 67:20 82:16 83:15 101:17 103:15 111:10 140:5 certainly 22:15 25:4 32:22 34:20 certify 153:5 cetera 21:2 45:2 105:19,20 challenging 14:6 change 9:20 31:18 36:21 37:3 39:7 73:12 90:6,7,9 92:6 93:4 115:24,24

116:1 138:21,22 146:21 changed 32:19 92:23 97:18 136:9 146:24 changes 27:9,10 57:4 90:7 93:10 94:7,20 changing 92:11 93:2 94:2 97:19 characteristics 58:16 check 70:20 chemical 55:22 Chief 3:2 34:7,24 79:12 Chip 3:12 19:2 21:7.19 31:8 32:6 59:24 60:2 74:5 83:25 87:11,15,19 96:1 97:15 117:10 118:11,12 122:9 123:3 126:14 129:4 133:19 134:14 138:19 142:15 144:20,24 145:2 Chip's 104:5 120:13 circles 117:9 circular 38:14 48:2 54:3 66:12 118:2 circumference 68:13 Cities 126:24 127:3,4 civil 36:2.4 clarification 5:16 10:18,23 144:11 clarify 25:3,9 72:25 95:6 97:13 class 112:16 classification 133:24 clay 45:19,21 51:9 clays 111:5 clean 107:4 cleaner 77:14 78:4 clear 46:17 49:15 69:3 77:23 125:13 128:21 clearly 18:6 32:25 50:13 53:5 122:1 141:17 clients 4:17 5:1 close 56:24 88:16 102:16 113:12 125:21 126:20 134:22 closed 49:21,21 152:3 closer 8:18 54:14 105:14 closest 21:9 37:12 135:1,5 closeup 7:16 56:19 **cluster** 125:23 code 25:15 136:18 137:24 138:2,10 143:16 **codification** 21:6 139:14 142:15,20 codifies 91:23 codify 21:20 91:9,14 codifying 143:4 coincides 24:13 collating 11:23 college 110:10 color 7:5,5 columns 106:9 come 41:21 42:13 46:1 75:13 89:23 96:13 99:18 108:22 119:3 122:18 123:15 133:21 136:20 138:10 145:7 150:5.15 comes 55:8 67:22 99:19

104:20 110:9 132:13 134:7 138:11 139:24 comfort 137:20 **comfortable** 85:16 90:23 121:3 133:14 coming 46:25 79:24 140:18 148:8 comma 139:4 commence 3:6 comment 72:8 commentary 73:2 comments 3:5 Commission 11:1 Commissioners 16:4 93:19. 21,24 120:17 122:7 129:25 committed 130:9 commodity 85:14 commonly 108:21 **Community 3:12 87:20** compacted 111:13 Company 126:25 127:3,5 compare 59:9 compared 102:9 comparison 29:7 61:5 compatible 31:20 131:3 132:19 compensation 30:21 compilation 103:6 complete 38:6 completed 27:3 96:12 106:11 completely 108:4 completion 27:5 complex 112:7,18 114:24 compliance 59:1 125:15 complies 92:1 components 112:6 114:12, 13 Composite 11:11,15 22:3 comprehensive 26:4 90:10 Concept 28:14,25 29:15,19 30:10,12 32:4,8,23 34:1 36:22 37:2 38:3,20,24 39:21 92:23 93:3,5 94:16 97:17 98:25 140:14 144:14 151:1 concern 49:8 68:18 71:5,6 72:12 77:4 83:24 132:14 137:23 148:6 concerned 82:6 107:5 120:16 132:4 134:1 concerning 95:4 123:14 concerns 86:7,10,12,19,23, 24 90:2 concluded 152:4 concludes 31:3 34:6 79:12 **conclusion** 31:18 86:3 conclusions 92:4 130:23 concur 95:13 concurs 10:21 condition 12:11,21,24 13:2, 4,12,14,15 14:15,16 15:11,23,25 16:5,21,21,22 18:1,2,5 19:1 20:1,8,25 21:3 22:22,22 23:16 24:14,15 31:25 32:11

33:2,25 59:19 61:18 70:13,14 72:4 85:3,17 92:13,22 97:20 98:6,8,18 99:3 102:13 119:18,20,21 120:2,3,13 136:2,5,8,21, 25 137:14 138:1,20,23 139:2,8,25 140:1,4,25 141:7,8,14,17,25 142:9 150:25 151:10 conditional 94:16 conditioned 31:20 123:11 conditions 10:25 11:19 12:3.12.12 13:21 14:5.6. 13 15:4,12 17:16 18:13 19:15,20 20:3,5,6,8,10 21:2,7,20 23:11 24:1,22 25:1,3,11 30:20 31:9,13 32:1,15,16,17 45:6,23 57:7,11 91:9,14 94:1,21 98:1 118:7,8 119:24 121:17 135:25 136:10,13 138:4,5,12,13,15 139:14 conducted 22:24 25:10 58:13 conducting 24:24 conductivity 105:6 106:10 107:9,10 108:12 109:1,3, 11,24 confine 150:1 confinement 45:25 confining 14:19,23,25 125:25 confirm 58:5 confirming 25:24 confirms 23:18 confused 54:20 confusion 23:10 congenial 25:5 conjunction 18:3,7 connection 11:1 12:19 15:4 16:6,25 64:5 149:7 consent 31:1 conservative 63:10 90:18, 19,22 112:4,13 conservatively 62:18 consider 90:20 consideration 79:13 103:19, considerations 150:9 considered 45:5 62:17 92:7 132:13 136:12 considering 68:23 consisted 8:16 consistency 57:12 132:7 consistent 50:17 56:17,18 57:1 69:5 109:2 130:15 131:18 consisting 153:7 consists 44:24 114:17 consolidation 21:5,7 constant 53:2 114:4,22 115:4,7 constantly 101:22 constructed 23:2 106:20 117:18 construction 100:22,22,23

consultant 72:2

consultants 4:23 consulted 124:6 consulting 4:20 consumption 20:18 contain 23:2 contained 14:11 31:10 32:16 89:3 91:10 124:13 contains 115:16 contamination 137:8 content 82:16,18 contention 72:6 context 138:10,11 **continuance** 89:14 150:3 continuation 89:17 continue 48:2 54:3 66:12 67:11 75:20 118:5 148:24 continued 47:25 55:5 continues 48:3 66:11 continuous 45:21 55:13 68:17,24 continuum 53:22 contour 68:23 contributing 84:8 control 21:24 60:19 controlled 101:12,23 conversation 86:25 convert 85:19 converted 116:15 conveying 49:20 copied 73:7 copies 43:17,17 copy 15:19 39:22 121:9 127:19 Corkscrew 6:21 7:12 126:21,22 141:19,20,21 142:5 corner 7:14 28:2,12 89:5 140:14 corners 58:4 correct 7:7 10:11 19:2 21:8 30:18 35:22 40:5 47:2 49:7 52:22 53:17 66:17 85:14 91:8 92:10 94:3 104:13 105:7 106:14 107:6 111:2,4,22 114:5 141:23 147:21 corrected 94:22 correction 16:19 31:25 33:25 137:16 144:15 corrections 31:15 correctly 88:24 118:15 119:1 126:17 127:21 130:11 corridor 76:20 cosmetic 73:12 cost 38:18 costs 37:21,22 38:17,17 could 6:4,7,9 11:3,8 14:13 26:9 27:23,25 31:6 42:4, 16 45:8 59:4,20 60:16 64:5 69:22 70:5 73:14 76:13 81:5 84:2 105:14 107:16 112:13 113:15,24 115:10,21 121:6,10 137:15 144:6 145:2 146:13 148:19

count 74:22 County 3:3,5,10,12 5:19 8:15 11:1 12:2 13:12,25 14:1,4,12,17 15:2 16:4 24:4,5,14,20 25:7 35:20 36:11 39:13 42:23 55:20 78:24 88:16 89:15 93:19, 21,23 94:23 95:10,21,23 96:12 99:9 100:7 120:17 122:7 127:5 128:6 129:25 130:12 133:24 153:2 county's 124:15 couple 14:8 18:18 39:15 94:1 97:13 100:9 115:9 122:11,19 135:4 course 7:9,13 44:20 58:9 102:22 117:15 133:24 cover 83:10 covered 9:6 covering 56:4 covers 121:23 crawl 67:24 crawler 65:11 67:21 84:7 crawls 65:24 create 53:12 67:10 111:17, 18 114:13,25 created 46:9 creates 66:4 67:9 91:24 creating 52:9 53:2 credit 110:11 creepy 65:11 67:21 84:7 criteria 150:9 critical 63:16 critters 104:12 cross 30:6 46:1 48:11 51:1,3,7 cross-examination 51:13 cross-hatched 26:19,25 28:5 crosses 66:11 crushed 41:6 **crushing** 16:6,25 cube 114:17 culminating 8:6 current 19:10 27:1,11 28:6 29:15 37:1 38:24 55:4 56:25 58:10 98:17,19 129:14 currently 23:14 26:11 28:1,6 44:19 56:13 79:3 126:25 customers 85:4 cut 38:10 46:9,13 47:6,21 48:1,10,11 51:3,16,16,17, 17 52:11 66:2 107:4 cutting 47:20 49:18,19 cypress 98:21

- D -

dad 103:6 113:13 120:23 damage 117:19 119:14 dark 40:22 darn 65:3 75:12 data 61:9,15,16,20 102:15 103:1,4 111:16 112:8,9

125:11 145:13,14 146:20, date 16:4 32:4,8,9,10,12 89:6 92:23,25 93:6,8,16, 17 127:1 133:23 dated 22:18 89:9 153:9 dawn 12:1 day 75:6 83:25 84:1 109:4,12 122:18 153:9 days 74:21,22,22,24 75:2, 6,13 110:8,11 122:11 **DCI** 141:1 DCI2005 139:5 DC12005-00105 3:4 deal 27:21 142:16 dealing 10:2 15:7,16 16:10 27:24,25 29:7 129:18 dealt 14:15 33:2 37:2 decades 56:15 61:20 128:17 decide 122:17 decisions 148:17 decreased 60:5 deemed 97:7 136:13 deep 48:12 49:13 62:3,7 69:18,21 70:20 72:10 73:3.17 deeper 69:25 70:18,25 defense 25:15 defer 81:24 82:4 definitely 116:1 120:19 degree 19:19 64:9 68:9 degrees 60:19 **delete** 21:21 deleted 33:25 deliberating 22:16 delineate 98:11 delineated 26:17 delineates 27:2 32:24 76:17 delivery 85:8 demonstrated 135:21 demonstrating 133:4 denial 90:3 denote 29:1 denotes 28:8 **DEP 84:20** Department 87:20 departments 95:12 depending 84:18 depends 45:8 59:12 depict 98:20 depicting 93:12 depicts 29:9 deposit 66:13,25 deposited 66:5,6 68:4 depositing 66:3 deposition 79:18 deposits 65:19 depth 9:21,22 19:6 20:24 25:19 34:12 37:3 45:8,24 48:9 59:7,10 94:10,17 106:21 115:22 depths 73:10 Derheimer 3:21 33:5,18 80:4 85:24 94:25 97:2,5, 6,13,25 98:12,14 99:6,16 describe 19:23 23:5 24:25

27:7,10 described 24:1 48:2 58:13 describes 27:13 design 112:11,20 113:16 designations 147:3 designed 117:15 despite 57:12 detail 19:23 22:16 23:5 26:7 27:13 34:10 149:14 details 82:3 detect 26:5 determine 60:4 determines 136:9 determining 107:8 detrimental 135:14 136:11 Development 3:13 9:1 30:23 32:2 87:20 98:10, 10,15 106:5 138:3,5 143:16 **Deviation** 143:13,14 144:4, **Deviations** 142:16 143:5,6, 10,25 144:12,13 device 103:2 dewater 23:7,7 47:8 48:6 77:11,16 91:24 107:25 108:5 117:17 119:17 120:10 dewatered 45:10 47:11 51:3 53:18,20 102:5 dewatering 5:16,16 10:17, 19,25 11:2,20 12:17,22, 24,24 13:14,16 14:15,18, 21 15:4,12,25 16:1,21,23 17:7 18:2,3,6,14 19:2,14, 22 20:10,12,16 22:5,19, 23,25 23:3,8,12,13,13 24:2,3,11,15,17,23 25:8, 9,19,24 26:2 31:22 34:11,16 44:12 45:5,7,14, 15 46:9,13,20 47:14,21 48:5,19 51:2,17 52:5,8 53:9,23 54:4,17 55:6 56:14,21 57:14 58:12,17, 20 60:17 63:4,10 64:24, 24 65:13,20 66:3 67:8, 10,17,18 68:1,3,5,21 69:14 73:19 77:4 78:2 82:8,17 89:12,15,21,21 90:4,8,12,21 91:18,20,21, 22 92:8 99:25 100:18 101:11 102:10 106:21 107:23 113:19 114:6,7 115:21 116:17 117:3 118:4,6,10,13,21 119:7,22 120:6,9,9,21 121:8,8,25 123:12 130:4,21 135:12 151:8,11 Diana 3:2 did 11:23 14:1,4 18:9 32:6 35:7 49:23 52:15 63:2,6, 8 76:13 77:11 86:3,9,13 90:18 97:15 108:12 110:23 111:1 118:8 129:7,8,24 130:17 136:19,25 145:14,19

153:5

didn't 15:19 21:4 23:12 33:18 34:23 43:4 63:7 75:5 86:22 106:15 124:19 132:3 139:16 141:7 diesel 77:17,19 78:5 137:8, 12 diesels 87:5,6 difference 29:20 43:21 57:11 60:25 68:23 134:7 145:11,15,19,24 differences 27:13 145:10 different 7:18 14:17 18:2 21:14 44:10 50:20 54:12, 19 69:23 71:11 72:5 91:20 98:8 107:10 110:20,22 114:13,22 115:2,3 150:8,9,9 differential 60:22 61:3 differing 17:13 dig 42:2 48:14 51:25 65:6, 9 66:21,23,25 67:23 68:4 77:25 78:1 108:6 digger 87:4 digging 47:14 49:12 65:13 66:16 67:15,21,25 68:1,4 69:20 71:1 81:17 82:9, 10,15,19 108:6,18 digs 65:19 66:19 diligently 150:2,5 dimensions 69:10 direct 41:5 78:13 direction 38:13 directly 21:3 34:18 64:22, 23 director 76:4 78:7 dirt 40:25 41:1 46:24 47:17,17 63:20 67:4,5,7 68:5 81:21 82:9,10,17,18 83:3,5,17 84:24 85:2,11, 14 106:13 107:3,8,9,15 108:18 113:7 dirty 29:7 disagree 138:13,15 disappear 139:19,19 disappeared 139:20 discuss 88:6 135:15 discussed 38:4 44:24 100:10 145:3 discussing 122:11 discussion 31:4 124:13 135:18 distance 29:20 118:22 distributed 50:18 district 8:14 14:21 15:1 16:3,8 17:1 20:17,20 22:4,7,9,12,17,20 23:18 25:24 30:23 31:2 69:9, 11.12 70:5,14,22 84:21 90:1 92:2 101:7 116:13 District's 22:11 ditch 28:25 46:15,16,19,21 48:1,14,21 49:12,21,22,24 52:7 69:17,22,24 72:9,15 114:20 124:18,19 ditches 48:19 49:18,19 55:7 100:14,19 101:1,2,

16 divergence 15:3,24 19:20 division 96:6 98:17 125:16 divisions 95:11 doctorate 43:1 64:9 doctors 43:6.8 document 14:10 91:15 documented 98:25 documents 22:2,16 89:4 doesn't 32:7 33:24 43:20 73:16 97:19 107:18 119:2,3,5 125:17 136:16 137:19 138:10 143:4 dog's 80:21 doing 21:11,15 33:2,16 41:21 44:2 50:10 61:19 67:15 82:7,7 93:2 106:2 131:14 142:19 143:23 don't 19:2 22:2 23:7 25:14 27:23 39:17 52:12 53:4 55:25 58:3,23 59:5 61:14 62:1 64:9 69:15,19 70:4 72:23,25 74:4 75:6 82:3 85:16,20 86:24 92:18 94:5 96:2,5,17,21 97:25 98:6 99:14 100:9. 17 111:6 113:22 116:22 119:18,20 122:17 123:17, 18 124:7 129:23 130:7 131:17 133:12 138:1,14 141:19,24 143:7 144:23 146:5,10 147:16,25 148:11.13 149:10 done 6:5 9:17 16:7 21:17 30:25 31:1 34:20 35:13, 20 46:5 47:25 51:1,15 53:21 54:13 55:18 63:17 68:6 72:24 73:15 75:4,24 76:14 89:17 90:16 101:2 104:16 105:16 106:13 112:24 113:6 115:20 116:7 122:20 144:20 151:21 door 72:19 dots 127:20 down 7:11 17:21 27:4 28:2 37:17 38:9.11 43:21 45:17 46:13,25 50:6 51:24 52:9,10,13,13,16,20 57:9 62:21 64:18 67:1 68:25 69:1 71:1 73:10, 22,22,24,25 74:3,15 81:19 84:19,19 85:5 87:2 89:14,15,18 104:23,24 106:4 107:18 108:24 110:1,2 111:14,21,23 112:3,13 113:2 118:16, 17,21,22,22 119:7 124:14,18,19 126:20 127:9 129:23 130:5,6,12, 14,14 133:9 135:3,4,10 140:14 141:21 142:5 144:24 145:23 downs 61:13,17 Dr 43:5 62:9 90:17,25

