

1 BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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4 DONETTA GOTT, LYNDELL CHAPLIN,

5 GARY WELLS, EARNEST L. ELLISON

6 AND MAXINE ELLISON,

7 Petitioners,

8 vs.

No. PCB 96-068

9 M'ORR PORK, INC.,

10 Respondent.

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14 Proceedings held on September 30, 1997,

15 at 9:30 a.m., at the Pike County Courthouse, 204

16 East Adams Street, Pittsfield, Illinois, before the

17 Honorable Michael L. Wallace, Hearing Officer.

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21 Reported by: Darlene M. Niemeyer, CSR, RPR

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A P P E A R A N C E S

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E X H I B I T S

NUMBER		MARKED FOR I.D.	ENTERED
	Respondent's Exhibit AH 1	9 (later withdrawn)	10
	Respondent's Exhibit AH 2	9	21
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P R O C E E D I N G S

(September 30, 1997; 9:30 a.m.)

HEARING OFFICER WALLACE: Pursuant to the direction of the Illinois Pollution Control Board, I now call Docket PCB 96-068. This comes for hearing on the request for hearing on abatement filed by the complainants. The complainants in this matter are Donetta Gott, Lyndell Chaplin, Gary Wells, Earnest L. Ellison and Maxine Ellison versus M'Orr Pork, Inc.

If I could have appearances for the record, please, for the complainants?

MR. COOPER: Duncan B. Cooper, III.

HEARING OFFICER WALLACE: For the Respondent?

MR. LEWIS: George J. Lewis, and of course, the Orr brothers are here as the respondents.

HEARING OFFICER WALLACE: Let the record reflect that there are no other appearances at today's hearing.

Before we begin the hearing, I did mention the procedure I was going to take today, and there was no objection. The matter was heard

1 by the Board, and the Board entered an opinion
2 directing the respondent to address certain
3 abatement measures, and following a direct study
4 which was filed with the Board, the complainants
5 could request and did request a hearing on
6 abatement measures.

7 We will begin the proceeding by allowing
8 the respondent to put onto the record whatever
9 abatement measures they have taken in this matter,
10 and then the complainants may present evidence in
11 regard to whatever they want to on the abatement
12 measures.

13 All right. To the extent either one of
14 you want to make an opening statement at this
15 time.

16 MR. LEWIS: I would have a very brief
17 opening statement.

18 That is, that even before the order of
19 the Illinois Pollution Control Board, that a
20 considerable number of measures were already
21 undertaken, and other measures have been instituted
22 since that time and that we now have the study
23 which we will put on the record of May 15 of 1997
24 by Dr. Dwaine Bundy, who I believe the evidence

1 will show is here in court and will be at this
2 hearing and will be testifying on the abatement
3 matters.

4 I believe that we will establish that he
5 is a very highly qualified specialist from Iowa
6 State University. That he does not only studies in
7 a very wide territory, but also he presents papers
8 internationally and works internationally, and we
9 believe the evidence will show that he, in addition
10 to what we have done, has a new technique of
11 measuring the gases that are most important to the
12 matter of odor.

13 He has made a measurement. He will show
14 you the machine and that these are used in other
15 states, and it helps quantify the matter of the
16 odor that is permissible or impermissible. We
17 believe we now can get down to a matter of actually
18 quantifying the matter of the gases that cause the
19 odor.

20 We believe the evidence will further show
21 that one of the treatments is called Ecolo and that
22 is -- has been developed and is purchased from a
23 company that provides this rather widespread for
24 other matters including hog farms. We will have

1 the person who is -- who is the representative from
2 that company to testify to describe what it is and
3 what they are doing and how they are doing it.

4 Mr. Orr, who is one of the partners in
5 the company of M'Orr Pork, will testify as to a
6 rather long list of abatement procedures. Then we
7 will have Dr. Bundy who will testify concerning
8 those procedures confirming as to whether they were
9 implemented, if they were implemented properly, and
10 what the result is, et cetera.

11 HEARING OFFICER WALLACE: All right. Mr.
12 Cooper?

13 MR. COOPER: Our evidence will show that
14 Kinderhook is in a pull; and that the natural flow
15 of air in the evening is from this south facility
16 down into the town; and that the odors have not
17 been abated; and that they are unreasonably
18 interfering with the lives of the complainants; and
19 the situation now is no different from the way it
20 was at the original hearing which was held well
21 over a year ago.

22 HEARING OFFICER WALLACE: Okay. Let's
23 mark all of our exhibits today with the letters AH
24 and start with AH 1. That will let the Board know

1 those are abatement exhibits.

2 MR. LEWIS: Okay. Do I need to put
3 Respondent?

4 HEARING OFFICER WALLACE: Respondent's AH
5 1, 2, and 3 and so on.

6 MR. LEWIS: Okay. We will proceed to
7 mark them.

8 HEARING OFFICER WALLACE: Thank you.

9 (Whereupon documents and
10 photographs were duly marked
11 for purposes of identification
12 as Respondent's Exhibits AH 1
13 through AH 9 as of this date.)

14 MR. LEWIS: If the Court please, we will
15 ask that the study that was duly filed with the
16 Illinois Pollution Control Board, and I understand
17 it was in the file, being the study of Dr. Dwaine
18 Bundy concerning the M'Orr swine unit odors which
19 is now marked Exhibit AH Respondent's 1A be entered
20 into evidence.

21 MR. COOPER: No objection.

22 HEARING OFFICER WALLACE: It is
23 admitted.

24 (Whereupon said document was

1 admitted into evidence as
2 Respondent's Exhibit AH 1 as of
3 this date.)

4 MR. LEWIS: Our first witness would be
5 Mr. David Orr.

6 HEARING OFFICER WALLACE: Okay. Mr. Orr,
7 would you please take the stand.

8 (Whereupon the witness was
9 sworn by the Hearing Officer.)

10 HEARING OFFICER WALLACE: Please speak
11 loudly and clearly so our court reporter can hear
12 your answers.

13 THE WITNESS: Okay.

14 HEARING OFFICER WALLACE: All right. You
15 may begin.

16 D A V I D O R R,
17 having been first duly sworn by the Hearing
18 Officer, saith as follows:

19 DIRECT EXAMINATION

20 BY MR. LEWIS:

21 Q Mr. Orr, would you state your full name.

22 A David Orr.

23 Q And you are the same Mr. David Orr that
24 is one of the partners in M'Orr Pork, Inc.?

1 A Yes, I am.

2 Q I guess it would be more particularly a
3 stockholder?

4 A Yes, I am.

5 Q And the other stockholder is your
6 brother?

7 A Yes.

8 Q And his name?

9 A Darrell Orr.

10 Q And he is here in the courtroom today?

11 A Yes, he is.

12 Q Now, you, of course, have testified
13 previously, and you have read the order of the
14 Illinois Pollution Control Board?

15 A Yes.

16 Q And that provided that you be given an
17 opportunity to take measures of abatement?

18 A Yes.

19 Q And then there could be a hearing, then,
20 on what measures you had taken?

21 A Yes.

22 Q First of all, have you had professional
23 and expert assistance in the taking of these
24 measures?

1 A Yes, we have.

2 Q Who have you utilized?

3 A Dr. Dwaine Bundy out of Iowa State

4 University.

5 Q And are his qualifications attached to

6 Exhibit AH Respondent's 1A?

7 A Yes, they are.

8 Q For how long of a period of time have you

9 been working with him?

10 A Since we got the abatement order, March

11 or February, whenever it was.

12 Q From the Illinois Pollution Control

13 Board?

14 A Yes.

15 Q Have you taken abatement measures?

16 A Yes, we have.

17 Q I would like to go through those with

18 you.

19 A Okay.

20 Q First of all, as to trees, was it

21 recommended that you plant trees?

22 A Yes, it was.

23 Q And would you tell me the nature of the

24 trees that was recommended to be planted?

1 A They are called Austrees, and they are
2 very fast growing trees. We plant them close
3 together, and they grow fast and tall and develop a
4 windbreak.

5 Q When did you plant these?

6 A Those were planted in April of 1996.

7 Q And how tall were they when you planted
8 them?

9 A Two feet.

10 Q Did you bring pictures of the Austrees as
11 they have developed?

12 A Yes, we have.

13 Q After you first planted them, then did
14 you note their growth in the spring?

15 A Yes.

16 Q I show you a picture taken of those.

17 A Yes.

18 Q These pictures that I show you, who were
19 they taken by?

20 A My wife.

21 Q Have you looked at all of them?

22 A Yes, I have.

23 Q So not to duplicate your testimony, do
24 they all accurately show that which they purport to

1 portray?

2 A Yes.

3 Q I show you Respondent's Exhibit 1 AH, and
4 I will ask you, what does that purport to show?

5 A That shows a picture of one of the trees
6 that was planted in 1996, in April. This picture
7 was taken in May of 1997.

8 Q How tall is it in May of 1997?

9 A It is probably about six feet tall.

10 Q I am showing you AH Respondent 3. Is
11 that also the Austrees?

12 A Yes, that shows the two rows in a line.

13 Q And when was that taken?

14 A That was taken also in May of 1997.

15 HEARING OFFICER WALLACE: Of what year?

16 THE WITNESS: Of 1997. Excuse me.

17 Q (By Mr. Lewis) Now, have they grown
18 considerably?

19 A Yes, they are 11 feet tall now.

20 Q And did you take pictures to show the
21 Hearing Officer the growth in that short period of
22 time?

23 A Yes, we have.

24 Q Looking at Respondent's Exhibit Number 2,

1 what does that purport to show?

2 A That shows the Austrees at about 11 feet
3 tall is what we measure them. That's the row of
4 them.

5 Q I think if you point it out to the
6 Hearing Officer that --

7 A That shows the row of the trees. It is
8 about -- they are approximately 11 feet tall right
9 now (indicating on the photograph).

10 Q Now, did you then take a picture going
11 down the line of the trees?

12 A Yes, we did.

13 Q Showing you Respondent's Exhibit 4, would
14 you point that out to the Court?

15 A This is the line looking down them, down
16 the row (indicating on the photograph).

17 MR. LEWIS: Okay. Subject to cross, we
18 would ask that these be introduced into evidence, 1
19 and 3 being the May pictures and 2 and 4 being the
20 more recent.

21 MR. COOPER: We don't have any objection.

22 HEARING OFFICER WALLACE: The more recent
23 ones are what month?

24 THE WITNESS: This month.

1 HEARING OFFICER WALLACE: September of
2 1997?

3 THE WITNESS: Yes.

4 Q (By Mr. Lewis) How many did you plant?

5 A We planted 250.

6 Q You have shown the trees, but what
7 location are those trees with respect to the hog
8 confinement facility, the lagoon, and the neighbors
9 to the south?