drags 40:24 drain 49:18 69:6 111:25 114:9,10,11,15,19 115:3 drainage 70:1 72:10 114:20,23 drastically 50:20 draw 51:24 52:9,10,13,13, 16,20 55:1 61:13 62:21 69:1 73:10,21,22,24,25 74:15 84:19,19 106:4 111:21 112:3,13 113:2 118:16,22,22 119:7 124:14.18.19 127:9 129:23 130:4,6,12,14,14 133:9 drawing 52:9 drawings 54:9,21 drawn 52:8,24 55:3 104:17 DRGR 129:9,9,11,14,16,25 130:16 131:3,22 133:23 147:3 drilling 14:24 drinking 126:1 drive 41:7 dropping 66:16 drought 57:4,5,7 59:19 61:18 droughts 57:3 103:21 dry 59:14,16,20,20 60:21 81:21 due 43:25 57:7 92:18 116:12 dug 41:24 45:14 62:6 69:18 duh 142:3 duly 4:11 36:17 43:15 76:10 80:9 87:16 97:3 100:3 124:2 dump 37:13 41:11,13,18 87:1 dumping 65:22,23 67:25 84:7 dumps 37:10 42:1 duration 146:23 during 6:1,2 28:11 35:3 68:21 83:15 88:21 90:17 91:7,12 94:11,22 100:22 dust 42:12 81:18,20,23,25 82:2,11,23,24 83:10,12, 17,20 84:9 85:17 dusty 82:14 duties 64:5 - E -

each 53:20 74:18 125:21 132:9 145:20 ear 80:21 earlier 10:19 44:24 46:8 66:5 101:9 112:5 147:13 early 58:3 116:13 easements 128:24 easier 65:25 149:15 east 8:16 10:8 12:15 13:5 35:12 51:4 72:13,13 eastern 8:10 eastward 6:15

easy 54:19 112:9 ecologist 80:17 ecology 80:1 economical 77:13 Ed 3:16 4:18 34:14 63:24, 25 64:2,4 76:1,8 82:13 86:14,15 Ed's 82:12 edge 60:9 64:25 educate 125:20 effect 23:14 50:9 53:2 56:16,20 61:16 69:16 84:19.19 103:22 107:3 113:19 114:2,6,23 119:7 130:10 131:24 132:12 147:6,16,18 effective 38:18 58:15 115:23 139:15 effectively 45:16 effects 61:11 63:3 147:2 efficient 38:15,18 efficiently 45:17 effluent 22:25 23:3 efforts 137:4 egress 141:18 eight 145:14 148:15 either 7:18 38:11 48:13,14 56:1,21 60:10 61:11 89:18 95:20 99:15 104:17 133:9 137:6 148:4 elaborate 137:21 146:17 electric 37:22 76:24 77:12, 18 87:4 electrical 77:14 electrically 37:15 electronically 121:7 elevation 68:23 71:1,7 72:9,16 elevations 73:2 else 27:23 34:20 40:12 49:20 50:22 63:22 73:5 75:16 85:21 87:3 105:22 113:8 116:23,25 122:23 144:22,23,25 150:22 emphasize 62:16 encompass 76:14 encompassed 20:13,14 end 17:11 43:19 44:13 68:16 80:20 84:9,10 107:14 143:24 148:20 149:8 endeavor 131:15 enforce 137:25 enforcement 25:16 91:16 136:18 137:24 138:2,11 engaged 19:22 engaging 24:3 engineer 27:7 engineering 36:2,4 enormous 108:18 enough 69:18 82:20 119:3 144:25 ensure 26:3 52:20 entering 61:2

119:12 131:12

drag 37:15,16 64:21 76:24

entire 19:21 30:13 115:18

148:7,9

entirely 28:8 entirety 9:18 19:7 26:17 entry 76:17 environment 77:14 101:23 Environmental 3:21 32:15 42:8 72:2 78:4 94:25 95:18 97:6,8,19 98:5,17 envision 76:25 77:23 envisioned 23:6 envisioning 82:14,23 envisions 138:2 equal 59:11 113:24 equipment 27:9 especially 50:5 68:16 101:9 essence 17:10 essentially 9:5 13:17 16:22 30:18 46:9,17 47:12 48:4,14 51:19 55:13 56:14,20 61:9 66:16 69:22 71:5 72:22 114:4, 16 115:14 124:19 establish 61:14 102:4 105:16 106:22 established 28:19 100:20,21 101:11 102:2 117:3,5 establishing 114:22 estimated 62:22 estimating 62:18 estimation 62:17 evaporation 113:23 evapotranspiration 111:25 113:4 114:10 even 67:2 82:17 83:17 88:25 90:22 100:22 133:1 139:16 142:20 146:3,10 event 102:3 123:6 130:7 ever 39:17 40:2 68:6 150:14 every 55:15 103:8 125:11, everybody 63:14 96:21 100:18 105:20 121:3 141:11 everybody's 130:11 everyone 3:25 everything 7:4 9:19 11:3 50:10 54:10 83:11 91:24 112:10 evidence 14:2 133:20,22,25 evolved 17:15 58:14 147:14 exact 143:1 exactly 70:6,20 98:1 103:12 142:21 exaggerated 54:21 107:21 exaggeration 54:8,11 examined 4:11 36:17 43:15 76:10 80:9 87:17 97:4 100:4 124:3 **EXAMINER** 3:1,2,9,18,23 4:5,7 5:4 7:4 8:21 10:7 12 11:5,12 15:22 17:3,6, 18 18:12,17,20 20:22 21:9 22:6 26:14 31:7 32:13 33:12 34:5 35:1, 18,23 36:4,8,11,13,25

37:25 39:4,11,13,15,17,20 40:6,8,11,18,21,23 41:10, 16,19 42:4,21,23,25 43:4, 9,20 44:7 46:22 47:3,16 48:8,17 49:1,5,8 50:1,24 51:11,22,24 52:2,19,23 53:15,25 56:6 57:16,21 59:24 62:3,9,12 63:2,6,8, 21,25 64:8 65:2,18,21 66:15 67:13 68:18 70:11 71:3,18 72:11 73:4,8,18, 21 74:1,9,12,19,23 75:5, 8,11,15,22 76:2,21 78:6, 9,15,19,25 79:4,8,10,11, 21 80:3,5,11,13,18 81:3 9,12,15 82:5,20 83:2,7,24 84:4 85:6,10,18,23,25 86:11,22 87:4,8,11 88:1 4,5 90:5 92:4,12,16 93:2 94:4 95:7,20,22 96:1,7, 14,19,25 97:9,12,24 98:9, 13 99:5,9,12,14,18 100:5 101:20 102:12 103:3,9,24 104:3,5,20 105:1,8,18,24 106:7,15,19 107:1,7,14,19 108:2,10,16,25 109:6,10, 17,20 110:1,3,8,14,16,25 111:3,19,23 112:22 113:13 114:3,9 115:5,11 116:3,16,18,22 117:3,6, 11,13,23 118:7,11 119:2, 5,10,16,23 120:12 121:10,13,15 122:3,15 123:1,3,9,15,21,23 124:4, 11,22 125:2,12,13,19 126:2,7,11,19 127:7,12,25 128:3,11,18 129:1,4,15,21 130:24 131:11 132:2,15 133:17 134:5,16,21 135:10,17,24 136:2,4,7 137:22,25 138:7,17,23 139:1,7,10 140:10,24 141:3,9,16 142:2,8,11,14, 22,23 143:12,18,22 144:4,16,18 145:5,17,25 146:7,15 147:23 148:2,24 149:3,13,19 150:7,13,20, 24 151:4,7,11,16,19,23 152:1 example 60:21 71:7 118:1 examples 56:7 excavate 37:11 47:9 63:19 64:18,23 67:9 68:15,17 excavated 17:22 23:9 24:16 28:16 29:4,10,23 30:9,9 84:20 85:15 excavating 37:19 38:6,16 68:24 70:18 71:22 77:20 excavation 8:5 12:5,9 13:1,12 14:5 16:1,23 17:9,12,24 18:4 19:6 20:11,14,24 23:23 24:8,8 27:5 28:4,7,11,12,16

29:3,15,16 31:22 35:3

65:1 66:14 74:18 82:7

84:16 91:22 92:8 118:5

38:13 39:8 48:7 64:15.17

149:8 excavator 37:15 41:5 47:10 Excel 103:11 except 139:4 140:25 **exception** 8:4,14,15 10:9 12:4 15:8 93:7,18 excuse 27:17 151:25 Exhibit 6:8,13 11:6,11,13, 15 22:3 23:17 26:13 28:21 32:9 36:23 37:23 38:1 39:24 43:21,23 117:10 122:6 148:10 exhibits 22:3,10,13 127:1,4 exist 33:24 108:15 existed 28:24 29:5 108:14 existence 100:15 existing 13:7 24:25 28:1 30:16 31:20 69:6 70:9 99:1,2 101:3 127:8 128:22 exists 118:1 **expand** 66:13 67:2 129:12 expanded 15:14 expanding 9:2 expansion 8:6 9:6,18,23 10:3 12:14 15:8 16:10 18:13 19:22 21:25 91:11 136:24 140:9 expansions 9:4,5 expect 105:22 147:9,17 expected 90:13 135:8,13 expedited 149:4 expeditiously 149:9 experience 43:3 78:19,21 99:25 experiencing 135:6 expert 36:2,3 42:18,20 **-43:10 -79:25 -80:1 87:22** 97:7 99:21 expertise 124:7 136:25 explain 34:9,10,12 64:5 106:17 110:6,7 explains 30:15 127:3 explanation 4:24 63:1 73:23 82:4 129:16 131:20 explicit 24:11 exposed 47:4 expressly 16:3 extend 52:16 108:24 extended 29:16 extends 45:3 extension 6:17 126:8 extensive 58:25 extent 29:14,18 46:12 58:18,18 61:24,24

- F -

extreme 16:15

extremely 87:6

face 120:18 fact 7:7 30:19 38:6 44:1 57:12 61:23 69:20 102:18 115:16 128:14 129:22 134:14 factor 84:9 111:9 116:2

facts 4:1 fair 17:14 fairly 34:21 56:17,17,23 57:1 58:17 84:17 fall 91:15 falls 47:13 familiar 126:19 familiarity 7:21 far 7:14 28:2 52:16 54:18 64:11 83:12 107:4 112:12 135:7 147:16 farmer 35:16 farming 35:14 101:1 farthest 37:6,12 fashion 48:2 fast 85:15 148:8 fattest 106:8 feature 114:20 February 32:5 92:23 93:7 148:20 feel 121:15 141:9 feeling 33:8 70:23 137:20 feelings 148:11 feels 133:14 feet 9:21 19:7,7 23:20,20, 21,21,25 41:4 45:4,7,9, 13,24 46:10,11 48:12,13 22,25 49:6 51:8,8 54:17 57:10,10 59:22 62:6,7 68:24 69:19 73:11,11,15, 22,22 81:11,12 107:15 108:24 109:4,11 111:20 112:25,25 113:1 117:17. 24 118:4,20,20,23 119:6, 8,17 120:21,21 123:12 124:15 fellow 40:24 103:10 141:19 felt 90:23 91:8 few 31:14 43:6 95:1 96:9, field 28:13,18 29:9 30:16 35:21 36:3 80:2 90:13 95:10,14 117:9 123:6 125:15 126:13 131:21,22 134:19,25 135:7,14 137:2,10,13,17 fields 40:7 42:20 83:16 124:21 figure 21:14 50:12 57:8 73:14,16,19 74:18 141:13 149:16 figured 148:3 file 20:21 filed 14:6 31:8 filing 25:7 fill 45:1 51:7 58:12 65:13 67:4,5,7 77:5,6,20 filled 47:15 51:18 67:8 101:2 filling 67:17 77:21 fills 66:3 final 12:20 17:19 18:24 26:24 123:4 Finally 55:10 58:25 find 15:20 33:3 50:18

71:24 90:12 131:18

138:20 141:20

finding 31:18 132:6,6 134:24 findings 31:10 90:10 92:3 130:23 134:1,14 fine 3:9 18:23 96:22 138:15 141:2 151:18 fingers 74:22 75:13 finish 122:17 145:6 finished 95:19 Fire 104:4 firm 4:15 first 5:15 8:6 9:6 10:7,17 11:21,23 12:14,17 14:19, 22,25 15:7 27:15 28:23 31:17 33:15 41:3,4 45:25 68:16 74:3 77:13 78:16 88:5,13,16,17 100:3 103:15 107:2 118:18 125:25 129:7 134:9 139:18 144:22 fit 150:11 five 27:4 75:18 78:8,20 109:13 110:4 111:10 126:5 flagging 30:17 flat 120:18 145:23 flip 12:20 52:25 Flipping 29:2 flood 61:18 101:4 flooded 101:25,25 Florida 3:16,17 4:18,19,23 5:1,2,6 7:2,10,17,18 14:20 15:1,12 16:3,7 17:1,15 19:16 20:2,15,16 22:4,8,8,12 23:18 24:3 25:23 64:3 78:7,13,20 79:2 81:24 83:13 84:21 97:22 98:3 101:7,11 116:10.12.21 126:24 127:3,4 147:13 153:1 flowing 82:2 flows 115:2 147:19 fluctuations 57:13 flying 81:23 82:11 focused 132:5 folks 5:1 75:17 120:20 follow 27:5 47:13 80:10 139:22 follow-up 86:2 145:1 followed 30:17 following 9:10 12:6 33:13 90:24 91:25 144:12 follows 4:12 36:18 43:16 76:11 87:17 97:4 100:4 124:3 foot 22:25 23:16 41:13 57:1 81:14 83:8,9 107:7 115:19 117:4,21,21 118:3,25 120:11 124:17 129:23 142:23 force 68:15 foregoing 153:6 form 19:22 69:5,25 format 43:25 formation 47:12 69:25 formerly 126:24 forms 119:24

Fort 3:4 4:15 forth 52:25 69:12 70:20 79:13 89:20 113:23 147:4 fortunately 88:11 forum 36:2 42:18 87:24 forward 38:14 147:8 found 23:22 130:15 foundation 66:18 four 48:12 53:19,23 55:2, 18,19 57:10 58:1,6 68:24 74:19 75:13 128:8 149:13 four-tenths 129:22 fourth 29:8,8 125:7 frame 19:18 145:12,24 151:16 Frank 73:7 104:8 Franklin 3:15 4:15 frankly 30:25 free 150:14 Friday 151:17, 18, 22, 23 152:1 front 65:5,6,7 104:7 fuel 37:21 38:17 77:18 78:5 137:8 full 53:11 55:4 77:23 115:18 120:18 fun 78:18 further 34:15 35:25 38:9 61:7 115:9 131:20 133:13,15 135:3 future 9:3 25:15 26:5 44:20 132:16 139:11,12 141:11 147:17

- G -

gauges 101:15 gee 35:5 general 6:9 8:4 9:24 12:5, 9 13:12 14:5 60:9 125:1 generally 5:8 6:11 7:23 37:7 50:16 geologic 54:9 geology 42:19 43:10 44:10, geometry 106:4 gets 111:13 120:23 138:6 getting 17:11 47:6 65:10 82:15 110:10 112:7 125:8 137:9 142:21 girls 149:16 give 10:15 44:5,8 54:13,22 72:19 77:22 116:5 137:19 144:17 151:19 given 13:18 20:4 58:20 74:6 97:21 134:8 gives 78:3 glass 146:8 go 3:8 5:11 8:25 17:12,16 27:20 28:9 34:9 37:23 47:22 50:25 51:4 52:3 53:10,11 56:10 65:11,12 69:21 75:22 78:17 89:15 90:25 95:8 96:2,3,11,12, 15 99:20 101:25,25

103:9 106:15 109:11 110:14 111:10 112:18,19 118:17 127:18 133:12 134:5 136:5 141:12 143:25 148:7,8,24 goals 90:10 129:17 God 103:11 107:15 113:2 149:3 goes 21:1 38:25 44:6 46:5, 15 64:12 66:11 73:17 88:9 93:20 106:4 118:21 120:16 122:6 131:5 132:22 135:17 138:16 gone 23:11 63:19 64:17 Good 3:1,23 4:13 44:5 45:22 49:17 50:21 55:10, 12,25 58:11 70:12,21 71:22 72:7 77:21 78:16 84:24 86:9 87:18 102:20 104:14 137:19 146:7 got 12:8 19:13 21:14 33:12,19 35:16 39:25 44:1 48:18 49:15 50:5,6, 12 51:7,8 53:10 54:16 55:12,24 56:2 57:7 58:1. 10 60:24 61:13 62:5,7 63:9 64:15 65:3,4,4,5 68:2 74:1,3 83:7 84:6,7, 7 85:1 96:23 103:3,12 104:3 107:3,3,11 108:2,7 113:7 114:10,18,18 121:1 122:20 127:23 129:4 131:23 133:12 141:11,21 142:20 144:4 148:15,15 gotten 54:14 governed 21:13 gradual 107:21,23 granted 12:9 13:9 19:4 136:23 139:5.24 graph 74:16 134:9 151:2 graphically 29:25 graphs 134:6 gravity 111:13 great 115:14 greater 19:19,23 22:16 60:24 98:4 111:10 117:19 Green 5:9 7:19 10:1 29:14,21 42:9 126:18,23 grid 114:17,19 grids 114:17 grilled 144:25 ground 16:6,24 20:18 26:4 48:12 49:6,10 51:20 52:1 55:14 59:8 61:7 68:19 71:7,25 82:15 95:17 113:14 130:5,20 131:4,25 132:2,20 133:9 135:23 147:19 148:5 group 86:1 grows 54:3 guess 6:8 7:22 11:3,4 18:24 22:21 24:17 25:12, 12 26:9 40:11 68:9 69:19,20 86:2 135:17 guessing 147:1

gum 103:6 113:13 120:23

gut 70:23 guy 41:23 57:19 141:22 guys 42:5 48:17 57:25 73:4,24 81:18 85:6,19 112:24 116:7 117:7 120:22 127:7 148:12