10 A They are about 100 yards south of the
11 buildings, of the building, and in a fence row.
12 Like I said, they are 5 feet apart, 5 feet apart,
13 and the rows are 5 feet apart, and it is a 600 foot
14 line, is what it figures out to be across the front
15 of the building.

16 Q How many rows?

17 A Two.

18 Q And your house -- you live on the
19 property?

20 A Yes.

21 Q And is your house located closer than the
22 neighbors?

23 A Yes, it is.

24 Q In fact, you are the closest house --

1 A Yes.

2 Q -- except there is one to the north?

3 A Yes.

4 Q And the one to the north has already

5 testified that they have no objections and have no

6 problems?

7 A Yes.

8 Q So far as the cost, what have you paid

9 for these special trees?

10 A Those trees cost us \$1,700.00 for all the

11 trees, and then there is fertilizer.

12 Q Would there be an annual cost?

13 A We fertilize. It is \$120.00, is what it

14 costs.

15 Q Have they already branched out?

16 A Yes, they are starting to touch.

17 Q Pardon?

18 A They are starting to touch each other.

19 Q As they grow higher, will they continue

20 to grow wider?

21 A Yes.

22 Q The limbs will spread more and more?

23 A Yes.

24 Q So it will be -- why did you do this?

1 What is your understanding why you did it?

2 A For airflow, to keep the odors from
3 flowing towards town, as more of a windbreak.

4 Q Was there any other natural procedure or
5 natural thing that you were to do, that was
6 recommended to you that would provide a mix of the
7 air?

8 A Yes.

9 Q What was that?

10 A Planting corn in the field between the
11 building and town.

12 Q Have you done that?

13 A Yes, we have.

14 Q How many acres did you plant in corn?

15 A Thirty-five.

16 Q Is the corn south or north of the
17 Austrees?

18 A South.

19 Q How much depth from the south to the
20 north?

21 A It is probably 400 yards, I would say.

22 Q And how wide is the planting?

23 A Probably about 800 yards, I would say.

24 Q How many acres in all?

1 A It is 35 acres.

2 Q Now, so far as the cost was concerned,
3 have you computed the cost of that, or is that
4 farming practice?

5 A That's farming practice mainly, you
6 know. You know, it is nice to have a rotation
7 there, but we decided that we would just keep
8 putting it in corn.

9 Q Can it be in continuous corn?

10 A Yes, it can be.

11 Q Is that an accepted procedure now in
12 Illinois agriculture with respect to farming?

13 A A person always like to have a rotation,
14 in but, I mean, it is an accepted practice. It
15 will work.

16 Q You can do it?

17 A Yes, we can.

18 Q You have committed yourself to doing it?

19 A Yes, we have.

20 Q It is simply a matter of fertilizer and
21 chemicals --

22 A Yes.

23 Q -- to succeed in doing it?

24 A Yes.

1 Q I show you AH Respondent's Exhibit 8, and
2 would you point that out to the Judge as to where
3 the corn is?

4 A This is the corn field right here, all
5 along here (indicating on the photograph).

6 Q Will that show the row of corn?

7 A Yes, it does. You can just barely see
8 the top of the building in behind it.

9 Q Now, I see a white -- you said you could
10 barely see the top of the building. Can the Court
11 upon inspection see, then, the location of the
12 confinement building with respect to the corn?

13 A Yes, you can.

14 Q Would you point that out to him?

15 A It is right there (indicating on the
16 photograph).

17 HEARING OFFICER WALLACE: That would be
18 the top of the --

19 THE WITNESS: The top of the hog
20 confinement, just very top of the roof.

21 Q (By Mr. Lewis) Now, what is your
22 understanding as to why that was recommended?

23 A To act as a natural filter for any odors.

24 MR. LEWIS: I ask that AH Respondent's

1 Exhibit 8 be admitted.

2 MR. COOPER: No objection.

3 HEARING OFFICER WALLACE: While I am
4 thinking of it, Respondent's Exhibit AH 1,
5 Respondent's AH 2, Respondent's AH 3, Respondent's
6 Exhibit AH 4, and Respondent's Exhibit AH 8 are
7 admitted into evidence.

8 (Whereupon said documents were
9 admitted into evidence as
10 Respondent's Exhibits AH 1, 2,
11 3, 4, and 8 as of this date.)

12 Q (By Mr. Lewis) What, if any,
13 recommendation was made concerning filtering the
14 air as it immediately comes out of the confinement
15 building?

16 A Well, we felt like, and we talked to Mr.
17 Dwaine Bundy about this that, you know, it might
18 help to put some sort of filter onto the pit fans
19 of the building.

20 Q Now, would that -- what was your
21 understanding of why that might help or would help?

22 A It will hold down the -- more than
23 anything, the dust, and they claim that most odor
24 particles will cling to dust and travel that way.

1 Q So did you, in fact, install a series of
2 filters for the air coming out of the confinement
3 building?

4 A Yes, we did. We installed six filters on
5 the pit fans of the building.

6 Q Which side of the building are those on?

7 A The south.

8 Q That would be south, towards the village?

9 A Yes.

10 Q What village is the one in question?

11 A Kinderhook.

12 Q Did you do anything else besides having a
13 filter? Did you do something to enhance those
14 filters?

15 A Yes, we spray a chemical in behind the
16 filters that is supposed to help with the odor, you
17 know, control part of it.

18 Q Does each filter have a facility for the
19 spray to spray on the filter?

20 A Yes, each filter has a nozzle placed
21 behind the filter.

22 Q I will go into it later, but can you
23 identify the chemical that you use to spray the
24 filter?

1 A It is called Ecolo.

2 Q I show you a picture, AH Respondent's 5,
3 and ask that you show that to the Court, to the
4 Hearing Officer.

5 A (Witness complied.)

6 Q What is that that you have your finger
7 on?

8 A That is the filter placed in front of the
9 pit fan.

10 Q That's just one example; is that correct?

11 A Yes, it is. There is one on each one, a
12 total of six.

13 Q Can you point out how the spray gets to
14 the filter?

15 A It comes out of this tube and comes down
16 and out of this nozzle that is placed right in
17 behind the filter itself.

18 Q And upon inspection, the Hearing Officer
19 can see the tube coming down from the pipe about
20 mid -- about a third way up on the building?

21 A Yes.

22 Q Coming down into the filter; is that
23 correct?

24 A Yes, he should be able to, yes.

1 MR. LEWIS: I ask that AH Respondent's 5
2 be introduced.

3 MR. COOPER: No objection.

4 HEARING OFFICER WALLACE: Respondent's AH
5 5 is admitted.

6 (Whereupon said photograph was
7 admitted as Respondent's
8 Exhibit AH 5 as of this date.)

9 Q (By Mr. Lewis) Now, did you -- in line
10 with the filtering of the dust directly from the
11 building, have you done anything further with
12 respect to atomizing the air near the lagoon?

13 A Yes, we put an atomizer system in on the
14 lagoon levy and across in front of the building.

15 HEARING OFFICER WALLACE: On the lagoon
16 what?

17 THE WITNESS: On the lagoon levy.

18 Q (By Mr. Lewis) And that's how close to
19 the lagoon?

20 A It is about ten feet from the lagoon.

21 Q On which side?

22 A South.

23 Q And how many -- you do that by stand
24 pipes?

1 A Yes, they are pipes that are
2 approximately 15 feet in the air, and there is 25
3 pipes and they are 10 feet apart and there is a
4 nozzle on each pipe.

5 Q Did you take a picture of that?

6 A Yes.

7 Q Looking at AH Respondent's Number 6,
8 would you show the Hearing Officer the pipes in
9 connection with the lagoon?

10 A Right here is the lagoon, and there is
11 the nozzles. It shows the spraying.

12 MR. LEWIS: We will ask that AH 6 be
13 introduced into evidence.

14 MR. COOPER: No objection.

15 HEARING OFFICER WALLACE: Respondent's
16 Exhibit AH 6 is admitted.

17 (Whereupon said photograph was
18 admitted into evidence as
19 Respondent's Exhibit AH 6 as of
20 this date.)

21 Q (By Mr. Lewis) What did you understand
22 about the atomizing? What was it recommended for?

23 A Well, this chemical that they use in
24 there encapsulate the odor molecules when it sprays

1 out into the air, and it is supposed to, you know,
2 keep it from smelling.

3 Q Does it have an acceptable odor itself?
4 A I think so, yes.

5 Q You live close to it?
6 A Yes.

7 Q And that's -- do you smell it sometimes?
8 A Yes, I do.

9 Q Is it very acceptable?
10 A I think so.

11 Q Okay. Now, how much did you spend on the
12 stand pipes and the nozzles, et cetera?

13 A The atomizer total was \$4,800.00.

14 Q Did that include the tank?
15 A Yes, it does.

16 Q So you have the tank that contains the
17 solution?

18 A Yes, we do.

19 Q Is there a pump?
20 A Yes, there is, mounted on top of the
21 tank.

22 Q Is there a monthly cost, then, to
23 continue the chemical, Ecolo, in the system?
24 A Yes, it is. It is about \$700.00 a

1 month.

2 Q I show you AH Respondent's 7, and ask you
3 what that is and point it out to the Hearing
4 Officer?

5 A This is the atomizer tank with the pump
6 on top (indicating on photograph).

7 Q Where is it located?

8 A Right in front of the building, the south
9 side of the building.

10 Q How is that then controlled?

11 A It is computer controlled, computerized.

12 Q Where is the computer?

13 A Right there on the top of it.

14 Q Can you see the computer?

15 A Well, it is inside this box here with the
16 lid on it.

17 MR. LEWIS: Okay. We will ask that AH
18 Respondent's 7 be introduced into evidence.

19 MR. COOPER: No objection.

20 HEARING OFFICER WALLACE: Respondent's
21 Exhibit AH 7 is admitted.

22 (Whereupon said photograph was
23 admitted into evidence as
24 Respondent's Exhibit AH 7 as of

1 this date.)

2 Q (By Mr. Lewis) Can you give me the cost
3 of the fan filters?

4 A Those cost \$62.00 apiece, and they are
5 \$372.00.

6 Q This was the fan itself?

7 A The filters that stand out in front of
8 the fans.

9 Q Okay. The fans, what did they cost?

10 A I don't know. They were put in there
11 when the building was put in.

12 Q Now, the atomization, that's controlled
13 by computer?

14 A Uh-huh.

15 HEARING OFFICER WALLACE: Yes?

16 THE WITNESS: Yes.

17 HEARING OFFICER WALLACE: You need to say
18 yes or no.

19 THE WITNESS: I am sorry. Yes.

20 Q (By Mr. Lewis) Is it periodic?

21 A Yes, it is. It comes on between the
22 hours of 6:30 and 11:00 in the evening hours and it
23 runs 30 seconds every 5 minutes during that time.
24 And then in the morning hours it comes on between

1 4:00 and 8:00 and runs 20 seconds out of every 5
2 minutes. Then during the day it runs 20 seconds
3 every hour.