- H -

habitat 98:21 half 8:10,16 10:8,9 12:15 125:22 134:22 halfway 107:10 hand 4:3 6:11 8:2 59:6 62:6 112:12 handles 125:16 handling 88:15 handout 27:24 Hang 51:11 122:16 happen 39:18 67:22 77:15 103:1 117:21 120:7 140:20 happened 111:16 140:2,20 happening 85:17 89:23 133:15 137:4 happens 77:25 142:11 happy 32:23 34:25 59:3 hard 40:15 43:17 54:21 127:19 Harper 4:16,25 5:2,5,9 7:17,19,25 8:7 9:1 13:24 14:11,16,23 19:17 22:7, 11,17 23:11 38:25 58:13 88:12 106:3 116:10 118:16 hasn't 140:12 146:20 hatching 30:6 haul 37:13 38:22 42:1 hauling 49:19 haven't 68:9 83:18,23 92:21 120:14 130:22 142:17 148:3 having 4:10 15:3 36:16 41:19 42:5 43:14 50:7 61:16 63:15 71:8 75:12 76:9 80:8 83:12 85:11 87:16 97:3 100:3 124:2 131:24 137:9 144:1 Hayden 4:23 he'll 27:10 34:9 he's 34:20 51:14 65:10 67:13,21,23,24 68:1,2,3 76:4 79:24 96:8 head 60:22,25 62:20 80:21 86:12 114:22 heads 115:2 123:12 health 136:11 healthy 83:22 HEARAING 129:7 heard 132:15 140:6 149:17 **HEARING** 3:1,2,6,9,18,23 4:5,7 5:4 7:4 8:21 10:7, 12 11:5,12 14:2 15:22 17:3,6,18 18:12,17,20 20:9,22 21:9 22:6 26:14 31:2,7 32:13,22 33:12 34:5 35:1,18,23 36:4,8,

11,13,25 37:25 39:4,11, 13,15,17,20 40:6,8,11,18, 21,23 41:10,16,19 42:4, 21.23.25 43:4.6.9.20 44:7 46:22 47:3,16 48:8,17,18, 19 49:1,5,8 50:1,24 51:11,22,24 52:2,19,23 53:15,25 56:6 57:16,21 59:24 62:3,9,12 63:2,6,8, 21,25 64:8 65:2,18,21 66:15 67:13 68:18 70:11 71:3,18 72:11 73:4,8,18, 21 74:1,9,12,19,23 75:5, 8,11,15,22 76:2,21 78:6, 9,15,19,25 79:4,8,10,11, 21 80:3,5,11,13,18 81:3 9,12,15 82:5,20 83:2,7,24 84:4 85:6,10,18,23,25 86:11,22 87:4,8,11,22 88:1,4,5 90:5 92:4,12,16 93:1 94:4,22 95:7,20,22 96:1,7,14,19,25 97:9,12, 17,24 98:9,13,24 99:5,9, 12,14,18 100:5,11 101:20 102:12 103:3,9,24 104:3, 5,20 105:1,8,18,19,24 106:7,15,19 107:1,7,14,19 108:2,10,16,25 109:6,10, 17,20 110:1,3,8,8,14,16, 25 111:3,19,23 112:22 113:13 114:3,9 115:5,11 116:3,16,18,22 117:2.6. 11,13,23 118:7,11 119:2, 5,10,16,23 120:12 121:10,13,15 122:3,15,15 123:1,3,9,15,21,23 124:4, 11,22 125:2,12,13,19 126:2,7,11,19_127:7,12,25 128:3,11,18 129:1,4,15,21 130:24 131:11 132:2,15 133:7,17 134:5,16,21 135:10,17,24 136:2,4,7 137:22,25 138:7,17,23 139:1,7,10 140:10,21,24 141:3,9,16 142:2,8,11,14, 22,23 143:12,18,22 144:4,16,18 145:5,17,25 146:5,7,15 147:23 148:2, 14,24 149:3,11,13,19,22, 25 150:4,7,13,20,24 151:4,7,11,16,19,23 152:1,3,4 hearings 97:7 122:20 148:19 heck 40:2 41:22 136:4 held 115:3 help 6:5 32:17 95:6 140:10 149:10 Hence 117:20 Henderson 3:14 4:15 herein 140:25 hey 35:21 Hi 97:5 hidden 20:1 high 61:1,11 85:4 101:18, 18 103:15 higher 49:16 60:11 68:19

69:17 70:2,24 71:1,24 109:13 110:4 119:14 highest 115:20 highlight 15:19 highs 56:17 57:1 146:22 himself 21:19 historic 131:4,17 132:2,21 133:1 135:18 historical 15:10,10 129:19 133:22 143:3 145:4 146:16 147:18 148:5 historically 7:24 11:18 132:25 133:4 history 9:24 10:14,23 17:15 19:13 88:7,8,20,22, 24 132:24 Hold 39:4 82:20 96:21 148:13 holding 114:3 150:23 Hole 4:21 36:19 52:1 65:4,6,7 77:25 81:6 82:15 113:14 Holiday 64:10 homogeneous 105:20,21 honest 107:15 113:2 hope 149:8 Hopefully 44:5 hoping 72:13 horizontal 44:4 54:12 109:12 110:19,23 111:1, 7,9,17 horse's 149:16 hot 7:5 130:1 hour 83:25 84:1 hourly 83:1 hours 84:3 122:19 149:13 house 141:18 how 8:22 27:23 30:15 41:11,22 42:10,10 44:11 46:4,7 50:8 60:1,4,13 61:5 62:3 63:17,19 64:17 65:9,10 66:5 69:1 70:20 73:17 76:14 78:6,19 80:23,24 81:1,3 92:14 95:7 102:6,9 103:1 112:12 115:13 131:18 132:5 136:15 137:25 146:8 Howard 3:20 94:24 95:8, 15 123:5,5,13,15,19,23 124:1 However 13:23 24:12 25:2, 12 52:16 55:11 92:18 147:2 hudrographs 103:12 huh 75:5 103:10 110:14 hung 14:8 hunted 141:20 hydraulic 45:22 46:17 53:3,12 100:15 101:16 102:10 105:6 106:2,9 107:8 109:1,2,11,24 117:15 119:9,13 hydrogeologist 100:7 hydrogeology 99:24

134:6 145:10,21 147:11 - I -I've 4:25 7:20 9:25 12:8 16:20 24:2 27:17 33:12 44:1 50:12 51:15,15 52:24 54:13,14,16 55:3 95:12 104:3 108:16 129:4 130:10 141:20 144:4 148:15,15 I-75 6:16 i.e 14:18 idea 21:16 54:14,22 57:17 105:23 106:18 110:19 112:3 113:16,17 identical 18:16 identification 6:14 11:7,14 22:14 38:2 43:24 identified 4:17 26:12 identifies 94:6 98:19 140:4 **identify** 140:17 identifying 133:1 ignoring 18:21 illustrate 73:16 imagine 86:18 145:21 immediate 135:9 **immediately** 50:4 90:14 impact 5:25 27:22 28:8 30:5,7,8,10 32:18,20 34:21 35:6,7,11 57:14 62:19 68:20 79:16 83:13, 19 93:11 94:2 98:4.19.20 123:10 129:19.23 130:13 135:14,23 137:10 139:3 140:6 147:10 148:5 impacted 30:22 33:9,22,22 35:3 94:8 140:17 impacting 61:8 impacts 26:3 31:23 44:15, 15 50:15 53:4,5,7 61:25 83:23 89:12 90:7,13,24 91:2,5 92:9 93:12,13 99:1,1,2 124:20 127:10 130:3,4,5,5,19 133:8,15 134:18,25 135:6,8,21 136:11 139:23 140:1,9,19 important 29:13 62:25 79:20 improved 147:14 inadvertence 140:22 inadvertently 5:25 6:2 27:22 35:8 Inc 4:17,25 5:2,5 inch 145:21 inches 49:10 incised 73:3 incising 69:25 70:25 72:10 incline 107:22,23 include 7:8 16:14 40:15 45:24 63:6,7,8 121:16 131:6 included 18:25 62:25 97:23 includes 90:9 92:3 141:17 including 63:3,5 inclusive 123:11

hydrographs 56:8 103:16

incorrect 74:14,16 increase 9:21 19:6 20:24 39:7 indicate 134:17 143:14 144:3.11 indicated 10:17 11:21 12:14 15:14 19:5 24:19 26:6 31:12 40:14 76:3 79:14 134:23 149:7 indicates 20:10 30:21 40:15 136:8 140:22 indicating 8:10.11.12 26:20,25 37:9 44:18,19 indication 39:25 indigenous 98:21 individually 92:15 **indulgence** 11:2 148:1 **Industrial** 8:25 Industries 5:6 industry 45:1 inefficient 37:21 inferred 140:13 **information** 30:2 32:20 48:18 89:16,20,24 91:25 102:21 112:19 118:14 133:13 **informed** 124:17 Inge 4:23 initial 16:10 Inn 64:10 input 79:19 inserted 13:12 inside 53:5 inspection 24:4,14 installation 78:23 installed 101:15,15 125:5 instead 49:14 63:12 72:19 144:1 Instruction 141:17 instrument 21:24 intake 106:24 intended 19:25 26:21 29:10,23 33:9 139:19 intensive 82:24 intent 50:14,21 119:1 129:17 139:14 intents 88:25 interesting 24:12 115:5 internal 6:17 92:20 interpret 24:7 interpretation 13:1 17:13 132:11,12 interpretations 17:14 20:6 interpreted 25:15 interpreting 23:10 into 14:24 15:12 17:11 19:18 21:18 27:4,12 28:7,17 37:10 38:9 44:12 46:2,15,21 47:6,22 48:11 49:22 54:5,5 56:18,18 60:14 62:8 64:4 65:20

66:19 67:23 69:25 70:5,

13,22 71:16 72:22,23

83:20 85:1,7 103:20

106:15 107:25 110:9

111:10 112:16 125:8

133:11 137:9 149:9

hydrograph 59:19 151:3,4,

introduce 43:5 77:17 introduced 100:15 103:2 introductions 3:8 invariably 7:18 involved 7:20 20:17 30:4 34:12 81:18,20 84:12 88:10,11,18 89:1 125:18 142:20 IPD 3:4 9:3,12,19 10:3,10 15:15 20:23 31:19 88:13 130:17 irrigate 101:4 isn't 107:9 121:20 128:5 issuance 30:23 issue 13:24 27:24 69:2 70:23 72:24,25 82:3 97:19 130:1 131:23 143:15 issued 11:1 25:25 116:12 138:6 issues 10:15 12:18 26:5 31:4 79:12,15,16 86:6,9, 19 99:7 145:3 item 93:25 items 149:1 itself 12:19,19 50:20 60:10 85:11 108:11,13 121:17 137:7

- J -

January 3:3 31:8 33:18 56:10,24 89:9,9 90:4 98:7,14 104:6 136:7 job 76:13 86:9 120:22 June 5:3 13:20 153:4 iurisdictional 40:19 140:6 iust 3:18.21 4:24 5:12 6:22 7:23 10:14,15 11:17,18 15:7,10 18:14 21:18 22:1,21,24 23:22 24:1,2 28:10,21 29:6 31:17 32:21,24,25 34:14 35:1 37:20 39:6 44:17 45:16 46:23 47:7,20 48:2,10,11 51:2,6 52:25 53:8,9 54:1,13 55:1,23 56:7,12,19 57:11,23 58:12 62:1 63:15 66:24 67:1,11 70:19 71:4 72:8, 16,25 73:10,11,16 76:24 77:3 78:18 84:8,11 85:15 91:23 93:15 96:3 97:13 99:1,2,7 102:16,19 112:3 113:8 114:23 117:25 119:6 121:3,6 122:4,19 124:5 125:13,17 127:16 128:21 132:3,4 133:19 134:8 135:18,19 136:5 140:3,15,24 141:1 143:14 144:3,10,14,17 145:14,18 146:1 147:8 150:11 justification 138:12 justify 24:23 jut 107:18

- K -

keep 11:3 15:6 18:8 23:3

43:7 58:2 67:1 68:22,24 77:19,20 81:19 82:1 93:15 94:13 102:22 103:20 107:17,22 119:12 139:14 142:18 143:2 keeping 94:14 150:24 keeps 48:3,4 58:22 78:4 Ken 4:21 34:17 72:2 79:14,17,22 80:7,11,15 84:15 kept 105:20 key 38:10 46:9 47:6,21 48:1 51:16,16,17 52:7,11 58:16 66:2 kind 15:11 20:12 21:19 24:13,17,19 40:1 46:4 50:7 51:6 52:25 53:9 54:13 61:22 64:6 66:22 67:2 68:7 77:5,21 81:18, 22,22 84:11 85:11 99:20 107:20 115:25 132:4 148:8 kinds 48:18 Kirk 4:21 26:6 34:11 42:17 43:1,13 57:16 59:4 60:2 71:8 75:16,24 90:18 95:6 110:7,16 128:1 know 20:19 22:2 27:23 43:4 49:10,18 56:1,11 58:3,19 59:5 61:8,11,14 62:6 65:12 69:19 70:4 74:4 75:6,11 80:25 81:25 82:3 83:7,20,24 84:13,15, 19 94:25 95:2,7 96:2,17 104:23 107:4,19 110:12 113:7 120:18,23 121:20 123:17,18 124:17 126:10 131:17 132:4 133:12 134:10 136:4 137:16,19 141:24 142:21,23 144:2 148:11 149:10,22,22,23, 24 152:2 knowing 90:24 95:9 121:4 129:25 132:5 knowledge 60:1 116:6 127:8 known 5:8 101:5 108:21 knows 70:19 - L -

labeled 127:4 lack 60:1 103:21 LADD 3:16,16 4:18 34:14 41:4 63:24 64:2,2,6,9,19 65:15,19,24 66:17 67:6 76:1,8,12,22 78:8,12,16, 22 79:2,9 82:13,13,22 83:5 84:23 85:9,13 86:15,15,24 87:6 laid 34:22 lake 51:19,25 52:11 54:2,

4,5,16 55:4 65:5 94:10 113:5 137:9,13 land 9:9 48:23 49:4 87:23 131:2,6 132:19 133:24 143:16 lands 49:18 69:6 Lane 86:17 language 91:19 92:6 94:10, 16 large 37:15 41:5 52:11 54:4 64:20 76:24 77:1,12 82:25 102:3 larger 6:7 8:24 146:4,13 148:10 151:5 last 9:15 10:4 22:22 30:3 32:9 38:7 42:3 43:6 64:10 86:5 89:6 117:2 118:15 123:21 125:6,10 141:16 late 8:23 9:2 10:4 24:4 100:10 later 15:11 16:4 32:5 46:2 laterally 64:20,25 65:24 66:2,10,11 67:2 latest 104:6 151:14,15 law 4:15 lawyers 24:17 lay 111:14 layer 14:19,23,25 45:19 layers 111:14,15 leading 6:15 leads 6:19 learned 92:14,21 learning 92:20 least 34:7 49:16 81:20 94:14 96:14 112:17 113:3 133:10 leave 33:10 41:25 79:18 122:4 leaves 83:6 leaving 85:14 Lee 3:2,12,20 12:2 14:12, 17 15:2 51:10 55:20 62:9,11,14,14 63:5,7,13 64:15 67:4 68:9 70:2,8, 17 71:16,21 73:6,10,20, 74:11,17,21 75:1,6,13 78:23 88:15 90:17,25 91:1 94:23 95:2 96:7,8, 10,23 99:17,22 100:2,7,7 104:8 112:5 119:12 122:8,23 124:5 127:5 128:6 129:16,24 130:12, 15 131:1,12 132:7,10 153:2 left 26:12 66:22 left-hand 89:5 legal 13:24 less 12:12 38:16 61:1,3 111:9,15 115:22,22 lesser 115:21 letter 22:11,12,17 23:17,18 24:5,20 25:22 level 12:23,25 13:17 27:12 46:17 48:21,24,25 49:1,6, 10,25 51:20 52:1 53:2

55:13 57:4,10 59:1,8,9,

11,17 61:6,7 69:18,23 71:2,7,11,23 72:5,6 101:7,17,18 102:5,9 103:23 107:23 115:4 119:14 131:14,17 134:6, 10 137:19 151:7 levels 23:4 46:18 50:14,16, 19 51:21 53:13 55:14 56:8,16 57:8 58:16,22,23 59:7,20 60:3,5,10,11,22 61:1 70:6 100:21 101:16 102:7,25 129:19 131:4,4, 25 132:3,20,21 133:1,10, 22 145:4 146:21 147:19 148:6 lies 23:10 life 138:15 light 29:18 lighting 86:23,24 like 3:8 10:14 11:2,18 31:6 34:8,13 35:25 38:19 42:16 43:19,19 48:12 49:3 51:10 54:23 58:4 61:21 62:6 66:18 68:6,19 69:14 70:23 72:14 85:4 87:22,25 93:1 96:11 97:22 100:8,11,25 101:10 102:1 111:6,11,12 112:9 117:14 121:1 122:13 129:2 133:20 134:5 138:24 143:7,9 145:5 146:15 148:22 likely 33:8 59:18 likes 43:8 limestone 45:11 51:8 66:20 67:16 68:1,3 108:3 limestones 111:11 limited 5:14 58:17 61:23, 24,24 84:2 limits 28:15 line 29:8,14,18 38:21 40:15.19.22 64:21 76:24 107:4 118:19 126:15 128:23,23 134:8 139:18 142:17,17 143:7 145:23 linear 37:16,19 114:25 lines 37:15,16 143:6,15 list 22:9 listed 4:25 listing 139:10 literally 98:2 102:25 literature 109:3 litigation 14:8 little 7:16 10:13 15:24 34:10,11 35:16 40:1,2,12, 24 41:19,23 42:8 46:3 51:6 53:8 80:20,21,23 88:8 103:10 104:11 107:12,21 108:23 110:7 114:24 116:5 118:1 125:14 134:10 140:11 141:10,19,21 146:17 149:6 load 67:19 loaders 66:6 loading 41:11

located 14:25 28:13 55:19

7.8.12

56:23 58:2 102:3 127:24 139:3 location 6:10 35:15 69:23, 24 70:24 91:3 134:8 135:13 locations 55:16,18,19,24 56:2 127:22 135:4 loggers 125:11 logistic 40:12 long 53:17 56:11,22 58:7 77:1 78:6 145:21 long-term 57:24 longer 21:21 56:10 143:16 151:20 longitudinally 67:3 look 8:18 28:20 37:8 41:7. 8 61:19 63:22 70:5,13, 15,22 72:2,8 73:2,21 103:13,13,14,15 116:4 117:9 118:15 124:5 138:3 140:13 141:12 144:21 145:23 146:22 looked 9:1 90:21 95:11,12 130:3 looking 39:21 40:8 57:10 60:3 65:25 72:12 73:16 74:9 91:16 94:14 104:5 105:16 106:2 111:5 113:4,10 114:5 128:9 129:22,22 145:24 looks 54:23 72:14 103:17 loose 122:16 Lori 3:17 4:18 86:14 116:20 125:3 losing 33:1 lost 27:18 lot 43:2 44:1 81:18 82:11 83:14,22 84:8 87:5 96:5 113:7 148:7 lots 113:7 loud 87:8 love 51:14 low 57:9 61:11 lower 12:22,25 13:16 45:20 59:20 60:10,22 70:8 71:9.18 72:15 89:5 107:25 108:23 145:11 lows 56:17 57:2 146:22 luck 11:23

- M -

ma'am 36:10,12 39:12,14
40:10,22 41:15 42:22
63:13 79:7 87:13 99:15
101:21 102:18 105:13,23
106:17 107:13,24 108:15,
21 109:9 110:15 117:12
119:11 121:12 123:24
124:6,16 125:22 126:4,22
127:15 128:13,20 129:2,
6,20 131:10 132:1
134:15,20 135:2,16,19
136:1,3 138:25 139:6,9
141:15 142:7 143:17
machine 41:8,25 65:16
66:2,10 68:7 76:23 77:2,

machines 77:18,19 Madam 3:18 31:7 68:18 79:11 88:5 93:1 99:18 117:2 125:13 132:14 142:22 made 13:21 16:19 17:20 38:21 66:18 81:18,21 105:1 120:8 121:19 130:25 133:19 138:21 146:19 magnifying 146:8 magnitude 112:14 main 9:20 49:8 62:15 mainly 7:20 maintain 48:24 53:13 75:2 119:13 maintained 46:16 48:23 49:22 54:4 101:17 117:16 maintaining 58:15 131:3 132:20 major 72:14 112:10 113:5 131:23 make 34:25 43:20 48:14 52:17 61:5 63:12 66:12, 14 69:3 71:4 72:9 73:3 78:15 84:23 85:16 87:12 93:10 95:2,9 97:22 99:4 112:19 121:5 133:19 134:1 144:14,19 148:16. 22 150:18 151:15 makes 116:3 141:9 making 43:7 68:7 95:4 Mallard 86:17 135:4 man 113:6 Management 14:21 15:1 16:3,8 17:1 20:16,20 22:4,7,9,10,12 25:23 30:23 36:5,6 69:9 81:19, 25 82:25 84:21 90:1 92:2 101:7,12 116:13 manmade 84:5 manner 6:9 9:6 24:24 25:9 many 6:19 58:13 114:14, 14 map 55:23 mark 43:21 122:5 marked 6:13 11:6,13 22:13 38:1 43:23 56:9,23 61:9 116:23 128:7 134:7 marks 8:19 Martin 4:21 19:23 23:5 24:24 34:11 42:17 43:2. 5,7,13,25 44:8 47:2,5,19 48:10,23 49:3,7,17 50:12, 25 51:15,23,25 52:5,22, 24 53:17 54:1 56:7 57:19 58:1 59:12,18 60:16 61:9 62:5 63:22 69:3 70:4,12,19 72:1,21 73:14 74:25 75:3,10,24 90:18 94:11 95:6 103:1 105:14 107:17 110:17 111:2,4,22 112:2 113:15 114:5,12 115:9,12 116:9

127:21 128:6.13.20 132:24 133:21 134:3 145:3,9,18 146:2,12,19 147:12.21 Martin's 43:18 127:18 mash 20:4 Master 28:14,25 29:15,19 30:9,11 32:4,8,23 34:1 36:21 37:1 38:3,20,24 39:21 92:23 93:3,5 94:16 97:17 98:25 140:13 144:14 151:1 material 45:1,4,8,9,15,16, 17.18 47:7.9 51:2.7 64:22,22 65:17,19 66:3,4, 21,23 76:16,18,19 77:20 106:22,22 materials 44:10,11 matter 93:22 102:18 128:14 138:11 150:3 max 122:19 maximum 23:20 45:24 46:12 115:19 May 4:19 8:23 18:3 20:19 26:5 30:25,25 32:17 35:5 42:7 58:4 60:9 65:25 68:20,25 73:6 75:1 83:21 84:15 88:16 96:8 99:8 100:9 107:14 108:22,24 115:24 116:4 117:25 120:4 121:5 122:9,16 133:6,18 136:13 137:21 138:4 139:2 140:25 142:1 144:20 145:6 147:6,7 148:13,25 149:1 Maybe 35:1 56:4 60:6,11 63:16 67:2 68:19 73:12 74:1 83:21 110:6 121:6 129:12 133:13 146:4,13 McLean 4:21 27:7,19 34:8 36:1,7,15,19,19 37:1 38:3 39:9,16,19 40:5,7,10,17, 19,22 41:2,15,17,25 81:6, 6,11,13 MCP 98:19,20 99:2 144:1 me 3:8 4:19 5:1 6:5 15:19.20 19:2 27:17 35:2,13 39:18 43:8 46:22 50:1,13 64:14 65:3 68:12 69:3 71:3 74:7 78:18 85:19 86:11 94:23 96:13 102:8,12,19,21 107:3 109:22 110:12 113:1,8 114:16 115:10 116:4,5 119:5,6 121:19 122:13 123:15 124:17 125:19,20 129:23 132:4,7 134:12 140:11 141:9 142:14 143:1 144:21 148:8,22 149:15 150:13 151:18,25 152:2 Meadow 5:9 7:19 10:1 42:9 Meadows 126:18,23 mean 17:9 41:13 48:25 49:18 57:4 59:9 60:23 65:12 75:11 81:19 82:8

83:13,22 101:18,18 107:4 110:10 120:23 121:3,18 125:20 129:10 134:11 136:16,19 142:19 144:2 148:5.19 150:8.10 151:19 meaningful 23:23 means 49:19 54:11 106:12 112:8 143:6 measure 104:14,24 110:22 measured 111:7 measurement 104:18 measures 42:11 110:21 measuring 110:23 150:10 meeting 86:4,13,21 member 123:4 members 3:19,22 96:12 memo 74:5 98:7,14 136:8 memorandum 31:8,12,16, 19 32:2 74:8 89:8,25 90:4,9 91:13 92:3,11 94:21 memory 94:3 mention 79:17 mentions 38:25 meter 145:22 methodologies 44:12 methodology 46:2 58:14 63:16 meticulously 5:18 microorganisms 137:11,12 microphone 140:11 middle 38:11 68:21 106:7 107:11 128:11 141:11 142:18 might 25:16 79:19 82:12 96:7 123:13 136:16,17 137:12,17 151:13 mile 117:7 125:23 126:9, 11,12,15 128:23 134:22 miles 126:5 million 76:25 mind 15:6 18:8 55:11 58:2 100:25 102:20,22 103:20 107:17,22 119:12 Mine 3:4 5:9,23 6:10,11, 18,19,25 7:1,2,10,11,13, 19,19,20,22,23,24 8:3,7, 22 9:2,18,22 10:1,24 11:10,10,22 12:14 15:7, 14,16 16:12 18:19,20,21 19:21,21 21:24 28:6 33:13 45:19 53:10 54:16 57:21 58:14 64:5,11 66:19 72:24 73:25 76:4 78:10,10,11,12 79:2,3 101:3,3 106:3 113:11,17, 18 116:8,11 118:16 125:8 127:8 131:16 136:24 142:4 mined 6:2 40:4 44:18,19 45:12 93:14 102:5,17 mineral 131:6 mines 7:6,8 79:1 108:17 minimize 61:25 82:2 minimum 23:4 98:11 mining 5:8,20 6:1,3,24 7:11,17 8:14,25 9:21,25

12:2 15:5 16:13 18:7 19:7,16 26:16 27:8 28:14,15 30:24 35:15,15 37:6 40:16 43:6 44:4,11, 12,21,25 45:23 53:5 54:24 55:12 56:13 58:3,8 60:9 68:9 78:22 81:1,20 85:1 88:12,15,18 90:8 91:10,14,23 93:13 110:8 131:6,6,24 135:12 137:7 139:2 140:8 147:2,6,16 minor 16:19 31:14,25 34:14 35:11 73:6,12 minus 97:23,24 98:2 minute 15:20 21:19 55:15 56:19 75:18 102:24 103:4,4,6,7,8,8 125:11 minutes 75:18 mish 20:4 misleading 146:1 miss 118:8 missed 121:21 123:9 mistake 35:21 misunderstanding 120:20 mitigation 30:21 mixing 77:23 78:1 model 63:3,7,9,9 90:21 106:4,4 109:18 110:6 111:17,18,20 112:1,2,7,7, 9,23 113:23,25 114:1,1, 14,17 118:16 119:13,22, 23,24 120:1,23 124:5,8, 10,12 137:1 modeler 124:9 modelers 112:16 modeling 52:15 63:1 73:15 89:21 90:15,19 91:25 95:17 96:9,11 104:9 115:18 118:18 124:13 131:12,13 135:22 MODFLOW 114:12,15,16 115:1 modification 5:21 9:14,17 10:4 23:19 26:9 27:1 30:12,14,25 34:9 modifications 136:13 modified 9:8 19:9 31:9 modify 5:7,13 18:10 20:23 21:22,22 31:5 modular 114:12 module 115:1 modules 113:22 moisture 82:16,18 85:3 moment 5:12 99:17 momentarily 17:13 monitor 49:24,25 50:14,18, 19 56:2 57:16 106:11 125:11 128:16 137:4 monitored 55:21 128:8 monitoring 26:4 44:14 49:23,24 50:2,3,7,10,20 55:13,18,23,25 56:11 57:22,23,24,25 58:7,25 60:3,6,8,11,12 61:6,22 62:1,3 95:4,7 99:24 100:21 101:8 102:2,15, 15,23 103:2 105:10

124:22 125:1,6,18 127:17,20,22,23 137:3,5 146:25 Montes 4:21 36:20 81:7 month 58:19 months 13:20 100:13 125:7 145:14 moon 120:25 moot 24:17 143:15 moratorium 129:14 more 7:16 17:15.24 20:15 23:5 24:10 25:2,2,5 26:7 29:25 31:17 32:24 34:10, 11 38:15,16,18,18,19 40:12 45:7,24 46:10 50:12 56:12,19 60:23,25 63:10 64:13 70:17 71:6 74:6 75:7 88:8 101:12, 22,23 107:21 112:7,8,9 18,19 114:24 115:6,17,17 121:3 122:18 128:2 134:4 150:19 151:5 morning 3:1,24 4:13 87:18 100:11 most 29:13 31:10 44:1 45:16,16 58:1 72:3 85:4 110:18 mouth 149:16 move 6:7 37:17 42:2 53:21 63:17,20 64:16,17 65:7 66:7 68:2 76:18 149:9 moved 19:18 78:10 142:4 movement 38:14 109:25 moves 37:7 41:7 64:25 65:15 66:2 moving 37:8 47:20 48:4,5 67:21 83:18 much 8:2 12:12 26:10 38:18 42:10 53:22 59:20 61:12 77:17 78:19 119:14 121:22 must 74:2 78:15 98:11,16 116:24 131:3 132:19 muzzle 80:22 Myers 4:15 Myers-Harper 3:4 myself 88:19 139:13

- N -

name 62:12 63:25 80:13, 15 87:19 100:5 116:18 123:21 names 7:18,22 58:6 narrative 120:9 131:1 narrow 42:8 Natural 3:19 5:18 57:7.11. 13 62:14 84:5 90:25 94:24 95:15 99:18 100:20 102:8 124:7,9 125:14 150:6 nature 34:19 near 48:23 49:3 55:19 59:13 136:10 nearby 86:4 134:19,25 135:14

nearest 135:6 nearing 149:8 nearly 27:3 necessarily 68:19 69:24 70:9 118:3 137:11 necessary 23:2 34:10 54:6 55:11 91:8 134:1 136:14 142:19 neck 42:8 80:20 need 3:25 10:22,23 21:22 25:12 31:1 32:17 34:16 35:22 36:21 69:21 70:15, 17 71:2 72:8 73:21 92:16 93:10,15 94:10,13 121:1 130:17 134:11,13 142:18 144:10,24 148:7, 8,10 150:18 151:20 152:2 needed 25:20 34:23 43:4 89:13 131:20 140:16,16 needless 148:17 needs 32:19 77:8 79:18 94:12 95:2,6 132:9,12,12 negative 31:23 83:12,19,23 88:23 92:9 134:17,25 neighborhood 86:4 neighbors 86:16 net 114:1,6 network 50:18.20 never 10:10 77:25 136:17 new 11:10 14:4 19:21 32:8 38:3,8 47:21 91:10 92:3 93:16 94:10 97:17 99:2 125:5 132:13 138:4,12,13 newest 132:12 next 13:10 14:10 23:8,17 26:13 29:2,6,12,13,25 31:25 34:9,10 36:1 42:16 47:12,19 48:6 52:1 53:21 55:8 63:17,20 68:4,5,12 72:19 75:6,24 95:9 105:3 106:2 107:1 111:23 122:11,15 132:8 135:10 141:14 151:16,18,22,23 NGBD 59:22 nice 24:5 46:4 50:5 78:15 83:9,10 131:22 night 64:10 nine 98:1 No 3:3,7 6:13 8:21 11:6, 13 12:3,11,22,24 13:16 14:21 16:1,23 18:3 20:10,11 21:4,6,21 22:10, 11 24:8,11,15 26:3,14,15 33:5,6,23 35:15,25 36:10, 12,25 37:24,25 38:1 39:9,12,14,25 40:14 42:22,24 43:22,23 44:15 45:7,13,24 46:10 51:25 52:17,20 53:6 56:15,20 57:14 58:1 65:2 75:12 79:7 80:4,23 83:5,15 84:2 85:24 88:3 90:23 91:4 92:6,10 95:24,25 97:11 98:6,14,25 99:3,11, 13 104:1,2 114:1 119:14 120:20,21 121:14,14

122:19,25 123:12 124:6, 14,19 127:8,11,14,15 128:3 129:8,15,19 130:12,14 133:14 134:17, 24 135:11 136:2,8 137:20 142:24 143:16,20 147:18 149:19,24 151:25 noise 86:22,25 non 30:8 77:18 none 61:20 nor 90:14 102:5 norm 103:17 north 12:15 13:5 26:22,23 38:12,12 55:19 58:2 124:24 126:9,11,12,15 128:4,23 northeast 69:17 northern 8:9 9:7 16:15 38:7 123:7 northwest 7:14 Nos 22:13 not 7:8 12:23 14:1,4,23 16:5,24 18:6,9,21 19:1, 19,25 20:1,1 23:13 24:25 25:13,17 27:12 28:8 29:21,23 31:22,23 33:10, 21 34:17 38:23 40:4 41:1 42:6 43:2 46:18 47:3,5 48:20 50:8,11,22 52:2,16 56:4 60:7 61:3, 8,16,17 62:17,25 63:8,16 65:15 67:4,12 68:22 69:24 70:8,9,17,25 71:8, 16,23 72:3,9 73:3 76:19 77:11,15 78:18 82:14 83:16 85:10,22 86:8,13 88:10,11 89:12 90:13,20 91:21,22 92:8,14 95:8 97:21 99:3,22 101:1,5,8 102:5,15 104:11 105:1, 20,21 106:23 107:4,24,25 110:3 111:3,25 113:7,17, 18 115:24 117:19 118:3. 6 119:13,24 120:10,14,22 121:13,16,20,22 122:10, 20 124:9,25 126:19 129:24 130:17,19 132:5,7 133:6,7 134:10,22 135:6, 7,13,20 136:12,22,25 137:11 138:6,7 139:1,3 140:9,17,19 141:25 145:6 146:8,25 147:6,7,12,17 149:5,11 150:10,11 151:14 note 12:21 20:24 61:16 84:14 86:2 94:9 127:22 148:23 noted 4:25 10:18 20:7 24:4 94:7 notes 94:2 nothing 88:22 128:5 145:2 146:24 noticed 73:10 notified 25:7 noting 93:12 now 7:3 15:6 17:8 20:22 40:24 43:19 47:21 48:8

50:2,25 51:3 54:7 55:1 67:17,23 69:7 70:7 71:4, 8 79:20,21 90:1,11 100:8,17 101:10 102:12, 22 103:3 105:5,8 106:1 1,2 107:1 108:2,7 114:15 116:15 117:10 120:12 122:9 123:7 134:21 136:15 140:20,21 144:12 146:25 147:15 148:20 number 12:18 36:24 55:21 74:21 89:17 110:17 117:20 139:21,25 141:1, 7,10 numbered 153:8 numbers 44:21 92:15 139:11 numerical 106:4 118:16

- 0 -

o'clock 122:16 oath 87:21 obfuscated 20:2 **objection** 80:3 88:3 objections 36:8 42:21,24 88:1 97:9,11 objectives 59:2 90:11 obtain 13:8 obvious 62:20 77:3 obviously 20:1 62:22 67:12 70:13 74:13 149:21 occasions 89:17 occur 5:19 10:19 24:11 28:7 83:21 112:14 130:7 occurred 5:25 9:5,6 27:22 28:17,18 29:3 30:15 32:6 57:14 86:5 occurring 35:15 56:15 112:3 124:15 133:2,10 occurs 31:17 octagons 40:1 October 17:23 off 31:7 37:13 42:1,13 46:18 49:20,20 50:14,15 52:14,21 53:13 55:7 58:16,22 59:6 71:7 72:18 75:6 77:13,13 78:1 81:5 83:20 86:11 129:7 135:4 off-road 37:10 41:18 off-site 44:15 offer 98:3 149:18 office 89:9 141:18 OFFICER 129:7 officially 97:21 Oh 33:11 39:16 117:23 142:14 149:3 oils 137:8 Okay 3:9,23 5:4 10:12 11:12 18:17,22 21:9 32:13 33:12 34:5 36:4,8, 13 39:10,21 40:6,23,23 41:10,16,19 42:4,7,14,21, 23 43:9 44:7 46:22 47:16 49:5 50:1,24,24 52:2,23 53:25 56:6,6 57:24 63:8,25 64:7 65:4