4 Q So it actually runs all day?

5 A Yes.

6 Q But more intensely in the morning --

7 A And evenings.

8 Q -- and then in the evening?

9 A Yes.

10 Q What is your understanding of how that
11 schedule and why that schedule is set up?

12 A Well, you know, most people are outside,
13 or whenever the air gets heavier or whatever,
14 that's why.

15 Q You are doing what has been recommended?

16 A Yes, we are.

17 Q What, if anything, was recommended
18 concerning the lagoon pipe?

19 A To extend it out and put it below the
20 lagoon surface.

21 Q Would you describe that a little more
22 detailed?

23 A Where it comes out of the side of the
24 lagoon berm, we put an elbow on it and stuck it

1 down straight underneath the water surface.

2 Q When you say it comes out of the lagoon
3 berm, would that be the lagoon bank?

4 A Yes, the bank.

5 Q And originally, it was just sticking
6 straight out?

7 A Straight out of the bank, yes.

8 Q So then the introduction of the fluid
9 from the confined building would have come straight
10 out and then deposit on the top of the lagoon?

11 A And besides that it would stir the lagoon
12 and make a smell.

13 Q How far down under, then, does it deposit
14 it under, then?

15 A It is probably 4 to 5 feet right now down
16 there, under the surface.

17 Q Is the lagoon in the process of more
18 maturity?

19 A Yes, it is.

20 Q What have you noted about the lagoon now
21 that it is maturing?

22 A There is just less smell off of it.

23 Q I show you AH Respondent's 9. Would you
24 point that out to the Hearing Officer as to where

1 that pipe is, that deposits the effluent below the
2 surface of the lagoon.

3 A This is the lagoon pipe with the
4 extension to go down below the surface (indicating
5 on photograph).

6 Q That, of course, will be permanent?

7 A Yes.

8 MR. LEWIS: AH Respondent's 9 we ask be
9 introduced into evidence.

10 MR. COOPER: No objection.

11 HEARING OFFICER WALLACE: Respondent's
12 Exhibit AH 9 is admitted.

13 (Whereupon said photograph was
14 admitted as Respondent's
15 Exhibit AH 9 as of this date.)

16 HEARING OFFICER WALLACE: One question
17 while I have this. This lagoon pipe is coming from
18 your confinement building?

19 THE WITNESS: Yes, it is.

20 HEARING OFFICER WALLACE: Okay.

21 Q (By Mr. Lewis) With respect to the feed
22 itself that you feed to the hogs in the confinement
23 building, what have you done with respect to the
24 feed in order to reduce odor?

1 A Well, we put oil in the feed which helps
2 reduce the dust, the amount of dust in the
3 building.

4 Q And, again, why did you understand that
5 that was a good measure?

6 A To help reduce the dust.

7 Q What kind of oil do you put in?

8 A It is just pure vegetable oil.

9 Q Is that kind of oil that is recommended?

10 A Yes, it is.

11 Q Does it appear to be working?

12 A Yeah. Yes, I think so.

13 Q It keeps the dust down?

14 A Yes.

15 Q Comparing before you had added the oil as
16 compared to now adding the oil, what difference do
17 you notice?

18 A There is about 50 percent less dust
19 inside of the building.

20 Q Even the dust that is there that comes
21 out, do you have the dust filtering system?

22 A Yes.

23 Q Was that a cost, an installment cost, or
24 is that just a monthly cost to continue it?

1 A That's a monthly cost.

2 Q Approximately how much is that?

3 A It is \$230.00 a month.

4 Q Do you add anything else to the feed

5 besides the oil?

6 A Yes, we add Microaid to the feed.

7 Q What is Microaid?

8 A It is a feed grade type of chemical that

9 helps reduce ammonia and hydrogen sulfide.

10 Q And is it your understanding that is

11 recommended?

12 A Yes, it is.

13 Q And what do you note about it?

14 A We notice a lot less ammonia smell inside

15 the building.

16 Q Is that, again, a monthly cost or do --

17 A Yes, it is.

18 Q -- you have initial cost?

19 A It is a monthly cost.

20 Q How much is that?

21 A It is \$120.00 a month.

22 Q How do you add the oil and the Microaid?

23 A In the grinder mixer when we grind the

24 feed for the hogs.

1 Q You have a way that that automatically
2 goes in as you grind?

3 A We have to -- we put it in the top of the
4 grain mixer.

5 Q It feeds in, drips in?

6 A Yes.

7 Q Now, as I understand, we have had
8 testimony before that you have lots where sows are
9 out on, open lots?

10 A Yes.

11 Q That's been for many years?

12 A Yes, it has.

13 Q Approximately how many?

14 A 15 now.

15 Q And even before you took over this place,
16 there was livestock raised on this land before?

17 A Yes, there was.

18 Q For how long?

19 A For 50 years or better, I suppose.

20 Q What do you -- what have you in the past
21 15 years and presently do with these lots?

22 A Put sows out there and -- you mean as
23 odor control?

24 Q First of all, as to what kind of hogs do

1 you --

2 A Sows. They are sows out in those lots.

3 Q This is the sows for breeding?

4 A Yes.

5 Q And prior to pigging?

6 A Yes.

7 Q Then, do you have plans and procedures

8 ready to go to move the sows even though you have

9 had them there for 15 years?

10 A Yes, we are working on trying to move the

11 sows away from the outside lots.

12 Q And you have a commitment to have that

13 done within a certain period of time?

14 A Yes, between 12 months -- around 12

15 months we want to have them out of there.

16 Q And you are willing to commit to the

17 Illinois Pollution Control Board that you will have

18 them out reasonably within the 12-month period?

19 A Yes.

20 Q What, if anything, do you do during this

21 interim to reduce odor problems from there?

22 A Scrape the lots up, the manure off the

23 lots and haul it off on to the field.

24 Q How often do you do that?

1 A Usually the fall and the spring.

2 Q That's a regular procedure?

3 A Yes.

4 Q And you continue to do that?

5 A Yes.

6 Q Until you have them moved?

7 A Yes.

8 Q How many sows do you customarily have

9 there?

10 A Right there, like around the house and

11 the -- between the house and the building,

12 probably, oh, 150.

13 Q Is that all that you have?

14 A Yes, there.

15 Q And when you move them they will be moved

16 several miles away?

17 A Yes, hoping to.

18 Q With respect to the lagoon itself, I take

19 it that when you start there is nothing that goes

20 into the lagoon from the confined feeding? There

21 is a period of time before stuff starts going into

22 the lagoon?

23 A Yes.

24 Q And was there a procedure recommended to

1 you with respect to the addition of water before
2 the effluent started coming from the building?

3 A Yes.

4 Q What was that?

5 A Dilution water.

6 Q Did you do that?

7 A It was about a third full when we first
8 started.

9 Q Was that within the recommended stated
10 amount?

11 A At that time, yes.

12 Q How is it now? Have you added water?

13 A Yes, we have added 150,000 gallons of
14 water since we have been working with Dr. Bundy.

15 Q Did he recommend that?

16 A Yes, he did.

17 Q Where do you get the water?

18 A From the city.

19 Q You purchase it?

20 A Yes.

21 Q And how high on the lagoon is the water
22 now?

23 A It is within probably 4 to 5 feet from
24 the top of the lagoon.

1 Q Does it still have some way to go?

2 A Yes, 3 feet.

3 Q Now, what do you do with the lagoon after

4 it fills?

5 A You dewater it, pump it off.

6 Q What do you do with that?

7 A It will be injected into the field.

8 Q Have you needed to do that yet?

9 A No, not yet.

10 Q When you dewater or take fluid out of the

11 lagoon and you inject it in the field, what

12 procedure do you use for that? Do you spray it on

13 top?

14 A No, you inject it into the ground.

15 Q And why do you do that?

16 A To get more nutrient value and to hold

17 the odors down.

18 Q Do you, of course, commit yourself to

19 injecting -- using the injecting method rather than

20 the spraying method?

21 A Yes.

22 Q So far as the water dilution of the

23 gallons that you put in, what did that cost?

24 A Around \$200.00.

1 Q And, again, how many gallons was that?
2 A About 150,000.
3 Q And when did you do that?
4 A Let's see. I want to say that was done
5 in May.
6 Q Is that your best recollection, May of
7 1997?
8 A Yes.
9 Q That would be before any effluent came
10 in?
11 A Yes.
12 Q Did you have a total start-up cost of the
13 recommended procedures that cost money initially?
14 Do you have a total on that?
15 A Yes, \$7,172.00.
16 Q And then the monthly costs, have you
17 totaled the monthly costs for the additives, the
18 spray, et cetera?
19 A Yes. It is \$1,055.00 a month.
20 Q So far as the distance -- when will you
21 start knifing in the dewatering water from the
22 lagoon?
23 A This fall.
24 Q How far away do you have a field to do

1 that?

2 A It is across east of the hog building,
3 probably a quarter of a mile.

4 Q Is that further away?

5 A Yes.

6 Q It is further away from Kinderhook or the
7 complainants --

8 A Yes.

9 Q -- by a fourth of a mile?

10 A Yes.

11 Q Now, as a result of what you have been
12 doing and how you have been operating your
13 operation, have you had feedback from the citizens?

14 A Yes, I have.

15 Q How has that been?

16 A It has been positive.

17 Q That's numerous citizens?

18 A Yes.

19 Q How pleased are they?

20 A They seem to be pleased.

21 MR. LEWIS: I have no further questions.

22 HEARING OFFICER WALLACE: All right.

23 Cross-examination?

24 MR. COOPER: Yes.

1 CROSS EXAMINATION

2 BY MR. COOPER:

3 Q You said you put trees in, and these
4 trees are planted about 5 feet apart?

5 A Yes.

6 Q They are 11 feet tall now?

7 A Yes, sir.

8 Q And they are just about touching each
9 other, correct?

10 A Yes, they are.

11 Q So, in essence, these trees which are,
12 what, 250 feet long?

13 A It is 600 feet long.

14 Q It is 600 feet long. So you have pretty
15 much a solid wall of trees 600 feet long, 11 feet
16 high; is that a fair statement?

17 A Yes.

18 Q You said you purchased an atomizer?

19 A Yes.

20 Q Did you buy that, or was it given to
21 you?

22 A We bought it.

23 Q That was \$4,800.00?

24 A Yes, it is.

1 Q You put up this -- you say you had sows
2 there for -- sows were located on this property out
3 in the open for a number of years; is that correct?

4 A Yes.

5 Q And then in about -- was it 1994 or 1995
6 that you put in the lagoon and the confinement
7 building?

8 A It would have been in late 1994, yes.

9 Q It is your understanding that that's when
10 the people in Kinderhook started to complain that
11 the --

12 A Yes.

13 Q -- odors became offensive, correct?

14 A Yes.

15 Q So your plan is to --

16 MR. LEWIS: We object to saying that that
17 is when the odor became offensive. That's what
18 they allege.

19 MR. COOPER: The question was asked and
20 answered.

21 MR. LEWIS: We object to the question.
22 If he -- I will bring it out on cross.

23 HEARING OFFICER WALLACE: All right.

24 Q (By Mr. Cooper) So you -- your plan,

1 then, is to move the sows within 12 months but to
2 keep the building and the lagoon?

3 A Yes.

4 Q And you have purchased a piece of
5 property, I believe, earlier this year that you
6 could move the building and lagoon to, have you
7 not?

8 A I purchased it myself.

9 Q Right. That was the land that was
10 purchased on the 24th of February; is that correct?

11 A No, it is not.

12 Q It was purchased this year?

13 A Yes.

14 Q About when was it purchased?

15 A The 5th of January.

16 Q And that tract of land is located where?

17 A About four miles north.

18 Q How many acres is it?

19 A It is 80.

20 Q It is 80 acres?

21 A Yes.

22 Q Is it located next to any residences or
23 anything of that type?

24 A Yes, it is.

1 Q How far away?

2 A Oh, there is -- the closest one is to the
3 east, probably three or four tenths of a mile.

4 Q Is that a farm residence or nonfarm
5 residence?

6 A It is a farm residence.

7 MR. COOPER: I don't have any more
8 questions.

9 HEARING OFFICER WALLACE: Redirect?

10 MR. LEWIS: Yes.

11 REDIRECT EXAMINATION

12 BY MR. LEWIS:

13 Q First of all, you were asked the question
14 that that is when the odors became offensive. Do
15 you agree that when you put this building up and
16 started having hogs there that the odor was
17 offensive?

18 A No, that's just when we got complaints,
19 when they could see the building there.

20 Q That's when they claimed it was
21 offensive?

22 A Yes.

23 Q Pardon?

24 A Yes.

1 Q And you live even closer than they. Has
2 it been offensive to you at all?

3 A No.

4 Q You have had many neighbors that live
5 close or closer than others who have testified it
6 was not offensive?

7 A Yes. We have -- we have family
8 get-togethers, parties, whatever, out there.

9 Q Now, he asked if you have bought land,
10 and you said you bought about 80 acres. Is this
11 land owned by the corporation?

12 A No, it is not. That's my land. That's
13 what I was going to point out to him.

14 Q Does the corporation have any interest in
15 that land?

16 A No, they do not.

17 Q He was asking about moving the building
18 and lagoon. Can you tell me the cost involved in
19 building the building and the lagoon?

20 A Building that building and lagoon was
21 \$250,000.00, so I don't think you just pick it up
22 and move it.

23 Q In fact, you couldn't move a lagoon?

24 A No, you couldn't move a lagoon, and you

1 can't move concrete.

2 Q You can't move a building, actually?

3 A No.

4 Q So if you are required to move the
5 building and lagoon, in your opinion, would that be
6 a totally prohibitive cost?

7 A Yes.

8 Q So presently you have approximately a
9 quarter of a million dollars in the building and
10 the lagoon?

11 A Yes.

12 MR. LEWIS: I have nothing further.

13 HEARING OFFICER WALLACE: Recross?

14 RECCROSS EXAMINATION

15 BY MR. COOPER:

16 Q Which came first, the town or your hog
17 facility?

18 A The farming community.

19 Q The town came first, didn't it --

20 A I suppose.

21 Q -- before you put the building up and
22 before you put the lagoon in?

23 A Yes.

24 Q People were living there, correct?

1 A Sure.

2 MR. COOPER: Thank you.

3 FURTHER REDIRECT EXAMINATION

4 BY MR. LEWIS:

5 Q So far as the hog lots that you had, to
6 your knowledge, they were there as the town
7 developed, weren't they?

8 A There was hogs in town, there has been in
9 years past.

10 Q Really?

11 A Yes.

12 Q So far as the matter of the abatement
13 procedures, is there now another development that
14 is causing considerable odor problems?

15 A Yes, there is. South of town there is a
16 finishing facility and a nursery facility that is
17 south about two miles, that holds 8,400 head of
18 finishing hogs and 4,000 head of nursery pigs.

19 Q How does that compare with yours?

20 A Well, it doesn't even compare to ours.
21 It is probably 40 to 50 times larger than what ours
22 is.

23 Q To your knowledge, is that a source of
24 odor --

1 A Yes.

2 Q -- in the Kinderhook community?

3 A Yes, it is.

4 MR. LEWIS: I have nothing further.

5 HEARING OFFICER WALLACE: Anything else?

6 FURTHER RECROSS EXAMINATION

7 BY MR. COOPER:

8 Q When you say it is a source of odor in

9 the Kinderhook area, have you kept any diaries?

10 A No, I haven't.

11 Q Do you know what the wind direction is on

12 any given day for the last year?

13 A No, but the prevailing wind is pretty

14 much out of the south.

15 Q Have you gone to Kinderhook in the

16 evening?

17 A Have I gone into Kinderhook?

18 Q In the evening?

19 A Yes.

20 Q Have you smelled hog odors in town?

21 A I have before, yes, I have.

22 Q Have you smelled hog odors on a number of

23 occasions in town?

24 A Not when I go into town on a number of

1 occasions.

2 Q But you have?

3 A Yes, I have.

4 Q And the odors have been offensive, have
5 they not?

6 A Not for me.

7 Q That's because you deal with it all the
8 time?

9 A Probably. That has something to do with
10 it.

11 Q I mean, for someone who lives in town,
12 you can see how there could be -- the odors could
13 be offensive, and that they are -- they might not
14 be able to enjoy the property as well as they could
15 if the odors were not present?

16 A I see them out there working in their
17 yards every night when I go through.

18 Q But you can understand how some people
19 would feel the odors would be offensive?

20 A I don't know about offensive. I can
21 understand that maybe they don't like it.

22 MR. COOPER: No further questions. Thank
23 you.

24 HEARING OFFICER WALLACE: Thank you. We

1 have had enough rounds, I think.

2 MR. LEWIS: Okay.

3 EXAMINATION

4 BY HEARING OFFICER WALLACE:

5 Q Before you step down, though, Mr. Orr, on
6 your exhibit with the fans --

7 A Yes. Let me get closer here, if I can.

8 Q What is the two items near the top of the
9 building?

10 A Those are the exhaust fans out of the top
11 side. This is where -- they recommend putting them
12 down there because this is where most of the --
13 see, this exhausts the pits.

14 Q All right. You are pointing to the fan
15 near the bottom of the building?

16 A Yes.

17 Q That's where you install the filter?

18 A Yes, the filters are on here.

19 Q The two ducts on the top are also fans?

20 A Yes, they are.

21 Q All right.

22 A This exhausts the pit, the gases, you
23 know, which would be the more odorous parts down
24 below (indicating at the bottom of the picture).

1 Q Are those pipes -- this is the atomizers?
2 A Yes, it is.
3 Q Are those pipes down in the lagoon
4 itself, or are they on the berm?
5 A They are on the berm, the top of the
6 berm.
7 Q Now, their function is to shoot the mist
8 up into the air?
9 A Yes.
10 Q They don't draw anything up?
11 A Huh-uh.
12 Q They are not a venting system?
13 A No, no. The only thing that travels
14 through them is the Ecolo which is in that tank
15 right here (indicating). That is what comes
16 through them.
17 HEARING OFFICER WALLACE: For the record,
18 Mr. Orr pointed to Exhibit AH 7, the tank.
19 Q (Hearing Officer Wallace) How do you
20 spell the chemical?
21 A The Ecolo?
22 Q Yes.
23 A It is E-C-O-L-O.
24 HEARING OFFICER WALLACE: All right.

1 Thank you. You may step down.

2 (The witness left the stand.)

3 HEARING OFFICER WALLACE: You may call
4 your next witness.

5 MR. LEWIS: We call Mr. Jim Gessner.

6 HEARING OFFICER WALLACE: All right.

7 (Whereupon the witness was
8 sworn by the Hearing Officer.)

9 HEARING OFFICER WALLACE: Thank you. You
10 may begin.

11 J A M E S G E S S N E R,
12 having been first duly sworn by the Hearing
13 Officer, saith as follows:

14 DIRECT EXAMINATION

15 BY MR. LEWIS:

16 Q Mr. Gessner, would you state your full
17 name?

18 A James Gessner.

19 Q And where do you live?

20 A I am a resident of Montgomery, Illinois.

21 Q Where is Montgomery?

22 A Montgomery is a far western suburb of
23 Chicago.

24 Q What is your business or profession?

1 A Currently, I am the vice president of New
2 Recycling Technology, Incorporated, of which we are
3 the Midwest distributors for Ecolo Odor Control
4 Systems.

5 Q What is your background?

6 A We started our business of New Recycling
7 Technology -- we have been in the recycling
8 industry since 1991. We have added the odor
9 control line as a result of our activities in the
10 recycling industry, simply because we ran into so
11 many odor type problems through high rise
12 buildings, all the way to recycling facilities.
13 And as a result of that it was imperative, we felt,
14 that we add an odor control line that we could be
15 comfortable with to actually help us in our
16 duties.

17 Q What is your territory that you -- do you
18 work a territory?

19 A We are the Midwest distributor for Ecolo
20 Odor Control. Our territory includes the southern
21 part of Wisconsin, all of Illinois, eastern Iowa,
22 eastern Missouri, and the northwest corner of
23 Indiana.

24 Q Do you have any college training?

1 A Yes, sir, I have a degree in business
2 administration myself.

3 Q And you say you are the Midwest
4 representative for Ecolo. What is Ecolo?

5 A Ecolo is a -- well, actually, Ecolo Odor
6 Control Systems worldwide was a company that was
7 founded over 22 years ago and is currently
8 headquartered in Mississauga, Ontario. They have
9 odor -- they designed and are selling odor control
10 systems in 37 countries worldwide now for odors
11 ranging from everything from agriculture all the
12 way to small individual washrooms.

13 Q So far as your experience as the Midwest
14 distributor, what kind of facilities is this
15 product being used in?

16 A We have actually targeted more so the
17 wastewater treatment plants, the sewer plants. We
18 have targeted municipal solid waste transfer
19 stations. We have, in Chicago, the Blue Bag MRFs
20 which is a material recovery facility which is
21 being used in conjunction with the Blue Bag
22 Recycling Program. We handle all of the odor
23 control for those facilities.