66:15 67:18 68:7,11,14 70:11 74:2,9,12,16 75:22, 24 76:2,21 78:9,19,25 79:4,8 80:5,13,18 81:15 82:5 83:11 85:18 87:4,9 88:1 97:9,24 98:9,12 99:4,6,9 101:4 103:23,24 104:6,7 105:1,3 106:1 108:2,10,25 109:10,15,23 110:25 111:19,23 112:22 114:9 115:8,11 116:3,25 117:13,22,23 118:3 119:10 120:12 122:3 123:1,15 124:22 125:2,12 126:19 127:7 133:17 134:5 135:10,24 136:21 138:5,23 142:5 143:13,23 144:16 145:25 150:22 151:16,19 old 7:2,9,10,12 17:24 18:19,20,21 19:21 55:3 79:2 older 125:8 on-site 104:9 106:10 Once 51:18 69:14 72:22,24 85:2 86:16 120:23,24 one 10:17 13:20,20 20:7, 10 21:21,23 22:6,8,21 26:10,13 27:24 29:14 34:14 35:1,7 37:9,17 38:13,19 39:6 40:9 46:23 47:5 50:5,5 53:21 54:25 56:5,18,23,25 57:5,19 59:4,19,25 60:16 62:22 63:17.17.18.19 64:13 69:7 71:9,22 73:7,7 74:2,3,4,4,6,10,13,14 76:5 77:11,22 78:12 80:20,23 82:8 88:16 89:4 91:15 93:2 105:21 106:1 107:2 110:11,18 111:12 117:2,14 118:21 122:16 125:7,9,24,24 126:7,9,11, 12,15,20,20 128:11,18,23 130:25 131:12 132:8 134:11 135:10 136:22,22 138:20 140:11 144:21 145:9 146:1 148:4,15 150:8,14 ones 21:21,22 41:13 50:6 56:12 88:17 91:17 102:16 110:23 112:17,18 145:23 ongoing 46:7 55:1 only 10:2 13:4 16:20 18:5, 9 21:10,23 32:14 33:19 35:2 57:24 69:18,20 71:1,23 74:23 75:19 84:14 93:4 101:1 106:13, 22,24 107:15 108:11 111:4 114:7 138:21 139:23 140:7 143:10 onto 66:24 141:19 open 13:1 17:13 94:13,14 95:19 122:4 150:23,25 opens 23:8 operate 62:24

operated 37:16 77:17 operating 19:11 operation 5:8 7:17 8:15 9:21,25 15:5,13 16:13 17:20 18:8,10 19:8 22:24 35:14 37:6 58:8 60:9 76:5 84:1,3 85:2 88:12, 18 89:22 90:8,12,14 91:15,23 93:13 95:10,14 118:5,10 123:7,10 127:10 130:3,13 135:12 137:6,7, 17 140:8 operational 34:14 operations 8:25 16:25 19:16 27:11 30:24 34:15 37:16 64:2 76:4 78:7 82:3 83:14,20 88:15 118:19 133:2,11,16 134:19,25 135:7,14 137:3,10,14 139:2 opinion 73:1 93:4 112:17 147:5 opportunity 124:4 opposite 87:7 oral 134:4 order 10:22 30:23 45:17 46:17 47:8 49:10 54:9 72:7 98:10,11,15 116:12 138:3,5 143:25 149:19 ordinance 125:16 organics 45:2 original 7:23,24 8:3 11:10, 22 12:10 13:8,9,13 15:7 29:11 30:11 32:7 57:21 58:8 74:15 89:10 98:5,9 140:13 141:25 142:9 144:21 151:13 originally 23:22 33:10 67:7 other 6:22 12:18 14:22 22:7 25:8 29:22 32:14 33:1 48:18,19 52:12 63:2 74:4,13,16 76:5,22 79:1, 16 84:13 85:20 93:25 96:6,11 99:8 102:1 105:18 109:24 113:22 116:23 120:14 121:21 122:12 125:7,21 127:9 131:16 132:22 135:4 137:10,12 146:1 147:23 148:4 149:21,25 150:8,14 others 18:18 62:7 Otherwise 75:11 77:9 our 4:20 25:14 34:7,8,23 36:1 42:16 51:7,7,8 56:20 57:12 61:22 66:13, 21 67:1 72:2 79:12 84:20,21 85:1 86:1,3,16 89:25 92:20 113:16 115:18,19 122:15 123:11 124:20 126:23 135:22 out 4:20 5:18 10:20 11:3, 8,19 15:10,11 19:14 20:20 21:15 22:1 23:15 24:2 25:20 26:22 27:17, 19,23 28:10,21 30:22 32:24,25 34:13,15,22 35:21 36:23 37:6,12

38:19 41:22,24 44:18 46:14,20,25 47:14,17,17, 17,22 48:14 49:13 52:9 54:15,22 57:3,11 59:18 64:17 65:6,9,13,22,23 66:16,21,25 67:5,16,16, 19,25 68:1,4,19 71:19 72:15,17,18 73:4 80:21 81:16 82:9,10,10,18 83:14,22 85:1,7 86:4 90:17 91:7 92:5 93:1,9 94:11,12 95:10 96:3,16, 19 101:2 102:1.14 103:17 104:17 105:4 108:7,17,18 109:7 113:5 118:4 119:3 120:18,24 126:3,25 128:16 131:23 132:23 137:17 139:16 140:10 141:1,13 143:8 144:10,11 145:21 148:4 149:16 150:15,21 outer 66:13 outlined 7:4 28:14 94:21 outlines 140:1 outright 12:23 outside 50:10,10 53:4,6 71:17 outwardly 67:11 over 6:11,25 7:10 8:2 9:7, 9 13:18 19:7,16 26:21 27:18 28:9 36:22 38:5 41:12 54:2 58:9,14 61:20 63:11 66:24,25 68:2 78:10 89:15 96:22 105:12 107:21 113:6 116:15,16 118:20 125:7,9 134:5 141:20 142:5 146:23 147:14 overall 10:1 44:8 113:11 136:23 overburden 41:3 45:2 48:5 81:17 oversight 30:16 overview 9:24 10:13,15 44:9 owned 5:6 7:3 126:24,25 127:2

- P -

p.m 152:2 package 11:24 12:7 102:19 114:16,19,24 115:3 packages 111:25 113:4 114:10 packet 13:10 14:11 18:25 30:3 pad 41:6 63:21 64:21 65:4,8 66:18,21,24 67:6, 9,23,25 77:17 page 12:20 13:15 15:22, 22,23 22:22 29:2,8,25 30:3 31:17,18 32:1,4 33:13 92:5,11,13,14 104:7 105:5 106:3 118:17 127:19 136:4,7 138:24 141:14

pages 93:18 153:7 paginate 92:14 painful 19:12 paragraph 106:8 109:15, 19,20 118:15,18,22 parameters 55:21,22 128:9 parenthetical 139:17,20 Parker 3:2 part 8:1,9 9:7,15 10:7 11:22 12:15,16 13:5,5.5 15:9,15 18:7 23:23 29:11 30:12 33:22 35:13,14,18 44:21 61:25 80:24 91:23 93:20 113:9 118:9,13,14 119:22 121:11,18 125:8 128:4 132:24 140:2,18 142:19 145:22 participate 25:16 particular 13:14 20:7 22:22 24:12 38:4,20 58:24 88:18 89:18 90:8 94:6 103:14 105:10,10,11 120:2 124:23 135:3 particularly 6:24 72:12 143:5 pass 11:3,8 20:19 27:23 Passarella 4:22,22 34:17 72:2 79:14,23 80:7,12,15, 16,16,17 81:1,4,24 83:12 84:18 passed 22:1 24:2 28:10,21 32:24,25 past 10:25 29:16 97:7 path 47:9 paths 41:25 pathway 50:19 pattern 51:2 66:12 peaks 146:23 people 57:3 per 53:23 102:24 109:4,12 120:7,7 percent 38:6 56:3 82:19 85:3,5 perfect 61:3 perfectly 20:3 performed 12:23 13:17 16:2 104:15 105:4,9 106:10 118:19,20 perhaps 13:1 151:9 perimeter 46:15,16,19,21 48:9,19 49:12 52:20 55:6 58:21 61:10 83:3 116:7 124:17,18,19 period 139:18 permeability 110:19,20,21, 24 111:7,8,9,15,17 115:14,15,16,25 permit 8:5 12:9,19 13:8,12 14:7,13 20:16,20 22:5,19, 23 23:19 24:2 25:25 30:24,25 60:17 69:8 70:14,22 101:6,11,12,13, permits 16:8 24:6,7 59:21 84:21,22 permitted 9:22 14:20 15:1 16:2 18:7 20:11,12 23:22

24:9 25:10 29:15 69:10 70:5 131:5 permitting 9:25 89:25 person 42:8 perspective 6:12,20 7:13 146:17 pertaining 13:14 15:25 pertinent 10:24 11:20 ph 6:25 **Ph.D** 110:10 Phase 26:19,21,22,22,23, 23,24,24 27:1,2,3,6,15 16,17,17 37:4,4,5,5,5,5 38:5,9,9,11 40:13 47:12 138:4 phases 5:10 26:17 27:4,14, 16 phasing 5:21 19:9 20:23,25 21:3,10 26:9,11,16 27:10 34:9 36:21 39:7,23 41:20 80:19 89:11 90:6 138:22 photograph 37:8 phrase 17:8 phrases 17:11 physical 55:22 pick 26:22 64:8 146:11 picked 66:4,6 picture 44:5 84:24 100:17 107:20 113:2 pile 64:23 piles 83:3,5,8 84:24 pinky 7:5 pit 13:1 23:9 53:10 66:19 67:1 77:5,6 pits 12:22 13:16 16:1,23 17:7,12 20:12,13 23:7,12 24:8 91:22 place 6:18 22:25 38:8 51:16 69:9,14 76:20 100:19 105:22 119:9 130:18 141:4 plan 5:15 26:11,16 28:1,6, 6,14 29:1,11,15,20 30:10, 12 32:4,6,8,23 34:1 36:22 37:2 38:3,20,24 39:21 44:17 61:25 62:1 80:19 81:19,22,22,25 84:11 90:10 92:23 93:3,5 94:16 97:17 98:25 102:6, 13 118:10 120:6,6,9 121:8,9,17,23 122:12 129:16,24 130:16 131:1 132:7,11 140:14 144:14 150:5,7 151:1,9 Planned 8:25 31:21 34:17 Planner 87:21 88:18 92:19 planning 87:23 97:8 137:3 plans 5:17,21 98:11 132:10 plant 37:10,14 38:22 39:1 66:8 76:16,17 126:6,16, 18,23,24 play 103:4 please 4:3 22:10 62:12 75:18,19 100:9 102:22 103:19 106:19 110:5,12 116:18 119:11 123:16 plus 56:3 97:22,24 98:2

130:6 pockets 107:11 point 4:2 6:16,22 9:10 11:19 13:3,11,23 14:12, 17 15:3,6,9,11 17:8 18:12 19:14 20:15,15 22:19 23:15,15 24:17 25:18 27:8 29:1,3,17 33:4 35:7,9,16,20 37:6,7, 9,12,17,20 38:14,19,19 43:18,25 44:16 47:5 48:1 49:17 53:3 58:20 60:6,15 62:24 66:7 70:12 71:2,22 73:6 75:12 76:17 78:5 88:14 89:23 93:1 95:4,10 101:22 102:1,6,17 103:18 104:22 107:2 117:2,18 118:2 120:9,18,19 122:8 125:20 126:25 127:18,19 129:13 130:1 131:7,19 132:25 133:18,19 140:8, 23 141:19 142:3 147:16 pointed 35:20 36:23 59:18 68:18 90:17 91:7 92:5 93:9 118:4 127:16 132:23 pointing 94:11 117:10 points 37:12 94:15 95:2 100:9 103:15 145:9 policies 90:10,11 132:11 policy 129:16 131:5,19 132:17,21 pontoon 42:5 pool 128:15 129:2 portion 5:7,14,22 7:8 8:12, 17 10:1,24 16:10,16 29:5 34:7 38:7 76:22 94:18 123:8 portions 16:15 position 24:23 possible 112:18 148:11 possibly 131:16 post 114:1 146:5 posted 141:17 potable 120:11 potential 50:15 61:25 84:19 108:14 130:4 131:23 137:2,5,7,16 potentially 137:9,13 pounds 76:25 pour 78:1 power 38:17 43:18,25 77:14 107:2 127:18,19 132:25 pre 114:1 pre-existing 116:12 preclude 14:23 **precluded** 23:13 24:25 predate 146:25 147:2,3 predates 133:23 preferred 111:14 present 3:7 147:9

presentation 3:22 25:20

29:13 31:3 34:7,8,24

39:2 43:18 63:15 75:20

12 94:12,18 95:1,3,9,19

86:3 87:12 88:7,22 91:7,

127:18 134:4 146:20 presented 14:2 61:15 88:23 97:14 149:25 150:1 presently 9:22 26:15 preserve 40:3,14,15 42:9 50:7 140:15 preserved 28:3 29:10,11 preserves 42:12 president 64:2 80:16 presume 12:25 presuming 93:22 pretty 8:2 53:22 56:25 82:24 86:9 113:13 125:21 prevalent 101:8 previous 13:18 19:3 21:1, 13,20 45:23 47:23 63:18 78:21 91:9 101:24 130:16 132:6 136:22,23 138:20 previously 4:11 5:22 18:10 23:2,11 36:1,17 38:23 42:17 43:15 64:16 76:3, 10,15 79:25 80:9 87:16, 24 97:3 99:19,23 124:2 130:15 140:8 primarily 20:17 24:15 27:2 32:16 86:21 primary 19:5 45:18 86:18 145:11 146:20 principal 80:17 87:20 printed 89:6 prior 30:23 69:4 98:10,15 100:18,21 138:3 141:12 private 90:14 91:3 135:2, 5,8,15 probably 6:5 8:19 18:6 20:5,19 26:12 27:12 29:12 31:22 32:18 57:2,5 59:13.14 61:2 63:24 73:14 76:13 81:14 82:19 86:8,18 87:1 98:2 105:13 106:20 107:16 108:22 113:12 114:14 115:10 127:3 134:3 150:3 problem 61:12 92:7,10 94:6 122:10 127:8 137:17 143:20 problems 52:18 127:9 proceeded 9:2 proceeding 21:23 proceedings 91:16 153:6 proceeds 38:14 process 5:17 6:1,23 9:1,3 10:20 16:6 22:23 23:6,24 25:4,17 26:2 27:8,11 34:12,16 37:19 38:8,18 41:5 45:12 46:5,6 47:10, 25 48:4 51:5 53:19,20 54:3,4 55:5 58:10 67:11 92:21 137:23,24 138:2 140:22 147:13 processes 6:3 27:10 processing 38:25 41:12

76:16

production 126:1

Professional 153:4

professionals 130:11 profile 65:15,25 program 26:4 44:14 49:23 55:12 59:1 78:4 82:25 127:20 progress 44:3 progression 28:22 64:19 prohibit 16:5,24 **prohibitions** 121:1 129:9 project 11:20 19:13,17 27:7 30:24 35:4 68:17 84:22 102:3,7 106:12 130:15 projecting 147:8 projects 6:23 property 11:9 15:13 17:20 24:9 32:3 49:25 50:3 55:15 56:24 57:18 68:14 129:10 131:16 136:10 139:3 proposal 89:16 107:25 proposals 31:10 propose 136:13 138:4 proposed 19:10 25:9 26:1 27:1 31:21 33:21 34:16 39:8,23 45:14 80:19 90:12,20 94:20 99:1 113:20 117:8 120:2 128:22,24 130:3 135:11, 13 proposing 21:17 protect 42:12 81:23 protected 33:3,7,16,23 98:17,22 99:3 protection 125:15 **proven** 58:15 provide 88:19 89:16 92:14 102:14 provided 16:20 32:21 91:25 103:16 133:3,4 139:7,25 140:25 provides 45:22 50:21 90:4 93:16 133:25 provision 14:23 provisions 90:25 proximity 102:16 125:21 prudent 25:2 55:11 public 3:7 55:20 87:21 94:22 117:4,7 125:5,9 128:6 136:11 140:21 **pull** 57:2

pulled 60:24 120:24 pump 47:17 48:6 53:22 54:5 75:6 106:24,25 pumped 46:14,15,20 47:22 69:15 101:3 pumping 126:2 pumps 53:10,11,15,18 75:8 purchased 5:2 purple 9:11 purply 7:5 purpose 19:5 45:15 46:19 105:24 129:17,17 131:19 purposes 16:2,23 17:9,12 20:11,14 24:8 29:13 47:6 136:18 put 3:21 6:4,11 8:2 47:17

65:6 71:2 91:12 93:18 101:14 131:8 143:24 144:7 150:3 putting 49:14 67:16 72:22, 23 85:7

- Q -

qualified 27:12 quality 31:23 34:19 55:17 59:2 92:9 128:10 134:18 quantitative 62:18 quantity 31:24 92:9 134:18 quarterly 55:18,21 102:21 103:5 128:8 question 17:17 20:13 35:2 39:18 40:12 50:1 51:10 56:3 59:25 64:1,13 65:3 67:12 68:12 70:21 71:3 72:7,8,24 74:3 80:18 90:17 102:13 104:14 105:14,25 107:1 111:23 112:12,21 113:17,18,19 115:12.14 116:9 120:4 123:6 127:17 129:13,13, 21 130:2 131:11 143:1 145:8 questions 34:18,21,24 35:25 39:3,5,11,15 42:7 51:12,13,14 52:4 59:3 62:10 72:21 79:4,6,15,19 85:20,21 86:2,19 95:14, 15,16,18,20,22,24,25 96:5,8,10,20,23 99:8,9 11,12,15 103:25 110:17 18 112:11 115:10 122:9, 22 123:13,18 127:12 128:2 129:5 134:13 144:24 quick 29:6 44:2 46:23 53:1 120:4 145:14,19 quickly 88:6 quiet 87:6 130:13 quieter 87:5 quite 30:24 56:11 96:20