24 We have also gotten into the health care

1 industry: Nursing homes, hospitals, et cetera.
2 Basically, the Ecolo product is adaptable to
3 virtually any area where organic odors are a
4 problem.

5 Q And you understand that the odors
6 produced by hog confinement facilities and lagoons
7 is an organic odor?

8 A Absolutely. It is comprised mostly of
9 your ammonia and amine odors as well as the
10 hydrogen sulfides which the Ecolo works on very
11 well.

12 Q Would you give me an example of some of
13 the cities that you actually are performing
14 services for, involving Ecolo?

15 A Personally, we have wastewater treatment
16 plant facilities in Bristol, Wisconsin; Aurora,
17 Illinois; Schaumburg, Illinois. I am probably
18 leaving out one or two smaller -- St. Charles,
19 Illinois. We have had a system in there for
20 several years now.

21 Q How about Aurora?

22 A Yes, Aurora, that's the Fox Metro.
23 Actually, that handles all of the area of North
24 Aurora, Aurora, Montgomery, Oswego, actually.

1 That's probably one of our larger systems that we
2 currently have in operation.

3 Q Okay. Now, did you -- were you involved
4 with the sale and installation of the Ecolo system
5 on the M'Orr Pork, Inc. farm?

6 A Yes, sir, I was.

7 Q What, if any, involvement did you have
8 with that?

9 A Well, actually, I was -- we were
10 responsible -- "we" being New Recycling Technology,
11 was responsible for contacting the Orrs, and
12 basically, we asked if they would mind if we came
13 down to do a demonstration of our product.
14 Personally, not being all that active in the
15 agriculture field, but realizing that odors from
16 the likes of hog farms, dairy farms, chicken farms,
17 are, in fact, a problem, we asked the Orrs if they
18 would mind if we came down and set up a
19 demonstration of our product.

20 So our first trip down was to actually
21 ascertain what type of a system, how large a
22 system, and what would be needed to -- what, in our
23 estimation, would be needed to counteract any odor
24 problems that they may be experiencing. So on our

1 first trip down, we took the measurements across
2 the south side of the berm and, in fact, extending
3 on past the south side of the confinement building,
4 and we determined that if the nozzles were spaced
5 every 10 foot apart on the conduit that you have
6 shown in the pictures --

7 Q Is the conduit the pipes?

8 A Yes, yes.

9 Q The pipes are the ones that stick up in
10 the air --

11 A That is correct.

12 Q -- from the bank?

13 A That is correct. In those pipes -- on
14 the top of those pipes, we have installed our
15 hydraulic nozzles that actually emit the Ecolo air
16 solution into the air which acts as an odor
17 barrier. In fact, it is an odor neutralizer as
18 opposed to a masking agent or cover up.

19 After we ascertained what type of a
20 system would be needed, the Orrs gave us permission
21 to install it and we basically agreed to install it
22 for 30 days at no cost to them, and if at the end
23 of that time it seemed to be doing the job for
24 them, then they agreed that they would purchase the

1 system. So we came back probably two weeks later
2 or thereabouts and installed the system.

3 Q Approximately when was it installed?

4 A It was installed on April 21st of this
5 year, 1997.

6 Q Okay.

7 A We came back down and did the actual
8 installation with the Orrs. They actually drove
9 the stakes into the ground which we attached our
10 pipe to, and then, as I mentioned before, each pipe
11 has a hydraulic nozzle in the top of it, which
12 sprays the atomized mist of the air solution. I
13 don't recall exactly how many we had in front of
14 the lagoon, but we put a fair number, probably 15
15 or 16 in front of the lagoon; and then we came up
16 the line toward the building and went down to the
17 end of the building with the balance of 25, I
18 believe it was.

19 Q So there are these stand pipes that emit
20 the Ecolo by a mist that are entirely along the
21 bank of the lagoon clear up to the building?

22 A Clear past the building. They don't
23 actually go up to the building, but they go from
24 one end of the lagoon to the west end of the

1 confinement building.

2 Q And which side of the lagoon are they on?

3 A They are on the south side of the lagoon.

4 Q Which side of the hog confinement

5 building are they on?

6 A On the south side of that, also.

7 Q Now, have you monitored that since the

8 installation?

9 A We have been down several times to check
10 on it to make sure that it is operating properly,
11 and it does seem to be, according to David and
12 Darrell's estimation, working very well for them.

13 Q Do they appear to be managing and
14 operating it in accordance with the recommended
15 procedures?

16 A Very much so. Very much so. We have
17 been very satisfied actually with them as a
18 customer because on occasion we do get some
19 customers that like to cut the material to a point
20 where perhaps it doesn't work any longer, but we
21 have been very satisfied with the results that we
22 have seen and that we have smelled when we have
23 been in the area, yes.

24 Q They have accepted the full plan that you

1 recommended?

2 A Yes, they seem to have, yes, sir.

3 Q I mean, they installed --

4 A That is correct. They installed the full
5 system and, in fact, on a subsequent visit to the
6 facility, we also added the six fan filters on the
7 pit fans. That was our design that was designed,
8 actually, locally by us to go over the fan filters
9 to knock down, if you will, or eliminate the odors
10 that were being carried by the dust particulate.

11 We have seen studies where approximately
12 80 percent of the dust -- 80 percent of the odors
13 were actually being carried by the dust particles.
14 And I know Dave and Darrell indicated a concern
15 over that particular area, so that is why we
16 designed those fan filters for the pit fans.

17 Q So part of the fluid, the fluid itself
18 would help knock down the dust but is Ecolo, then,
19 a part of that?

20 A Yes, sir, it is. We have also hydraulic
21 nozzles behind the fan filters. The way this works
22 is as the air is blown out of the building, it
23 actually passes through the filter, and as a
24 result, it picks up the Ecolo as it is going

1 through the filter and that eliminates the odors.

2 Q They are regularly purchasing the
3 chemical from you?

4 A Yes, sir, they are.

5 MR. LEWIS: I have no further questions.

6 HEARING OFFICER WALLACE: Mr. Cooper?

7 CROSS EXAMINATION

8 BY MR. COOPER:

9 Q Your Ecolo Odor Control System was
10 installed in April of 1997, correct?

11 A Yes.

12 Q And did you feel that there was a need to
13 install the system? In other words, did you detect
14 offensive odors in town?

15 A To be quite honest with you, sir, I
16 learned of this through the Internet after the
17 initial action by the Pollution Control Board, and
18 as a result of reading of this particular problem
19 down here and realizing that it was our intent on
20 getting into the agricultural end of it, that this
21 would be an ideal opportunity for us to exhibit, if
22 you will, our solution in a real life application.

23 Q Did you -- I take it that there are odors
24 on the farm? In other words, by the lagoon there

1 are odors, are there not, before your system was
2 installed?

3 A I believe, yes.

4 Q And did you go into town to see if there
5 were offensive odors in town, in Kinderhook?

6 A I really didn't spend an awful lot of
7 time in town studying it because, obviously, it was
8 pretty much cut and dried. By the time we got
9 involved, by the Pollution Control Board, that, I
10 guess, they had already determined that there were,
11 in fact, odors.

12 Q Then after this system was installed in
13 April of 1997, how many times have you been back to
14 the Orrs' facility?

15 A I have been back here approximately four
16 times, I believe.

17 Q Do you know about when you were back
18 here?

19 A Honestly, I don't. I don't have the
20 dates. I would say approximately every month, once
21 a month, every six weeks maybe, ballpark.

22 Q Then, would you be out there in the
23 daytime?

24 A More -- yes, yes.

1 MR. COOPER: I have no further
2 questions. Thank you.

3 HEARING OFFICER WALLACE: Any redirect?

4 REDIRECT EXAMINATION

5 BY MR. LEWIS:

6 Q The times that you were at the Orr farm,
7 did the odor seem to be totally under control?

8 A They seemed to be yes, sir. In fact, in
9 the daytime when we were at the farm, I know we did
10 go down town and we did, in fact, catch a hint of
11 the Ecolo fragrance as opposed to the hog odors.

12 Q Is that offensive at all?

13 A I guess if Dial soap is offensive to you,
14 yes, it would be offensive, but to me it is not.

15 MR. LEWIS: I have nothing further.

16 MR. COOPER: Nothing further.

17 HEARING OFFICER WALLACE: Just a minute,
18 Mr. Gessner.

19 THE WITNESS: Oh, okay.

20 EXAMINATION

21 BY HEARING OFFICER WALLACE:

22 Q Would you spell your last name, for the
23 record?

24 A It is G-E-S-S-N-E-R.

1 Q Thank you. Mr. Gessner, is your Ecolo
2 proprietary?

3 A Yes, sir, it is.

4 Q Is it -- have you run studies on it in
5 other areas?

6 A Oh, absolutely. Like I said, it has been
7 in use worldwide. In fact, most recently tests
8 were done in Hong Kong on hog odors.

9 Q Well, just a minute. How long has it
10 been in service?

11 A Ecolo?

12 Q Yes.

13 A The company has been in existence for
14 over 20 years.

15 Q Has this chemical been used for over 20
16 years?

17 A See, there are -- well, actually, there
18 is several different solutions involved with
19 Ecolo. I am going to say that most of them have
20 been available for most of that time, yes.

21 Q All right. But the chemical makeup of
22 Ecolo is proprietary?

23 A Yes, sir, but I can say that it is a
24 natural blend of essential oils and plant

1 extracts.

2 Q Does it have approval from any regulatory
3 body?

4 A The Canadian whatever. I don't recall.

5 Q Okay.

6 A I believe it is the Canadian equivalent
7 to the Food & Drug Administration. It does have
8 approval from them.

9 We have not gone to the FDA or the USDA
10 in the states because of the cost involved, and
11 because of a letter that was received by Ecolo back
12 in the -- I am going to say it was the mid 1980s,
13 that unless it was directly applied to food stuffs
14 that they did not have a problem with it. And the
15 usage of this is not such that it would normally be
16 directly applied to food stuffs.

17 Q I think you started to answer, but not
18 necessarily in Hong Kong, but has there been any
19 U.S. or Canadian studies by independent sources, be
20 it universities or farm research?

21 A Yes, there have been. Yes, there have
22 been. Unfortunately, I don't have the immediate
23 results right now. There have also been
24 independent lab studies regarding eye irritation,

1 skin irritation, oral ingestion, and acute
2 inhalation; and all of those tests have proved
3 negative.