- R -

rack 148:16 rainfall 103:21 113:23 raise 4:3 117:25 raised 90:3,11 107:24 raises 65:2 range 57:1,9 69:19 81:14 82:19 109:2 rapidly 150:15 rather 19:12 21:13 30:7,17 35:14 53:14 91:16 101:24 143:2 149:9 re-emphasize 63:14 re-read 132:18 read 22:24 120:14 121:20, 21 134:23 142:10 149:15 readable 151:6 readings 102:24 reads 14:18 15:25 ready 4:5 87:11

reaffirmation 12:9 real 41:12 46:23 50:13 53:1 54:18,23 112:9 113:2 125:18 145:22,22 realistic 54:14 realize 54:21 realizing 19:20 really 12:12 15:9,14 18:5 30:6 33:23 37:14 38:8 40:8 44:5 45:1 47:4 54:22,23 78:2,5,16 80:19 82:22 85:4,4,16 86:20 88:22 93:2,4 99:7 107:18 111:6 112:17 130:1.22 131:8 139:19 143:8 reason 43:7 54:25 60:21 86:8 111:12 reasonable 20:5 reasons 27:20 28:9 60:17 77:12 rebuttal 147:24 recall 19:10 24:10 51:17 52:6 54:24 86:24 87:2 received 24:20 93:6.9 recent 6:3 17:15 31:10 56:12 74:6 110:19 recess 75:21 recharge 23:1,3 47:23 52:17,19,24 53:1,3,6,12 54:5,17 59:7,9,10,15,16 60:3,7,13,23 62:16,20,23, 23,25 63:4,11 68:13 71:8 72:15 85:2 94:11,17 150:25 recharging 130:8,9 recited 13:15 reclamation 32:3 recodification 21:12 recognition 30:19 recognize 26:2 123:7 recognized 119:25 recommend 91:5 93:22 recommendation 89:10,11, 13 90:3,5 95:13 122:6 recommendations 31:14 124:10 148:17 recommended 91:18 94:19 record 3:19 4:14 20:20 25:13,21 36:19 60:2 62:13 75:23 80:14,15 81:6 87:19 94:13,14 97:5 99:22 100:6 116:19 118:12 122:4,24 123:19 125:3 126:14 130:19 133:20 147:5 148:7.9 150:2,23,25 153:8 recover 66:23 recovers 104:19 recovery 104:25 red 29:8 30:5 redoes 144:13 reduced 62:22 refer 6:9 7:17 9:19 43:5 51:6 54:8 103:18 105:14 107:17 128:14 137:15

reference 6:22 38:21 57:17

120:1 referenced 151:9 referencing 74:10 referred 10:1 41:17 44:25 46:8 102:23 108:20 referring 124:5 refers 20:8,8 refinements 8:24 reflect 11:17 13:21 19:10 22:4 32:8,12,17,19 93:8 97:18 147:7 reflected 16:21 28:10 32:4, reflects 17:22 18:6 28:7, 23,24 29:25 30:4,8 31:9 32:24 34:1 regard 12:4 25:18 34:19 79:15 94:13 regarding 94:17 95:16 96:9 150:25 regional 56:21 Registered 153:4 regulated 84:20 regulating 20:18 regulations 8:24 13:8 25:1 101:14 reinterpretation 132:10 reiterate 76:23 135:20 relate 88:6 related 21:2,10 87:1 137:11 relates 80:19 relating 18:13 relative 6:10 59:8 relatively 35:11 released 104:23 relied 19:3 124:9 remain 33:21 34:2 remainder 5:19 18:10 19:4 33:4,8,11,16,20 34:1,8 remaining 9:15 remember 35:6 36:24 118:14,25 119:18 126:17 reminded 35:13 Removal 41:3 remove 45:16 48:5 63:20 renewal 13:8,11 14:7,13 renumbered 144:7 replacement 77:6 replay 103:8 Report 21:18 25:22 30:20 31:7 32:7 39:22 73:9 89:4,6 92:12 103:5 121:12 124:14 130:18 131:9,21 133:6 151:13 153:6 Reporter 153:5 represent 145:12,13 representatives 89:19 representing 3:15 4:16 represents 29:14,18 request 5:7,24 10:16 15:9 26:8 27:21 76:6 89:12 97:8 132:8,13 150:7 requested 8:7 10:18 31:19 requests 147:9 require 45:7

required 8:24 13:7 27:11 46:16 48:24 59:21 84:15 99:4 143:16 requirement 45:22 121:24 requirements 45:6 142:18 requires 22:23 23:16 requiring 98:22 residential 134:22 residents 86:4 residual 82:16 resolution 5:22 9:14 11:24, 24 12:7,13,16,21 13:10, 15,18 15:20 16:17,20 17:25 18:8,25 19:6 20:22 21:2,23 37:2 54:18 93:20 139:16,21 144:7 resolutions 11:9,16 13:19 21:13,14,20 23:14 45:23 88:24 91:20 138:21 139:15 resolve 25:5 resolved 14:9 25:17 35:10, Resources 3:20 5:18 42:19 43:10 62:14 91:1 94:24 95:16 99:18 124:7,10 125:14 150:6 respectfully 31:15 32:11,19 33:24 respects 150:6 respond 72:1,7 110:18 response 149:1 responsibility 64:11 78:13 responsible 125:15 rest 18:2 46:24 96:2 116:8 117:18 restored 35:10 resubmit 121:7 result 39:6 63:9 83:18,19, 23 136:10,17 resulted 105:4,5 resulting 147:19 resupply 73:12,14 retention 23:1 retrenching 116:7,11 review 10:23 22:15 39:23 62:15 89:2 98:16 113:9 120:25 122:1 124:7,10,12 135:22 reviewed 97:21 102:21 132:9 reviewing 102:7 revised 32:10,23 93:8,17 94:15 104:9 revision 151:1 rezoned 9:8 10:10 rezoning 8:7 9:3 15:18 26:1 136:12 rid 65:10 right 3:24 4:3,5 10:7 11:23 17:6,18 18:20 22:6 35:23 37:9 38:11 39:20 40:9,11,13,18 42:25 47:13,19,21 50:13 51:22 55:1 65:18,20 66:1,23 67:24 70:7 71:18 72:17, 18 73:18,20,23 74:13

75:17 76:20 78:23 80:20, 22,22,23,24 81:2,16 82:22 84:4,18 85:7,7 87:11 88:4 94:4 96:25 97:12,25 103:5 104:5 105:18 106:23 108:4 109:10 110:4,16 111:19 112:22 114:15 115:24 116:3,22 117:10 119:23 122:16 125:12 127:25 129:4 134:16 136:8 138:14,17 141:9,14 142:8,14 143:12 144:18, 20,23 145:25 147:23 148:2 150:22,24 151:11, 23 152:3 **Rinker** 7:1,3 **ripple** 107:3 risk 77:9 149:5 river 111:24 114:10,24,25 115:2,6 **RMC** 7:13 Road 6:15,17,18,20,21 7:1, 9,12 37:13,13 38:22 42:1,1,9 126:10,15,21 141:19,20,21,24 142:5,6,7 roads 76:18 82:1,6 87:2 roadways 37:9 Rob 3:10 144:8 Roberta 153:4 Rock 3:16,17 4:18,20,23 5:2,2,6 7:2,10,17,19 15:12 16:6,25 17:15 19:16 20:2,15 22:8,12 23:18 24:3 41:1,2,7 45:12,17,18 46:14 47:1,3, 7,8,14,18 48:7 63:21 64:3 65:4,8 66:18 67:5, 6.9.16 77:6.9.9.16.16 78:7,20 79:2 81:20,24 85:12,13 106:15 107:4, 11,25 108:3,5,7,11,13,20 111:10 116:10,21 147:13 Ron 4:23 35:5,13 room 75:19 86:18 roughly 17:21 routed 23:1 row 109:18 114:21 rows 106:9 rule 143:4 rules 16:8 143:7 run 65:21 82:25 124:23 126:5 128:22 149:5 running 6:21 48:3 52:14 53:18 55:6 74:23 75:9 runs 38:11 126:14 rural 83:14 Russ 4:5 35:2 39:5 86:12 88:21 Russell 3:14 4:9,14 36:23 44:9,17 72:25 88:19 91:7 142:25 143:2 - S -

said 35:21 63:15 64:16 69:14 74:20 76:15 89:2 111:20 116:5 120:10 130:22 131:12 132:18 134:3 143:1,8 Sam 3:20 51:12 52:3 62:14 67:15 70:21 71:3 73:5 75:3,15 96:7 104:8 112:5 Sam's 72:7,21 same 13:17,22 30:1 39:23 51:5,19,21 52:1 54:1 57:23 68:16 71:6 72:6 88:14 93:6 105:5,22 109:19,20 113:25 114:25 125:11 133:19 141:4 143:1 144:14 150:10 sand 45:2 77:24 78:2 108:4,7,23 109:8 110:5 111:6 115:13 sands 109:3,4 111:8 sandstone 14:22 45:20 125:25 **SANVILLE** 3:17,17 4:18 116:11,17,20,20 125:3,4 sat 66:24 89:18 satisfied 90:1 91:2 saturated 101:22 saves 37:13 saw 61:10,15,17 76:12 142:3 saying 12:24 24:5 67:14 71:4 105:20 109:23 120:13,22 121:22 131:7 scale 54:11,12,14,15,18,23 81:4,5 141:18 148:10 scenario 118:19 schedule 19:9,11 20:24 21:10 scheduled 122:20 schedules 86:20 **SCHROPP** 3:14,14 4:6,9 13,14 5:5 6:15 7:7 8:22 10:11,13 11:8,15 15:23 17:5,10,19 18:15,18,23 21:6,16 22:15 26:15 32:14 33:6,15,20 34:6 35:5,19,24 36:6 39:6,10 42:15 43:11,17 59:4,16, 23 63:24 64:4 76:1.3 79:11,22 82:12 84:14 86:1,13 87:10 88:3 92:5, 22 93:9 95:25 97:11 99:13 104:1 113:12 120:1 122:25 127:14 133:18 137:21,23 138:1, 9,19 141:5,24 142:9 143:10 145:2,8 146:4,10, 13,16 147:8,18,22,25 149:1,5,18,21 150:12,17, 23 151:3,5,8,12,18,21,25 Schropp's 88:7 Science 98:5 Sciences 3:21 94:25 95:18 97:6 scooping 65:22,23 screen 146:3

sea 48:25 season 59:13,14,16,20 101:18,18,19,20 seated 4:19 second 5:21 11:4 12:6 17:4 26:8 39:4 47:7 77:13,14 78:17 92:5 105:5 106:8 118:15,19,22 136:9 secretaries 144:19 secretary 92:16,19 150:20 Section 8:1,10,11,12,16,16, 17,19 9:7,7,9,16 10:8 11:22 12:16 13:5,6 16:15.16 17:21 18:9 19:4 24:3,4,7,10 27:2 28:2,11, 12,23 35:7,12 38:5 44:20,20,22,22,22,25 46:3,6,8 48:11 51:1,4,7 54:24 55:8,9,9 56:13 72:14 81:14 100:13 105:10 107:8 111:24 124:24 125:8 126:15 128:4,4,23 132:17 142:16,17 143:6,7,15 149:8,9 Sections 9:19 10:6 12:15 15:17 16:9,13 19:18 21:25 26:18 46:1 sediments 106:11 see 6:12 7:11 8:19,19 12:1,11 21:18 27:15 28:4,22 29:2,16 37:4 42:4 47:11 50:5 51:25 52:10 53:1 54:9,15,18 56:14,16,20,25 57:4,13 58:11 60:8 61:11 63:15 66:9,18 69:15 70:6,22 80:20 102:8 103:13,18 104:18 117:9,20,23 122:1 124:20 125:21 127:1 132:3 134:7 138:7 139:16 142:14 144:22 145:22 147:16 148:10 150:13,15 seeing 41:20 54:20 70:19 82:22 102:25 119:18 seeking 5:16 10:18 seems 113:1,8 seen 72:3 83:18,23 108:16 120:14 136:17 self-regulating 60:20 61:4 semi 117:9 send 68:25 sending 62:23 68:19,22 70:9 sense 33:23 66:14 99:4 111:16 116:4 sensitive 149:6 sent 104:8 sentence 109:17,21 111:24 136:9 141:16 separate 22:3,9 26:17,21 89:3 91:17 separates 45:19 **September** 32:10 86:5,6 89:4,6 92:24

safeguards 26:3

safety 77:4 136:11

sequence 54:2 sequency 44:3 series 11:8,15 51:17 114:22 services 92:20 set 21:21 47:10 60:17,17 61:16 150:21 setback 28:3,15 29:4,22.24 30:13 40:14,16,16 83:8,9 84:16 118:3,25 121:25 142:17 setbacks 40:5 128:16 142:17 143:7,15 sets 102:14 setting 84:5,6 Settlement 14:10 88:25 seven 74:18,21,22 75:3 several 17:23 26:6 104:3 105:3,8,11 123:3 134:13 sewing 68:6,7 shall 12:23 13:17 14:19,21, 23 16:2,5,24 24:11 32:3 shallow 49:12 125:24 **shared** 89:20 sheer 77:3 **Sheet** 93:3,3,7,10,17 94:15 151:1 shoot 149:4 short 39:2 56:22 76:24 95:1.3 shortly 19:24 32:6 79:18 should 4:1 6:5 20:19 25:13 26:12 31:23 33:13 51:22 70:24 93:20 95:14 99:3 103:23 113:8 131:8 139:4,20 140:17 141:24 146:2 151:21 shouldn't 122:18 shoved 120:23 show 46:7 47:7,13 50:21 52:5 53:9 54:2,7 56:19 65:24 68:12 99:2 100:23 112:3 113:21 146:20 147:6.11 showed 38:23 107:2 showing 44:3,17 50:16 shown 9:11 10:5 17:24 26:19 29:10,19 30:5,9 32:9 38:23 51:1 61:21 66:19 132:25 134:6,9 144:1 shows 6:9 27:13 30:1 44:3,20 50:12 52:15 64:19 146:18,23 side 7:1,12 35:12 48:13,14 52:12 56:1 65:22 66:10, 11 72:13,13,14 125:8 sideways 110:3 significant 13:24 84:17 significantly 14:17 signs 40:2 141:17 similar 16:22 44:9 145:23 simple 112:2,18 114:7 simplistic 60:19 112:4 simply 30:13,16 119:6 140:24

simulate 114:20 simulating 114:23 since 7:21 18:21 72:12 78:24 88:17 89:17 91:18 100:16 109:12 136:18 142:18 sinking 77:10 sir 39:9 106:19 121:25 sit 65:4.7 67:10 77:8 89:14,15 136:19 site 5:20 11:22 23:3 25:10 33:21 34:2 35:14 42:2 44:8.17 46:18 47:24 50:14,15,23 52:14,15,21 53:13,13 55:7 56:15 57:15 58:16,22 59:2 61:7,10,19 71:7 72:17,18 83:6 85:18 105:12,15,17 106:12 108:17 123:8 127:24 130:10 135:3 150:18 site-related 78:22 sites 128:22,24 sits 64:21,21 65:17 66:17 situation 30:18 69:16 70:14 72:10 108:3 143:19 150:18 six 53:19,23 58:19 74:19, 23 75:4 100:13 125:6 134:6,11 size 41:8 55:4 76:25 113:10 slashed 40:13 slew 128:9 Slide 59:6 63:17,18 66:25 slides 29:12 44:1,3 slight 93:10 slightly 48:15 148:18 slug 104:9,11,25 105:4 106:10,13 109:2 110:7, 20,25 111:5 115:15 small 23:23 50:13 58:17 61:23 77:1 134:10 smaller 46:11 74:15 77:17 98:3 So 4:2 5:5 6:12 7:4,21 8:13,14 9:1 10:7 11:2 14:5 15:3,20 16:19 17:16,23 20:20 21:9,20 23:24 24:16 25:7,18 26:20 27:18 30:15 32:7 10 33:13,24 35:19 37:10, 17,23 39:2 40:23 41:10 43:8 46:18,20,23 47:3,16, 19 49:1,10 50:20 52:7,24 53:3,15,20,23 54:13,14,20 55:3,20,24 56:2,10 57:10, 11.21 58:10 59:16 60:25 61:3,7 62:7,19,24 63:2,9 65:7,16,21 66:9,15,22 67:2,4 69:12,21,24 70:15, 20 71:1,12 72:5 73:15 74:2,12,15,23 76:19 77:4. 8 79:18 81:15 82:22 83:11,16 84:4 85:6,10,15 86:13 88:17,19 91:13,15