4 Q Well, have any of the tests -- what have
5 the tests -- okay. That's the test on the product
6 itself?

7 A The safety.

8 HEARING OFFICER WALLACE: Okay. Anything
9 else?

10 MR. COOPER: Nothing.

11 MR. LEWIS: Nothing further.

12 HEARING OFFICER WALLACE: Okay. Now you
13 may step down.

14 THE WITNESS: Okay.

15 HEARING OFFICER WALLACE: Thank you.

16 (The witness left the stand.)

17 HEARING OFFICER WALLACE: The next
18 witness.

19 MR. LEWIS: Dr. Bundy.

20 HEARING OFFICER WALLACE: Please take the
21 witness stand, Dr. Bundy.

22 (Whereupon the witness was

23 sworn by the Hearing Officer.)

24 HEARING OFFICER WALLACE: Thank you. You

1 may proceed.

2 D W A I N E B U N D Y,
3 having been first duly sworn by the Hearing
4 Officer, saith as follows:

5 DIRECT EXAMINATION

6 BY MR. LEWIS:

7 Q Doctor, would you state your full name.

8 A Dwaine Bundy.

9 Q And where do you live?

10 A In Ames, Iowa.

11 Q How old are you?

12 A I am 54.

13 Q Now, actually, your curriculum vitae is
14 attached to the study that is now introduced into
15 evidence as Respondent's Exhibit 1A.

16 A Yes, okay.

17 Q I do want to go into your qualifications
18 rather generally and rather quickly. Where did you
19 go to college?

20 A I received a junior college degree from
21 Kaskaskia College in Centralia, Illinois. I
22 received --

23 Q What did you take there?

24 A Pre-engineering. I received a Bachelor

1 of Science in math education and physics minor at
2 Eastern Illinois University in education. I
3 received a Bachelor's Degree in agricultural
4 engineering at the University of Missouri, and a
5 Master's Degree in agricultural engineering from
6 the University of Missouri, and a Ph.D. in
7 agricultural engineering from Iowa State
8 University.

9 Q When did you receive your Ph.D.?

10 A In 1974.

11 Q And is engineering, generally, a part of
12 this field of odor control?

13 A Yes, it can be, and, in fact, in the
14 agricultural engineering area indoor and outdoor
15 air quality, as it relates to livestock production,
16 is a major area in the agricultural engineering
17 field, and that's the one that I work in.

18 Q Have you been involved in this area of
19 livestock odor matters?

20 A Yes, I have.

21 Q And tell us how. In what manner have you
22 been involved?

23 A In the area of research, in the area of
24 building design, and in the area of environmental

1 assessment and abatement and in litigation.

2 Q Has that research been at the Iowa State
3 University?

4 A Yes, it has.

5 Q And have you written papers involving
6 outdoor air quality relating to livestock
7 production?

8 A Yes, I have.

9 Q And how many?

10 A I am not for sure. Probably as many as
11 15, maybe 20, or more.

12 Q Are you presently involved in the matter
13 of outdoor air quality relating to livestock
14 production?

15 A Yes, I am.

16 Q What do you do in that area now?

17 A In that particular area of my research
18 portion of it, I have several grants, probably half
19 a million dollars worth, at the present time over
20 this particular year period, and I look at odor
21 reduction techniques and odor measurement. The
22 odor reduction techniques we are looking at for
23 slurry basins doing work with low cost covers.

24 We are looking at additives for odor

1 control, for product evaluation and testing,
2 developing a prediction model, which we have two
3 versions of a prediction model completed that we
4 use for evaluating the -- assessing the
5 effectiveness of the -- or what effect livestock
6 facilities have on locations downwind.

7 We are working in the area of -- we are
8 doing a project with Purdue at the present time,
9 looking at some feed additives from the group of
10 Purdue from the animal science department in terms
11 of their doing feed additives, and we are doing
12 odor evaluations. That project is just now getting
13 started.

14 We are working with North Carolina, Duke
15 University, with a group there in some odor
16 measurement. So those are pretty well as relates
17 to the outdoor air quality type work. Oh, yes, we
18 have done some surface aeration on aerobic lagoon
19 studies. That's some of them, anyway.

20 Q What is your present job title?

21 A I am a Professor in the Agricultural
22 Engineering Department at Iowa State University.
23 Three-fourths of the time appointment is in
24 research and a quarter time is in teaching and then

1 probably part of that teaching time and research
2 time, even though I don't have an appointment,
3 probably 25 percent of my time is spent in working
4 with producer groups.

5 Q So a part of your job actually involves
6 working with producer groups throughout the area?

7 A Yes, it does.

8 Q How wide of an area are the producer
9 groups involved?

10 A Well, the producer groups that we are
11 most responsible for, being from Iowa, is the ones
12 in Iowa. A lot of our research, however, that we
13 work with from the university system is right now
14 we are involved in a 12 state consortium looking at
15 odors reduction. That is just now -- the group is
16 just sort of now getting formulated. The Southern
17 Region Waste Management Group, I have been involved
18 with them for several years which is a university
19 extension and research group. Then, I do
20 consulting nationally and internationally.

21 Q With respect to your consulting work, is
22 that on a private basis?

23 A That is on a private basis, yes.

24 Q You have the authority to do that in

1 connection with your appointment?

2 A Yes, we have -- there is two avenues that
3 we are given. We are given so many days per month
4 that we can be off and do consulting, and also
5 during vacation days that we can do consulting. So
6 basically, I use my vacation days to do consulting.

7 Q The types of operations that you do your
8 private consulting on, what would they be?

9 A In terms of the air quality area, most of
10 those are swine facilities. They range anywhere
11 from fairly small units, maybe as few as 15 to 30
12 sow units clear up to, oh, 10,000 to 20,000 pigs on
13 a site, maybe 25,000 pigs on a site.

14 Q You are acquainted with the M'Orr Pork,
15 Inc. operation?

16 A Yes, I am.

17 Q How does that compare? Is that a small
18 or large operation?

19 A Well, there is never really any answer to
20 what is small and what is large. But as today's
21 standards, in terms of the numbers of units going
22 in, it would be more on the small side.

23 Q You said that you consult nationally and
24 internationally. Does a part of your consulting

1 work and research work involve foreign countries?

2 A Yes. Most of my international -- I do
3 some consulting internationally, but most of my
4 international is related to my university
5 activities, working with other researchers and also
6 reporting results that we have gotten at Iowa
7 State.

8 Q And, in fact, are you leaving soon for
9 Europe?

10 A Yes, we will be leaving on Thursday to go
11 to the Netherlands for 10 to 12 days, yes.

12 Q And what do you do in the Netherlands?

13 A There is an Ammonia and Odor
14 International Conference, and the work that myself
15 and my group that works for me, we are presenting
16 four papers at that conference.

17 Q Are those papers related to the same
18 subject we have now?

19 A Yes, all of those are related to the
20 measurement of odors, covering of odors, prediction
21 modeling, and in that area, yes.

22 Q Now, you are acquainted with the Orr
23 farm?

24 A Yes, I am.

1 Q And how many times have you been there?

2 A I believe I have been there five times.

3 Q And how recently?

4 A Well, this morning I was there taking
5 some measurements.

6 Q Did you actually take measurements this
7 morning?

8 A Yes, I did.

9 Q Have you, on each of those occasions,
10 observed the progress being made by the Orr
11 brothers with respect to this operation?

12 A Yes, there is basically, I think, two
13 ways of doing this, because one way is that the
14 things that we have listed, addressed, discussed,
15 that those are continually being managed in the way
16 that the discussion intended to. That's one major
17 item.

18 The next is, I have, on every occasion of
19 being there, I have observed -- used my scentometer
20 to measure odor threshold levels, and just
21 recently, within the last two or three weeks, I
22 purchased a new machine to measure hydrogen sulfide
23 down to that level that you can find downwind from
24 hydrogen sulfide producing areas.

1 Q Okay. What have been the results of your
2 studies prior to this morning?

3 A On my particular four visits prior to
4 today, the wind was blowing from the north one
5 time. There was basically calm conditions one
6 time. And I believe twice the wind was blowing
7 from the west at the times I was there.

8 So I went on the street -- let me see. I
9 am trying to recall the street. I have got it in
10 my report here. Yes, I do have it on my report.
11 It is 2045 North. Is that a street right to the --
12 that's the way I have it listed here where Ellison
13 and Wells lives, on that particular street. I went
14 to the east and west on that street whenever the
15 wind was blowing from the north, as well as the
16 other times.

17 Q What page is that on of your study?

18 A It is not -- the pages are not numbered,
19 but it is Figure 1.

20 Q All right. And what kind of a study did
21 you conduct on those occasions?

22 A On those particular occasions, I would --
23 typically, the way that I do on this type of a
24 thing, I will drive with my window down on the

1 driver's side, going where that particular site is
2 on the -- in the direction facing the livestock
3 confinement facility, if I am looking at odors from
4 that, driving very slow. I am also measuring my
5 odometer to distances of where on that particular
6 street, starting at 00 at a point and continuing to
7 drive very slowly and sniffing to see if I smell
8 any odors at all.

9 If I smell an odor, I will get out of my
10 car, take my scentometer, and pull air through my
11 scentometer; that is, diluted, charcoal-filtered
12 air, with a portion of odorous air, and determine
13 at what level that I can detect an odor through
14 that particular source.

15 So if I observe no odor, the scentometer
16 will not do any good because that's the dilution
17 process. So this not being -- so it would be below
18 the -- well, it would be below my human threshold
19 to observe that particular odor.

20 Q Now, what did you find on those
21 occasions?

22 A Okay. One particular time on that
23 particular road, I detected a very slight odor that
24 was present. It was a swine odor. It was less

1 than a dilution of one to two. In other words,
2 what an odor threshold of two is, if you take two
3 parts of fresh air -- let's just visualize that if
4 you had two, one quart jars of fresh air and you a
5 set a third jar down at that particular site that I
6 observed and let air mix in there of that
7 particular odor, if I mix those three containers
8 together and sniff, if I could just barely detect
9 that odor at that point that would be a threshold
10 of two.

11 In the Houston, Dallas, Sioux City, and
12 many of the areas that use odor evaluation, they
13 use scentometry, classifies a nuisance odor at a
14 seven threshold. In other words, it takes seven
15 parts of fresh air to mix with one part where you
16 can barely detect it. So one to two would be much
17 lower than that which is not considered an
18 objectionable odor.

19 Now, the nuisance odors, those cities
20 that I mentioned, also in Germany, they look at
21 that seven to one dilution, and that should not be
22 greater than 2 percent of the time that you would
23 observe an odor of that strength which is
24 considered a nuisance strength. Their regulation

1 does not say that you should never observe a
2 nuisance odor. It says that there is a limit to
3 what we feel, and when I say "we," the regulatory
4 people in those particular areas assume that enough
5 is enough. So that is the reason for doing that.