96:11,15 97:8 98:2,7 99:1 100:14,18,20 101:16,22 102:3,5,25 103:3.9 105:3.21 106:12. 21 107:7,14 108:10,25 110:5,25 111:13,14,15,16, 19 112:9,10,14,20 113:23,24 114:1,3 115:16,19,21,23 116:24 117:5,23,25 119:11,13,23 121:5,17 122:4 125:17,19 126:2 127:7 130:10,13,17 131:17,18 132:13 133:25 134:10 135:9,15 137:3,15 138:9 139:18 140:15,24 141:8 142:6 143:25 144:6 145:20,24,25 146:5 147:1,3,14,18,25 148:17 149:25 150:8,10,13,21 151:14 sole 93:18 solution 26:1 some 6:4,22 7:11 23:10 27:9 35:9 42:7 43:7 44:3 47:6 51:13 52:13 56:7,7, 8,9,12 58:16 60:19 61:17 62:5 86:12,17 93:10 95:5 105:22 108:16,18,21 111:11,14 113:22 122:12 129:5 131:20 134:1,4 137:6,10,14,16 138:12 147:1,7 150:23 somebody 43:8 somehow 121:21 someone 63:22 something 43:1 54:7 60:7, 18 61:19 101:8 103:14, 17 114:21 115:25 120:19 126:20 128:21 140:16,16 149:14 150:21 sometime 28:10 sometimes 26:6 71:24 somewhat 87:7 somewhere 45:13 49:20 57:9 81:15 120:24 134:23 142:4 soon 53:20 sorry 39:16 63:4 64:13 109:15 116:20 120:11 128:4 sort 10:14 18:21 132:4 134:12 sorted 109:4,7 sought 140:2 sounds 78:16 south 6:16,21 7:12 10:8 13:5 14:20 15:1 16:2.7 17:1 20:16 22:4,8 25:23 38:12,12 54:25 72:13 84:21 101:7,11 116:12 126:16 128:3,5 southerly 17:21 18:9 southern 8:1,11,17 9:15 11:22 12:16 16:15 southwest 28:2,12 83:13 97:22 98:3 140:14

spaced 125:22 speak 34:18 36:20 41:4 65:16 speaking 41:6 special 8:4,13,15 10:9 12:4 15:8 specialty 36:5 species 33:3,7,16,23 98:18, 23 99:3 specific 14:12 26:2 57:3 78:9 79:14 121:16 134:17 140:1 specifically 12:4 16:1 19:14 56:4 71:13 81:17 86:23 121:23 123:17 128:9 140:4 Spell 123:21 spend 44:13 **SPICKERMAN** 3:7,10,10 36:12 39:14 42:24 95:24 99:11 121:23 143:24 144:6 spike 61:17,17 spikes 103:15 spot 67:20 105:21 spray 83:1 square 68:7 squint 146:6 stability 77:8 78:3 stable 66:17 stack 48:15 stacking 114:18 staff 3:19,22 5:18,19 10:20,21 17:14 21:18 25:22 30:20 31:6,11,14 32:1,7 34:13 35:9 36:9 39:11,22 42:21 49:23 73:9 74:6 79:6 87:12,16 89:2,4,5,10,15,16 90:3,22 91:1 92:11,20 94:19,21, 23 95:11,13 96:12 97:3, 19 98:17.22 100:3 101:15 120:2 121:7,12 123:4 124:2 130:12,13,18 131:8,20,21 133:3,7,14 136:9,13 137:1 138:4 140:16 150:2 151:13 staff's 33:7 51:12 stage 60:18 68:20 142:24 stamped 93:6 standing 62:24 131:13 standpoint 88:7 95:3,19 119:20,21 143:3 start 21:11 22:16 37:17,18 38:10 41:10.21 46:9 47:6,10,20,21 48:1,7 49:12,13,17 52:6 54:15 56:12 68:4,15 72:22,23 81:17 82:10 112:6,7 150:15 started 3:24 15:3,14 51:15 52:7 57:21,22,22,24 88:15 starting 37:20 67:23 starts 27:19 37:5 38:13 106:3 state 20:19 25:12 62:12

92:20 93:4,15 94:12,13

space 58:20

63:25 80:13 93:6 100:5 116:18 153:1 stated 120:17 121:2 130:22 133:6 140:3.12 statement 92:8,10 120:8 121:19 129:18 139:17,20 statements 130:11,25 states 98:15 122:2 131:1 station 57:25 status 25:24 stay 49:11 122:13 stayed 64:10 stays 76:20 82:16 stenographically 153:6 step 16:14 27:25 36:22 110:6 114:16 steps 120:6 stick 150:10 sticks 80:21 still 10:9 12:10 15:6 25:25 35:18 46:24 47:20,23 52:16 67:21 73:18 75:1 85:3 92:14,21 93:6 96:8 109:19 128:1 129:2 148:13,14,15 stipulation 14:9 stockpile 66:4 stockpiled 76:18 85:12,13 stockpiles 83:9 85:11 stood 8:22 stop 17:3 40:2 46:22 67:20 117:4 118:5 storage 83:3 storm 69:8 straight 11:3 straightforward 34:22 stretching 54:15 145:21 strike 143:8-144:9,10,10 strip 81:8 strong 147:5 strongly 140:12 structural 77:7 78:3 struggled 142:25 stuff 41:14 42:12 67:19,19 82:6 84:7 103:4 110:9 116:23 120:14 sub 27:4,15 subject 20:9 44:23 91:25 135:13 139:3 submission 151:2 submit 32:23 98:16 121:7 146:4,13 151:12 submittal 104:6 submitted 30:11 32:5 33:10 39:22 97:16 98:24 99:2 102:8,19,21 120:5 122:5 151:15 subsequent 32:22 subsequently 64:25 119:14 subsidiary 5:6 successful 25:14 suck 71:19 sucker 107:12 suckers 40:3 sucking 49:13 72:17,18 sudden 17:8 suggest 31:15 32:11,19

33:24 suggested 120:6 suggestion 121:6 suit 14:6 summarization 103:6 summarize 44:15 summary 19:12 58:12 94:18 supercopy 142:12 superseded 9:13 supplemented 89:8 supplied 118:9 132:24 supply 55:20 117:4 120:11 125:5,9 128:6 130:20 135:23 support 77:7 supports 34:15 suppose 40:25 supposed 17:9 29:22 74:14 Sure 17:5 52:2,17 64:6 69:3 71:4 72:9 73:3 84:23 85:16 97:22 136:22 139:1 146:8 151:14,15 surface 48:24 49:1,4 52:12 131:3 132:20 133:9 surficial 14:18 125:24 surprise 121:19 surrounded 46:24 108:4 surrounding 6:10 31:21 *5*1:20 *5*5:7 *6*0:5 *6*1:8 86:17 91:2 surrounds 47:24 survey 33:3,7,16,23 99:3 surveyed 69:8 101:15 suspect 86:8 Suzie 3:21 32:17 33:3 34:3 80:3 85:22,23 94:5,25 95:1,17 96:15,23 97:2,5 99:14 swear 3:25 sweet 39:2 swing 66:22,24 67:9 switcheroo 144:19 sworn 4:2,4,11 36:17 43:15 76:10 80:9,11 87:17 97:4,6 99:23 100:4 123:20,23 124:3 system 49:21 58:21 61:2 116:8

- T -

table 3:8 4:19 5:1 45:20 59:13 62:8 70:3,9,18 71:9,10,11,13,14,15,23 72:4 101:19 128:15 129:3 135:18 take 7:24 15:20 22:24 38:8 41:7 47:16,17 66:21 67:18 75:17 77:24 96:19 102:24 103:19,20,22 105:21 114:13 139:16 140:11 141:1 143:3,18 taken 21:19 42:11 75:21 82:9 87:21 98:2 112:15 113:21 144:11

takes 55:14 74:18 91:19 104:23 133:11 taking 24:23 41:8 72:20 82:17 85:7 100:19 107:7 114:19,21 talk 4:3 10:14 32:15 44:10,13 46:3,4 57:3 talked 44:9,18 86:21 88:21 89:19 95:12 131:21 talking 17:7 38:24 40:25 41:1,1 48:9 49:23 71:12. 13.14 73:23 81:8.9 83:25 84:4,25 91:11 105:9,11 112:16 122:12 129:14,15 131:2 144:8 150:4 talks 20:25 33:15 118:19 131:5 132:18 135:11 tall 41:14 tank 104:22 tapped 62:8 target 45:19 team 4:20 teaspoon 77:24 technical 149:14 technically 103:14 108:21 110:5 teeny 80:20 tell 50:8,13 69:9 70:6 86:11 109:21,22 119:2,5 125:19 148:2,12 telling 109:21 tells 119:6 ten 32:4 75:17 107:15 111:12 148:16 tend 76:18 98:1 tender 36:3 42:19 80:1 tendered 42:17 79:25 87:24 tends 52:10 87:5 tenth 78:17 term 20:13,14 45:2 56:10, 11,22,22 58:7 terms 6:24 53:19 58:18.19 59:14 70:12 137:23 test 104:25 108:10,12 110:7,20,25 115:15 testified 4:11 36:17 43:15 76:10 80:9 87:17 97:4 100:4 112:5 124:3 testifying 3:25 4:1 testimony 148:6 testing 104:10,11 106:10,13 109:2 tests 105:4,9 111:5 116:23 text 74:17 than 17:24 19:19 21:13 30:7,17 35:6,14 40:12 45:7,24 46:10,11 59:21 69:23 70:2,8,18 71:9,11, 18,24 72:5,16 74:15 76:13 87:5 88:9 91:16 101:24 108:23 109:13 110:5,20 111:9,11 122:18

134:4 149:16 150:8,19

Thank 33:6 35:24 42:14

43:11 59:23 68:11 75:15

151:20

76:12 79:9,10,22,23 85:25 87:9,10 96:25 99:6,15,16 100:5 123:2 149:20 that's 7:4,7,20 9:24 10:11 12:7,16 13:1,10,10 15:15 17:10 18:2,5,23 19:12 20:9 21:8,9,16,17 23:6 25:18 28:8,13 33:17,20 34:3,12 36:25 38:24 39:20,25 41:17 42:6,14, 15 44:12 45:3,11,12,14, 18 49:17 51:8,20 52:22 53:17 54:16 55:3,13,18 58:12 61:24 62:19,24 63:13 64:7 65:10 67:18 68:14 69:8 71:21 72:13 74:9,10 75:14 78:2 80:24 81:9,13,14 82:5 84:16 85:13 87:10 88:14 93:4 101:4,8,11 102:6,10,13,20 103:1,11,12 104:13,15,25 105:7,16,23,24 106:14 109:3 111:22 113:13,20 114:7 115:5,14 117:16,20 118:7,13,24 120:19 121:19 123:4 124:24 125:16,17 126:7,7,15,16, 22 128:4,16,18,25 130:25 131:15,19 132:25 135:5 139:5,17,23 140:18,21 141:2,25 142:11 145:15, 19 146:9,10 147:21,22 150:24 151:5,18 them 8:19 15:10 22:2,9 41:14 43:19,19 44:1 56:1 58:6 62:19 72:20,20 92:15 93:20 96:3,9,12,24 110:23 113:25 114:3,15 115:22 125:21 126:3 128:7 135:15 143:2,8 148:24 then 7:1 9:14 13:7 18:12, 18,24 19:10 21:1,23 26:24 27:3,16,17 32:14 34:13 41:5,21,21 43:10 44:11,15,21 46:5,15,23 47:18,19 48:7 52:7 53:11,16,22 54:1 55:8,9 57:22 61:5,18 63:9 64:15 65:22 66:7,10,24 67:8,19 68:2,25 73:4 74:14 81:13 83:17 93:18 96:3,20,22, 23 99:2 101:25 103:16 104:18,24 106:4 107:11 108:5,10 109:10,22 111:19 117:18 118:21 120:18 121:9,10 124:18 125:7 126:5 128:5 131:5 132:21 135:17 136:12 137:5 138:9,15,15 139:22 141:7,11 142:3,9 143:18, 25,25 144:1,12 151:23 theory 37:11 there's 6:16 12:21 17:24 18:15,18 25:22 27:8

33:22 35:25 38:16,16 44:14 56:20 63:21 70:23 81:13,17,20 82:10 84:2. 15 110:22 111:14 114:14 117:8 120:20 122:19 125:23.24 126:20 127:8 128:3,5,24 132:10 135:20 142:23 147:1 therefore 100:14,20 119:11 Therein 23:10 **Thereupon** 4:8 36:14 43:12 76:7 80:6 87:14 97:1 100:1 123:25 these 8:18 13:19 21:11 22:15 37:15,16 42:5 46:1 50:4 55:25 56:2,7,9,10, 11,19 57:20 66:7 77:19 83:14 92:15 98:1 100:19 101:16 110:11 111:18 127:1,2 128:15,21 131:2 132:19 136:13,19 138:12 They'll 41:25 47:8,9 108:22 they're 37:19,20,23 38:6, 10,21 40:5 47:18 50:2 59:21 67:15,15,16,17 82:6,7,9 86:8 92:16 93:2 100:12 102:23 105:16 106:2 107:24 108:4,6 109:23 117:6,7 119:7 120:17 125:22 127:4 131:13 they've 10:10 17:6 82:9 83:7 91:11 127:23 thickness 45:4,13 115:13, 16,17,19,24 116:2 thin 121:14 thing 20:3 48:4 54:1 62:16 65:3,11 68:8 77:15 84:14 102:20 105:3 114:25 117:14 135:1 140:11 148:12 149:21 thingie 87:5 things 25:5,8 32:14 56:25 60:1 63:12 69:7 75:12 82:1 84:8 95:5 97:14 107:2 111:5,13,14 113:24 122:12 131:12 132:22 136:19 147:15 150:14 think 12:8 16:20 17:14,16 18:5,15 19:3 20:5 24:6, 14 25:20 29:12 30:11 33:2,7,13 34:6,15,23 45:6 46:11 48:12 56:3 57:19 59:25 60:16 65:10 70:12, 15 72:23,25 73:1,7 74:19 79:19 82:23 83:8 88:19 92:19 93:15 94:5,12 95:6 96:10 97:14 99:6 100:9, 17 107:20 110:7 116:4, 25 117:6 120:25 122:8, 10 124:24 131:8 132:9, 17,23 133:7,19,25 134:22,23 138:1,17 139:4 140:12 141:6 142:2,2 143:8,11 144:8,9 146:10, 19 148:1 151:12

thinking 143:22 third 5:24 27:21 92:13 thoroughly 134:4 though 49:2 82:17 thought 13:23 20:2 25:2 71:16 81:22 115:6 thousand 54:16 117:20,21, 24 119:17 threat 136:10,16,18 137:11 threaten 137:17 threatening 137:13 threats 137:2 three 5:14 18:13,15 26:17. 21 29:12 48:12,22 49:6 55:2 56:9 68:24 76:24 90:5 91:16,20 94:19 95:11 108:3,5,7 125:5 129:1 136:22,23 145:11, 11,12,13 threshold 136:15 through 5:10,11 6:23,23 7:2,24 8:25 9:3,12 10:14 11:17 14:3,9 17:12,16 23:11 25:4,17 27:9,20 30:18 32:16 42:2,2 51:5 55:5 56:8,24 66:13 83:1 84:6,20 86:21 89:25 91:13 92:20 99:20 103:9 106:13 107:10 116:5 133:4 134:12 135:22 137:3,11,24 138:2 140:21 144:21 148:7,9 153:8 throughout 5:8,11 10:3 11:16,20 19:21 26:17 53:13 55:15 102:3 105:15,17 116:14 127:21 throwing 141:10 thus 46:19 137:9,13 147:16 till 64:25 time 4:2 12:2,2,17 14:3 16:16 18:12 19:18 24:12, 13,20 26:6 27:3 29:5 35:2 37:13 38:16.16 40:25 44:13 51:13.14 53:16,23 54:2,8 56:8 57:23 58:9,14,19 59:12 61:20,23 64:14 68:16 69:13 78:16,17,17 79:20, 21 88:14,17 89:24 93:14 94:15 104:18,23,25 114:22 117:17 120:10 122:8,15 132:9 133:21 136:12,24 140:16 142:3 145:12,19,24 147:14 148:1 149:6 151:16 152:2 times 53:11 77:4,9,19 83:15 109:13 110:4 115:3 145:16,20 timing 13:19 tires 41:14 today 4:15 5:13 10:2 15:9, 16 16:11 20:10 21:17 26:8 27:21 31:4 36:3 42:20 76:6 79:13 80:2 87:21 91:1 94:23 97:8

today's 37:21 38:17 143:6 toe 66:20 together 70:15 82:21 91:24 93:19 144:7 told 75:3 120:20 124:11 Tom 4:19,21 27:7 36:1,15, 19 46:8 48:1 81:4.6 ton 108:3,5,7 Tony 25:23 took 19:16 30:13 150:2 tool 112:20 114:7 tools 112:11 113:16 top 11:24 46:13 47:1 56:9 60:25 66:1 77:24 86:11 108:5 134:8 topographical 65:16 topography 69:11,17 70:24 tops 57:12 total 30:8,10 53:23 totally 96:21 142:4 touch 141:20 toward 38:21 88:23 towards 37:7 38:22 55:19 66:7,8,13 township 128:23 **Tracy 4:23** traffic 42:10 86:19 trans 68:15.17 105:19 transactions 7:3 transcends 7:21 **transcribed** 149:12,15 transcript 153:7 transducer 55:14 transfer 132:8 transitivity 104:15 105:17 115:15,17,20 116:1 transmittal 104:7 transport 77:18 traveling 87:2 traverse 67:3 treat 44:11 125:9 treatment 10:24 126:6,18, 23.24 trench 47:23 48:9 49:15 52:19,25 53:1,4,6,12 54:5,17 59:8,10,10,15,17 60:3,7,13,23 62:16,21,23, 25 63:4,11,11 68:12,13 69:5,15,21 71:9,23 85:2 94:11,17,17 102:10 112:23 116:17 117:15 119:9.13 trenches 23:1,3 48:8,20 52:17 58:21 69:7 73:3 100:15 101:16 130:7,8,9 trenching 90:20,25 116:8 triangles 40:1 tried 86:6 trip 10:14 trips 78:15 trolls 102:23 trouble 41:20 116:6 truck 86:19 trucks 37:14 41:11,13 66:5,7,7 67:19 76:16

122:20

82:25 84:6 85:8 87:1 true 113:2 153:8 Trust 78:18 try 25:3,5 76:19 77:25 91:9 96:2 110:18 114:19 137:1,15 141:12 149:16 trying 13:25 21:12 30:17 37:11 60:8 79:16 141:20 142:5 turn 96:19,22 tweaks 31:14 two 13:19 18:14,15 22:1,9 33:12 48:13,22 49:5 61:20 89:3 94:14 99:7 104:16 109:13 110:4 111:9 127:1 134:16 144:12 149:1 type 137:6,14,16 types 111:10 typewritten 153:7 typical 46:11 typically 21:11 48:23 49:9 50:18 83:5 109:13 110:21 111:4,8,11 115:3 146:22 typing 92:15

- U -

ultimately 11:1 14:9 66:8 unconsolidated 45:1 106:11 under 10:9 13:7 15:8,15 20:3 24:1 25:10 26:2 64:22 66:22,23 71:24 78:13 90:10,22 92:5,5 118:18 129:16 130:16 133:2,10,15 143:6 underground 71:10 78:23 underlain 51:9 underlaying 55:3 underlining 139:24 Underlying 45:11,18 underneath 65:6,9 68:2 108:7 understand 10:22 64:13 67:13 71:4,5,8 100:24 112:23,23 120:12,13 125:17 129:13,24 131:7 132:14 139:1 142:15 148:6 150:17 understanding 89:25 124:12 understands 100:18 understood 78:20 119:16 123:11 127:17,21 130:10 145:8 undertaking 112:10 unfortunately 55:2 88:10 unit 125:25 unknown 137:10 unknowns 112:19 unless 16:2 49:15 until 17:7 47:25 51:11 88:12 100:13 122:13,16 148:25 unusual 83:17

up 6:4 7:14 8:12 10:4

15:6 17:7 23:8,24 26:22 28:18 31:4 34:23 39:24 40:2,24 41:7 48:15 49:15 53:8 59:5 60:17 64:8,16 65:23 66:1,4,6,9,16 67:17 73:11,11 75:13 79:23,24 80:21 84:9,10 87:2 88:12 95:20 96:3,21 99:18,19 100:13 104:20 107:14,18 108:23 109:1 110:1.2.6 112:19,24,25 117:1,17 122:9 123:16 125:14 126:14 127:1 128:21 131:13 132:5 133:21 134:7 139:22 145:6,6,10 146:3,11 148:18,21 150:5,21 upcoming 43:18 updated 32:7 upland 29:21 71:11.14 upon 21:19 33:25 89:24 90:15 97:16 98:18,22,23 122:1 upper 44:25 45:15,20 47:12 51:2 145:11,12,22 ups 61:17 us 24:5,23 35:21 77:4,7 78:3,3,4 93:16 118:9 120:5 133:11 144:17 150:3 use 16:5,24 20:18 25:10 32:2 44:14 76:23 77:21 87:23 88:24 101:6,24 102:6 111:4,11 113:3,22 115:1,18,21,23,23 124:16 133:24 150:10 used 7:2,10 23:6 27:8 28:25 42:11 45:3 54:20 68:2 111:17,25 users 91:2 uses 31:21 77:13 131:2,6 132:19 134:22 using 112:6 147:13 usually 48:13 49:19 101:6, Utilities 3:20 94:24 123:5, 20 124:8,25 125:17 127:6 utility 91:3 127:24 utilize 28:1 82:24 utilized 62:17 116:14 utilizing 14:24

- V -

validity 14:6 valleys 146:23 valuable 85:14 value 15:10 105:5,6 109:1, 3 143:3 values 109:12,14 110:5 111:18 varies 62:7 84:18 various 5:10,10 7:22 vary 62:5 varying 20:6 27:4 115:12,

vastly 54:11 vegetation 83:16 vehicles 42:13 verbiage 31:18 versa 104:21 version 32:7 59:6 146:5,14 151:5,14,15 versus 84:5 91:22 vertical 44:4 46:1 51:1,3 54:8,10,11,20 58:18 61:24 109:11,13,24 110:20 111:3,5,8,15,18 114:18 very 26:2 44:2 45:21,21,22 49:3 50:17 52:16 58:7, 11,15,25 59:18,20 71:21 76:23 77:1 85:3 87:8 88:6,16 95:3 98:2 101:8 102:3 104:7,14 109:17 111:24 112:2,4,4 114:7 121:14 142:1 145:23 146:1 147:5 150:2,4 vice 64:2 104:21 vicinity 125:1 view 23:12 44:4 52:6 65:16,16 66:1 viewed 23:12 violates 70:14 violation 19:25 24:6,21 142:24 virtually 18:16 visible 141:18 visit 31:1 85:18 150:18 visits 108:17 voice 64:6 118:1 void 77:6,21 voiding 21:12 volume 104:16,17 148:14

- W -

W-e-g-i-s 123:22 waiver 25:15 walk 37:16 39:17 134:12 walking 37:20 38:16 67:1 walks 40:24 wander 150:21 want 22:2 25:14 44:2 54:7 58:23 62:9 63:13 73:1 96:17,21 97:13,25 110:14 112:11,20 113:16 114:14 115:10 120:17 122:23 126:25 143:13 148:12 151:11 wanted 19:14 54:25 60:18 76:4,15,23 84:23 85:15 137:14 151:9 wants 96:15,16 warehouse 77:1 wasn't 29:22 30:9 38:20 140:15 watching 102:25 water 12:23,25 13:17 14:20 15:1 16:3,6,7,25 17:1 20:16,18,20 22:4,7 8,10,12 25:23 26:4 30:22 31:24 36:5,6 42:19 43:10

45:20 46:14,14,16,18,20, 25 47:15,17,18,22 48:6. 15,21,24 49:11,13,14,15, 19,20,21,25 50:9,14,16,19 51:18,19,20,20 52:1,9,12 53:2,3,11,13 54:5 55:4, 13,14,17 56:8,16 57:4,8, 10 58:16,22,23 59:1,2,7, 8,11,13,17,20 60:5,10,14, 21,23 61:1,2,6,7,12 62:8, 21,23,23 64:16 66:23 68:20,22,25 69:4,8,9,15, 18 70:2,9,10,18 71:2,9,9, 11,11,13,14,14,19,19,23, 23,24 72:4,5,6,17,18,22, 23 75:7,19 77:24 78:1 82:1,7,10,25 84:21 90:1 92:1,9 95:17 100:20 101:2,6,7,7,12,16,18,19 102:4,7,9,25 103:23 104:16,17,18,20,22 109:25 113:7 115:22 116:13 119:14 120:10 125:5,9 126:1,6,18,22,23, 24 127:3,5,6 128:9,18 129:19 130:5,5,20 131:4, 14,17,25 132:2,20 133:1, 9,9,22 134:6,18 135:18, 23 137:8 145:4 146:21 147:19 148:6 151:7 water's 61:1 watered 82:1 Waterhouse 25:23 watering 82:5 way 20:2 27:17,19 37:17, 18,19 49:18 61:14 62:18 64:20,20 66:13 67:1,2,23, 24 70:16 92:20 96:3 101:1,21,23,24 103:14,17 104:15 107:22 110:9 114:19,23 117:15 121:20, 20 122:19 130:2 139:2 142:10 143:18 ways 104:16 110:22 we'd 32:22 77:17,18 we'll 34:11 52:3 64:8 75:19 103:14,19 122:5,17 136:5 151:12 we're 5:13,16 15:6 16:10 17:13 18:21 21:17 27:25 29:7 30:17 33:10 34:25 40:25 41:1,6 46:18 47:20 50:16,22 51:4 52:8 57:9 59:13,14 61:15 66:20,20 70:13,25 71:1 72:9 73:3 75:24 82:15,15 83:25 84:4 91:5 94:9,14 95:9 103:17,20 109:6 111:5 113:10 114:5 121:16 122:3 129:22 139:11 140:7,21,23 145:24 148:1 149:8 150:24 151:14 we've 4:17 23:11 34:22 38:4 43:5 51:7,8 55:12, 24 56:2 57:7 58:10 61:13 62:5,7 79:12 85:1 108:7 122:20 130:22

133:12 140:5 Wednesday 3:3 week 53:19 74:24 weeks 53:23 58:19 74:18, 21 75:3 Wegis 3:20 94:24 95:8 123:5,19,19,22,24 124:1, 6,16,25 125:13,22 126:4, 9,12,18,22 127:11,16 128:21 129:2 weighs 76:24 weight 77:3 welcome 96:13 150:19 welfare 136:12 well 4:2,20,22 17:10 29:4 40:7 50:17 61:6,9 74:1, 13 77:8 79:2,3 83:6 84:17 86:7 90:13 95:10, 14 100:23 101:5 104:23, 24 105:10 106:11 109:4, 7 111:6 117:4,7,8 118:1, 25 119:3,15 120:11 123:6,12 124:21 125:15, 24,24,25 126:13 127:22 128:12,24 131:21,22 134:19,25 135:6,14 137:2,10,13,17 139:5 140:20 142:1 144:4 146:8 150:19 wells 14:24 49:24 50:2,3,8, 19 55:20 56:2,9,23 58:3, 6,9,10 60:4,6,8 62:4 90:15 91:3,4 95:5,7 102:2,15,20,22,24 117:11, 24 119:18 124:15,23,23 125:1,6,9,19,20,23 126:1 127:2,5,10,17,23 128:3,6, 8,15,22,24 135:2,5,8,15 137:5 went 11:17 12:15 13:18 35:9 43:25 58:7 74:4 77:12 131:21 144:21 Werst 91:1 94:24 95:2 96:7 99:17,22,22 100:2,7, 7 101:21 102:18 103:8, 11 104:4,13,21 105:7,13, 23 106:6,14,17,20 107:6, 13,16,20 108:9,14,20 109:5,9,15,19,23 110:2,4 117:2,8,12,14,25 118:9 119:9,11 120:4 121:5,11, 14,25 122:10 123:2 124:5 west 7:1,9 51:4 126:6 wet 45:14 59:13 81:21 85:3 101:19,20 117:19 wetland 5:25 6:2 27:22 28:2,4,7,13,13,15,17,17 29:1,4,5,9,19,21,23,24 30:5,7,8,13,22 32:18,20 33:4,8,11,17,21 34:2,18, 19,21 35:3,8,11 49:11,11, 14,14,16 50:9,15 55:24 56:2 68:25 69:11 71:10 14,17,17,19,20 72:5,14,16 79:15,15,17 80:1 83:4 84:13,16,25 89:12 90:7

93:11 94:2 97:15,18,20 139:22 140:15,17 wetlands 49:9,9 50:4,22 55:7 56:4 58:24 69:12 72:3,19 81:23 83:13,21 22 84:13 139:3 140:2,9, what 6:17 8:2 9:18 11:18 13:23,25 17:10 19:10,19 20:13,14 21:15,17,24 22:1 23:6 28:10 29:7 30:15 32:24,25 33:9 34:12 37:23 38:8,10,15 40:1 41:17 42:11 43:8 44:2,5,9,25 47:11 48:1,9 50:9,25 51:1,15,25 52:8, 10 54:13,23 55:3,12 56:14 60:7,19 62:19,24 63:13 65:10 66:12,20 67:13,15,17,23 68:2 69:3, 10 70:6 71:4,12 73:1,15 74:9 81:9 82:6 86:12,21 88:6,21 92:4 93:1,15 97:16 98:23 100:8 101:10 102:8,13,23 103:12,19,23 104:14,25 105:16,17 107:8 108:2 109:7,14,21,21,23 110:21 111:7,16 112:3,10,14,20, 24,24,25 113:2,10,18 114:5,6,9,11,21 118:24 119:16 120:12 121:4 122:13,15 125:19,20,23 127:16 129:15 131:7,17, 19 132:23 133:7,10,15 136:19 137:4 141:6,25 142:11,21 144:2,8 145:18 146:17,18,21 147:10 148:3,4,11 149:16,23,25 150:1,13,15 what's 9:10 17:9,24 23:8 34:20 41:3 49:1 54:10,21 67:22 78:21 100:23 102:16 117:21 118:3 140:20 141:13 143:25 whatever 26:13 40:2 72:16 83:21 96:8,15 113:1 131:6 132:11 152:1 whatnot 7:5 46:25 120:25 124:13 129:9,18 whatsoever 143:21 when 9:1 21:11,14 22:16 30:11 41:7,10,23 49:17 54:14 57:3 60:2,21 61:1 62:15 63:16,17,20 64:15, 17 67:15,19 68:17,21 71:12 81:16 82:6,10 83:9 86:18 88:12 93:9,19 102:7 103:3,5 104:18,20 105:8 108:5 111:5 113:6, 22 121:19 129:7 131:13 132:13 134:7 136:15,25 142:11 144:7,13 146:3 Whenever 112:6 where 6:12,16 17:21 25:18,21 27:25 28:12,18 29:3 30:16 32:2 44:12

46:6,14 49:16,23 50:19 52:12 53:1 55:20 56:13 57:16 64:20 65:12 67:18 69:16 71:2 72:4 74:4 81:25 91:19 92:7 93:13 105:15 106:8 108:3,17 118:4 119:7 127:23 134:17 136:15,19 139:17, 23 140:18 141:21 142:4 whereas 115:3 wherever 25:6 whether 34:3 36:24 48:20 72:17 91:3,21 96:2 113:17 137:6 149:10 which 4:16 6:8 7:2 8:10, 11,12 9:8,13,14,22 10:20 12:8,22,22 13:16 15:8,16 18:25 20:17 21:18 23:8, 17 26:12 27:2,2,4 28:3,4 37:2,7,9,19,20 38:3,11,21 39:23 40:13 41:3 46:23 48:1 54:11,17 58:3 71:9 79:2 93:8 98:19,20 101:17,24 104:6 105:5 106:3 108:24 109:15 115:25 120:6 121:21 123:11 125:11 126:25 131:22 133:23 135:11 140:10 143:6 150:3 while 37:12 64:19 65:13 66:9 68:1 76:17 122:12 127:1 who 3:25 4:18 91:1 112:17,18 whole 48:20 80:21 84:8 100:17 103:10 105:23 113:7 117:17 128:9 143:19 wholly 5:6 why 27:10 28:9 34:10 91:5 96:17 103:11 112:1 117:20 125:17 127:4 128:25 129:10,24 139:1. 10 140:21,24 143:22 144:11 wide 42:10 50:17 80:23,24 81:1,3,12,16 wider 64:16 will 3:9,25 5:11 19:23 21:24 22:10,11,24,25 23:5 24:24 26:6,14 27:5, 7,20 28:7,18 30:22 31:23 33:21 34:2 37:13 38:8 44:5 47:12 62:21,24 77:10 83:10 85:12,13 88:6 90:12 92:8 93:8,9, 17,17,18 95:1,10 98:24 100:23 101:15 102:4,14 106:21 107:23 110:13 116:25 117:3,16,17,18 118:5,5,6 119:13 120:24 130:18 131:24 132:15

134:17 135:8,22 143:18

wind 84:5,9

wish 48:17

Winslow 73:7 104:8

148:12 150:14 151:15,24

withdraw 124:20 withdrawn 115:22 within 40:20,21 50:11 77:6 84:25 91:10,22 103:16 117:4,6,17 119:17 120:8, 11,21 123:12 124:15 125:6,6,10 139:15 without 16:18 30:1 39:17 62:22 63:3 78:4 92:15 119:9 124:18 witness 4:10 36:1,16 39:5 42:16,18 43:14 75:25 76:9 79:5 80:8 85:20,21 87:16,23 95:22 97:3,7 99:10,21,24 100:3 103:25 124:2 127:13 witnesses 4:4 won't 42:2 50:18 wondered 84:11 wonderful 21:16 92:17 wondering 129:10 word 149:15 worded 93:5 139:2 words 29:22 63:2 109:24 work 31:7 42:6 43:8 59:6 60:1 73:4 75:1,4 94:12 95:7 111:6 worked 5:18 10:20 30:22 34:13 48:21 78:25 150:2, working 18:21 38:21 41:20 53:16 60:7 100:12 110:9 works 27:16,19 41:6 46:7 48:20 world 37:21 112:16 worried 69:4,5 worse 63:12 worst 57:5 115:23 worth 41:8 75:3 145:13,14 would 6:8 8:2 11:4 12:22, 25 13:16 24:17,22 25:7 26:15,22 31:6,15,25 32:18 33:24 34:8 36:3 37:14,17 40:19 42:19 45:5,9 47:22 59:17 60:23 61:11,19 62:16 63:24 64:1 68:15,18 69:19,20, 20 70:8,15,25 71:23 72:6,10,11,24 75:12 76:1 77:15 79:20,21 80:1 81:24 82:4 84:14 85:4 86:2 87:22,24 89:5 93:5, 22 96:11,17 98:2 100:25 103:15 105:1,13 107:16 108:11,12 110:6 112:13, 14 115:5,6 116:9 120:6, 7,10 121:9,15 122:13 124:14 127:5 128:14 130:6 135:19 139:18,22 145:5,23 146:7 147:9,11, 17 149:9 150:10.11 write 63:16 148:15 writeup 104:9 written 98:18 144:23 wrong 19:3 61:20 74:1 wrote 24:5 74:3 136:24,25

- Y -

year 5:11 56:12 59:12 83:15 86:5 125:10 years 5:9 6:19,24 11:16,20 14:9 17:24 27:5,9 43:2 55:3 58:13 78:8,20 101:9 116:15 124:9 145:13 146:24 vellow 127:20 Yes 4:6 7:7 11:5 15:23 33:11,15 36:7 40:10,22 41:15 50:21 51:23 56:4 61:18 62:11 63:13 67:14 72:11,16 73:8 74:2,11,25 75:10 79:3 80:12,22,24 81:3,9 85:9 87:13 99:5 101:21 102:18 103:12 105:13,23 106:6,17,19 107:13,24 108:9,15,21 109:5,9 110:15 117:12 118:14 119:11 121:12,25 123:9,24 124:16 125:22 126:4,22 128:13,20 129:2,6,20 131:10 132:1 134:15,20 135:2,9,16,19 136:1,3 137:22,25 138:25 139:6,9 141:5,15 142:7, 13 143:17 145:5 149:13 yesterday 31:8,13 102:19 yet 18:1 41:1 97:22 148:4, you'd 3:8 43:18 113:3,25 143:8 148:22 you'll 12:21 52:6 117:9,9 122:1 127:22 138:20 you've 19:13 20:7 21:14 49:15 50:5,6 53:9 60:24 68:6 84:6,7,7 96:23 103:3,11 107:3,3,11 108:2 114:9,18,18 120:13 121:1 141:11

- Z -

Youngquist 6:25 7:8

yourself 121:8

Z-00-076 18:25 20:22 37:2 **Z-81-185** 11:25 Z-88-210 15:18 **Z-92** 21:2 **Z-92-036(a** 16:17,20 **Z-96** 21:2 **Z-96-068** 17:25 139:17 ZAB-83-260(a 12:7 **ZAB-84-195** 12:17,21 **ZAB-85-49** 13:11 zoned 9:19 zoning 8:24 9:14,25 10:3 11:9 12:1 19:12 20:1 23:14 24:25 25:1,4,10,13, 17 31:20 37:2 87:23 88:13 91:10 130:16 136:23 zoom 53:8 56:18 57:13 **zoomed** 51:6