6 Then the other times I took the
7 measurements was on the -- the wind was from the
8 west. I observed a one at 300 feet.

9 Q At what?

10 A A category one which was a one to two
11 dilution, except this morning. This morning it was
12 below a one to two dilution. The wind was from the
13 west, and it was below a one to two. I could smell
14 the odor. I also took hydrogen sulfide readings,
15 and I could barely detect it at that point.

16 Q Okay. Now, I am probably more dense than
17 most in the room, but I want to go over this
18 dilution analogy that you made that if you had two
19 quart jars of air, fresh air, and a quart jar of
20 the air from the facility, and you mix those, and
21 you could barely detect an odor, that would be a
22 two to one?

23 A A two to one dilution, yes.

24 Q But if you took more jars of fresh air

1 and mixed it with this air, and you then explain
2 why, if there is more fresh air with the less air
3 and you still smell it, then it would be a stronger
4 odor count; is that right?

5 A Yes. It would just be like if you took a
6 container of ammonia, you take the lid off, and as
7 that volatilizes out, you might be able to smell it
8 in the back of the room. So it would be the
9 stronger type of an odor, yes.

10 Q So the more air that you put in and then
11 you still have an odor that would be a stronger
12 odor than the less air to get the odor?

13 A That would be correct. That's the same
14 principle as we look at dilution. Air mixing, the
15 more air mixing, you get the less odors that you
16 have.

17 Q Now, you have heard Mr. Orr testify as to
18 what he has done to abate odors? You have heard
19 him testify?

20 A Yes, I have.

21 Q Of course, you have been on the farm. I
22 want to go through those. Have you witnessed and
23 seen these odor abatement procedures that he has
24 put into operation?

1 A Yes, I have.

2 Q And have you seen their results, and have
3 you experienced their result, to the best of your
4 ability?

5 A Yes, to the best of my ability, depending
6 on the time I was there, the weather conditions,
7 and et cetera, yes.

8 Q Well, first of all, let's go into the
9 Austrees. Is that a recommended procedure?

10 A Yes. The Austree is a tree that at full
11 height will -- and I have not seen too many at full
12 height because basically it is -- I have seen them
13 over here in Springfield, Illinois, that have been
14 in eight or nine years. Most of them have only
15 been in three or four years. The ones I have seen,
16 that are eight or nine years, are about 35 feet
17 tall.

18 But from the literature and what we are
19 told, they will grow to 40 to 50 feet in 10 to 12
20 years. The first year or two it takes -- some of
21 the ones that have I seen, as well as at the Orrs,
22 depending on how wet a summer it is and so forth, I
23 have seen them grow as much as 8 to 10 feet in one
24 year. They grow rather -- they don't branch out

1 real far out, but they grow taller and that's the
2 reason of the spacing of about five feet, and then
3 they start filling in at that point.

4 Then, the recommendation is to just plant
5 some smaller trees that are a little bit slower
6 growing. But the Austrees, even though they are
7 fast growing, are said to be very sturdy. It is a
8 tree out of Australia, originally. Even though it
9 is a fast growing tree, it is a very strong tree
10 compared to what you think in fast growing trees,
11 notwithstanding wind very much, but they are said
12 to withstand wind quite well.

13 Q What is the purpose of the Austrees?

14 A Well, basically, there is a couple of
15 purposes. One is it enhances mixing, a vertical
16 mixing.

17 Q A mixing of what?

18 A Of air, of the odorous air with
19 nonodorous air or less odorous air, whichever,
20 mixing air. And also trying to get it to as you
21 mix, mix with the upper atmosphere. And when I say
22 the upper atmosphere, that is above your nose on up
23 to higher levels.

24 Then the second thing is to reduce -- to

1 absorb odors, the leaves. And the third is to
2 block particulates, which is understood to -- and
3 our research definitely shows -- absorbs odors.

4 Q So it not only helps with the mixing of
5 the air, but it does some absorption itself, the
6 odors?

7 A Yes, I believe it is. There is not a lot
8 of studies out on this, but the few studies that
9 are out would indicate that there is some
10 absorption taking place.

11 Q Now, along with that, did you also
12 recommend planting corn?

13 A Yes, vegetation. We have -- I have taken
14 several, and by now, thousands days of data
15 downwind of livestock units, at least 500
16 personally, and there is definitely a reduction of
17 odor with vegetation, and the taller -- corn being
18 taller than soybeans, it is -- we have found it
19 helps reduce odors that way.

20 Q Did you see that corn practice in
21 operation?

22 A Yes, I did.

23 Q And is that in the right location?

24 A Yes.

1 Q And the right amount, et cetera?

2 A It is in the right amount, the right
3 location, and it is the complete field.

4 Q Now, have you seen the atomizers?

5 A Yes, I have.

6 Q And, first of all, with respect to the
7 confined building itself, did you see filters --
8 that air from the confined feeding building being
9 filtered by filters?

10 A Yes, from the outside filters on the
11 outside of the pit fans.

12 Q Do you recommend that?

13 A We don't -- I have not seen that used a
14 lot, but it is working. It will absorb the dust
15 particles, and I think that's a good practice, yes.

16 Q Now, why -- you say it absorbs the dust
17 particles. Why is that important?

18 A The research, the university research
19 shows that 60 to 70 percent of the odors in
20 livestock buildings that are -- by taking the dust
21 out that you reduce the odors by 60, 65, 70
22 percent. And by taking the odorous dust out before
23 it moves on downwind, it reduces the amount of odor
24 that has to be diluted by the air.

1 Q Now, does the odor somehow attach to the
2 dust particle? What is the mechanization of that?

3 A Yes, odors become attached to the dust
4 particles, and the odor that -- building odor, that
5 you will observe is a distinct different odor from
6 maybe outside manure storage, in that it will have
7 a -- I sort of describe it as a musty feed type
8 odor. But that -- the dust particles is what the
9 ammonia and hydrogen sulfide and other phenols
10 absorbs to.

11 You can definitely tell that when you go
12 in a building and out of a building and just smell
13 your clothes, and it will stay on your clothes
14 awhile. That's different than compared to when I
15 can walk around a slurry basin or a lagoon downwind
16 from that, and those same absorption
17 characteristics, even though they may be some of
18 the same gases, they don't absorb to your clothes.
19 So it is very well documented.

20 Q So that is a good practice, and you want
21 to see that continued?

22 A Yes, I want to continue seeing filtration
23 of the areas.

24 Q There is testimony that in addition to

1 the filters that there is an atomization liquid
2 going into the filter to moisten the filter and
3 also Ecolo as a part of that atomization. Does the
4 moisture help in increasing the efficiency of the
5 filter?

6 A Yes, it would.

7 Q Do you recommend that the moisturization
8 continue?

9 A Yes, I would.

10 Q You have testified that you have done
11 considerable work in feed additives. Is there
12 research that additives in the feed enhance and
13 will actually moderate the odors?

14 A Yes, we have personally tested only three
15 or four different feed additives as it relates to
16 feeding swine. I have seen over 100 reports that
17 Microaid has done at different universities over
18 the last eight to ten years as relates to ammonia
19 reduction. And most of those studies at Texas A&M
20 and I believe Northern Illinois University, as well
21 as many others, has shown as much as 70 percent
22 ammonia reduction from using Microaid.

23 Q I understand that there is -- in addition
24 to ammonia that there is hydrogen sulfide. Those

1 are two separate entities, or are they together?

2 A No, hydrogen sulfide is separate from
3 ammonia. And whenever you develop a product to
4 treat ammonia compared to hydrogen sulfide, they
5 sort of lay on different spectrums. When you mix
6 your additives, because the same one item -- the
7 ammonia, as you raise the pH in a manure, there
8 will be more ammonia given off. So you want to
9 reduce the pH, make it a little bit more acid from
10 that. Hydrogen sulfide is just the reverse. So
11 many times whenever you raise the ammonia -- reduce
12 the ammonia level, you may not affect the hydrogen
13 sulfide. And that is what we found out in the
14 study that we were doing this last year in Indiana
15 and Illinois with the company. So we had to -- the
16 company formulated, and we were able to pull both
17 of them down. But it is a different formula.

18 Q This Microaid is a formulation that does
19 that work?

20 A I know that they say it does on hydrogen
21 sulfide. Most of the research studies show from
22 ammonia, but they do have a few studies that, as I
23 said, it affects ammonia and hydrogen sulfide in my
24 report. Most of their studies are on ammonia, but

1 they do have some on hydrogen sulfide.

2 Q So you recommend the addition of Microaid
3 as a feed additive?

4 A Yes, I can recommend that as a feed
5 additive. It will reduce the ammonia level in the
6 building.

7 Q And you understand that is what they are
8 doing?

9 A That's my understanding, yes.

10 Q Now, insofar as oil in the feed, is that
11 an additive that can be helpful?

12 A Yes. Oils in feeds -- we did a research
13 project using soybean oil less than -- that was
14 about five or six years ago, maybe eight at this
15 point, looking at ground feed, looking at the
16 reduction of dust as you fill feeders, and we could
17 reduce our dust by about 50 percent. The
18 University of Nebraska did a study using fats and
19 could get a very similar result using fats as well
20 as oils. So that is a recommended practice for
21 reducing dust in the atmosphere of buildings.

22 Q I think the testimony of Mr. Orr was it
23 was a vegetable oil, a soybean oil with vegetable
24 oil?

1 A Yes.

2 Q And you recommend and you understand that
3 they are doing that?

4 A That's my understanding, yes.

5 Q And you recommend that that is a good
6 procedure?

7 A Yes, I do.

8 Q And I think you have already told us, but
9 reducing, again, the dust of about 50 percent, this
10 would be reducing the dust by 50 percent before it
11 goes into the filter, wouldn't it?

12 A That would be reducing it in the
13 atmosphere of the building, and then the filter
14 takes the other 50 percent or so and starts
15 reducing from that. So it is reducing from that
16 point, but they are not both added. The 50 percent
17 here and the 50 percent here doesn't make 100
18 percent.

19 Q I understand.

20 A It is reducing.

21 Q It is a 50 percent reduction of the total
22 within the building, and then we get another 50
23 percent --

24 A Yes, 50 percent of that part, that is

1 correct.

2 Q And the dust phenomena is the same that
3 by reducing the dust we reduce the odors?

4 A That is correct.

5 Q I believe that when you were there, you
6 noted maybe that the outlet of the lagoon was above
7 the surface of the lagoon. Did you make a
8 recommendation that it be below the surface?

9 A No. In fact, that had already been taken
10 care of. I did inquire on the timing, because from
11 the time that -- I asked questions concerning the
12 time that the unit was put up in, I believe, in
13 1994, what things had been changed from 1994 to the
14 present. And I was told that was done, I believe,
15 in 1996, to take that spout and to put it down into
16 the liquid where there would not be splattering of
17 manure coming out on top of that surface. So that
18 had already been implemented, and a practice that,
19 in my opinion, is essential as a good management
20 practice.

21 Q With respect to the lagoon itself, of
22 adding fresh water to the lagoon, what effect does
23 that have?

24 A Okay. Fresh water added to the lagoon --

1 an anaerobic lagoon, which this was designed as
2 being an anaerobic lagoon.

3 Q Now, explain what an anaerobic lagoon is?

4 A An anaerobic lagoon, basically, is a
5 treatment system with the absence of air, of
6 oxygen. Now, however, in any anaerobic lagoon, an
7 uncovered anaerobic lagoon, which most are, you
8 always have that top layer that is in contact with
9 the air that it is aerobic to a minimal degree.
10 Then, you have in the center portion a little bit
11 of air sort of mixing in there and the bug
12 population to treat the manure to reduce the
13 biological oxygen demand. The oxygen is the next
14 layer. The bottom layer, then, is truly an
15 anaerobic lagoon. Under that condition we do
16 describe those as anaerobic lagoons.

17 If you have too much -- in an anaerobic
18 lagoon, in the startup phase, you need to dilute
19 the manure in order for the anaerobic digestion to
20 take place and to be able to 100 percent -- or not
21 100 percent, but to utilize the digestion process
22 that will reduce odors. Now, under good operation
23 conditions, you would like to have that top surface
24 become pink.

1 Q Become what?

2 A Become a pink color. Whenever it becomes
3 pink, the odors reduce drastically, and it becomes
4 a well-working anaerobic system. It takes two to
5 three years for this to happen. Sometimes it may
6 never happen for some reason, not well understood.
7 But you would like to see that pink condition
8 start. We have found that by keeping the electric
9 conductivity down below 5,000 that we have the best
10 result of anaerobic lagoons operating. And we did
11 take that measurement this spring.

12 Q And what was it?

13 A It was about 7,600, so we wanted more
14 dilution water to go in to cut the salts down to
15 dilute it further to get it down. And then we --
16 our protocol is that twice a year we take a liquid
17 sample and test it to make sure that electric
18 conductivity stays down to the 5,000 or below.

19 Q So the watering of the lagoon or adding
20 water was a recommended practice?

21 A I recommended that practice to reduce the
22 salt content in the anaerobic lagoon from 70-some
23 hundred down to below 5,000, and we did a dilution
24 calculation that said we needed about that much

1 water added. Then, after emptying or taking part
2 of the effluent out this fall, to go back and take
3 that again to see if any additional water needs to
4 be added back.

5 Q Now, you have heard the testimony of
6 David Orr about adding the water?

7 A Yes, I have.

8 Q And was the water adding a procedure that
9 was -- that you recommended?

10 A Yes, it was.

11 Q And the amount was proper?

12 A Yes, it was.

13 Q And is the lagoon now maturing?

14 A It is maturing. I have seen a small
15 amount of pinkness start to coming onto that
16 lagoon.

17 Q That indicated it was doing what you
18 wanted?

19 A That is an indication as well as the
20 hydrogen sulfide readings I took.

21 Q And you recommend that they continue,
22 then, to have that monitored?

23 A That would be correct.

24 Q And how often should that be?

1 A The electric conductivity?

2 Q Yes.

3 A I would do that twice a year. Typically,
4 every couple of years would probably be sufficient,
5 but since there is a larger concern here, I would
6 recommend it more frequently.

7 Q And who does that?

8 A Any laboratory that does wastewater can
9 do it. Well, I shouldn't say that. Several
10 laboratories that do wastewater can do it. It is
11 basically an electric probe that is an attachment
12 to a pH meter. It is fairly inexpensive.

13 Q So from what you have tested and what you
14 have seen personally, it is working well, and you
15 recommend that they continue this conductivity test
16 twice a year?

17 A Yes. I should mention that even at the
18 7,000, I have tested several this past summer at
19 15,000, so to put things in perspective in terms of
20 how much it was. I felt we needed to add more
21 water but it wasn't that -- many new anaerobic
22 lagoons starting up, I have run as high as 12,000
23 to 14,000.

24 Q So this was well within limits even when

1 you tested it?

2 A Well, it is higher than I would like, but
3 it is definitely at the level that you can observe
4 it and see that it is out of balance.

5 Q With respect to the disposition of the
6 effluent from the lagoon, when do we start doing
7 that?

8 A In terms of taking it out of the lagoon?

9 Q Yes.

10 A Well, we are required to have a minimum
11 of 2 foot of freeboard at all times.

12 Q Now, freeboard means what?

13 A The 2 foot of containment area that could
14 hold liquid above any time that you are going to
15 have manure in that storage facility.

16 Q What freeboard do they have now?

17 A It is 4 1/2, 5 foot, I believe, right
18 now.

19 Q So they still have more than ample
20 freeboard before they start taking out?

21 A Yes.

22 Q Okay.

23 A And the requirement is that you never
24 want -- for an anaerobic lagoon, you do not want to

1 pump down into more than about a maximum of 50
2 percent, because you always want to maintain that
3 anaerobic digestion bug population that continues
4 to treat the new manure waste coming in.

5 Q That's basically in the bottom area of
6 the lagoon?

7 A Yes, typically, you would pump off of the
8 upper level.

9 Q You have heard the testimony that when
10 they need to do this that they will inject it?

11 A Yes, I heard at that.

12 Q What is the proper method of keeping down
13 odors and being less offensive for the disposition
14 of the lagoon product?

15 A Well, from an anaerobic lagoon system, I
16 don't -- injection is an added measure for odor
17 control during application. I do not personally
18 believe that -- treated manure from an anaerobic
19 lagoon, it can be irrigated.

20 Q Sprayed?

21 A Sprayed. And I believe that is, for most
22 conditions, that is a very acceptable method. From
23 a slurry basin, that is, a non treatment system,
24 absolutely, I am -- unless you are a very, very

1 long distance from the neighbors, that is a poor
2 practice.

3 Additionally, however, as the Orrs are
4 planning on injection, that is a safety net on top
5 of the -- an additional safety net during the
6 spreading of the manure that will insure reduction
7 of odors. We have done research on comparing
8 surface applications, treated and untreated manure
9 with injection, and we run as much as 95 percent
10 odor reduction of comparing surface -- injection
11 versus surface application, so it is a very good
12 practice to maintain.

13 Q Now, so far as the lots that have sows
14 out on the lots, open lots, and the plan to have
15 those disappear within a year, is that a good
16 practice?

17 A Well, I think under the circumstance it
18 is a good practice for the sows to be moved off
19 site. That is not a pasture system. That is
20 basically a dry lot system. We don't see
21 vegetation in the lot. So there is additional
22 odors generated from a dirt lot under many
23 different weather conditions. In certain weather
24 conditions there is going to be essentially no

1 odors coming off the dirt lot. Other conditions,
2 they are going to be fairly offensive right next to
3 that property or next to the lot, and that is a
4 fairly large surface area as relates to percent of
5 time that air moves across that lot and comes in
6 and moves on into town.

7 Q Now, the testimony of Mr. Orr is that he
8 is committing the corporation to moving these, and
9 having them completely disappear reasonably within
10 12 months. Does that seem to be a reasonable
11 abatement matter that you would like to see?

12 A Yes. That was one of my recommendations,
13 and one of the things I would like to see. If odor
14 is going to carry from a source -- well, maybe I
15 should put it this way. The width of the plume
16 that would go across the open lot and that could
17 target a downwind location, such as in Kinderhook,
18 would be about five times more often than it would
19 be from the slurry or the anaerobic lagoon and the
20 building, and it is closer.

21 Q Okay. Now, Doctor, I believe you told us
22 that you did actually take a reading this morning?

23 A Yes, I did. I took a group of readings
24 this morning on hydrogen sulfide as well as my

1 scentometer.

2 Q Now, would you explain the scentometer?
3 I believe you have it here with you?

4 A Yes, I do.

5 Q Would you just show this to the Hearing
6 Officer?

7 A Yes. Each one of these pieces of
8 equipment is made only by one supplier in the
9 United States. This particular instrument here is
10 what we call a scentometer. It is made by Barnaby
11 & Sutcliff Corporation out of Columbus, Ohio. It
12 is the standard that, as I mentioned before,
13 several cities use for downwind odor evaluation.
14 We have used it -- continuously used this in many
15 locations where we have concerns.

16 If you notice this, there is two layers
17 of black material. Those are charcoal filters.
18 Charcoal filters out the odorous air. It filters
19 out sulfurs and the nitrogens. There on the top
20 and the bottom there is hole that the air that
21 comes in here. It is filtered through that area.
22 These two holes, I believe, are five-eighths in
23 diameter. Then, we have along this front the
24 undiluted air that comes through the unit.

1 So if I, as I do this, go down and detect
2 an odor, okay, and then I start using this
3 particular piece of equipment, closing up all of
4 the holes in the front and pulling in, sucking in
5 through my nose the air to pull enough air through
6 the top and the bottom to take care of this cavity
7 here.

8 Then I start -- I pretty well know what
9 level of odor it is from practice. If I close up
10 all of these holes except the top one and sniff in
11 (indicating) now, if I cannot smell any odor when I
12 do that, that would be an odor between zero and
13 what we call category one, or one to two dilution.
14 I typically call those category one, two, three,
15 four, five, six, and seven, just from a measuring
16 standpoint.

17 Now, if I can smell through this first
18 one, then I close it and start down the next until
19 I can no longer smell it. So if I can smell it
20 through this one and not through this one, it falls
21 between that one and seven categories because this
22 one here, the size of the hole here, will result
23 with this hole open and this hole open, a one to
24 seven dilution. Anything that you can smell

1 through this one (indicating) is categorized as a
2 nuisance odor by many different agencies.

3 Now, they do not -- this particular piece
4 of equipment does not characterize the
5 offensiveness of odors. It characterizes the
6 strength of odor, whether you can detect it or
7 not. Most of the odors are based upon the strength
8 of the odors. So that's how this piece of
9 equipment is used.

10 Q Now, what did you find -- do you have
11 another piece of equipment?

12 A Yes. The other piece of equipment here,
13 and it is becoming more and more -- not
14 necessarily -- well, not this piece of equipment.
15 But hydrogen sulfide, because it can be chemically
16 measured, and this particular piece of equipment
17 does not measure it chemically. It is electro --
18 there is a gold leaf, and it measures the
19 electrical amperage across the leaf. And that
20 tells us the level of hydrogen sulfide in it. But
21 this piece of equipment is made in Arizona. I just
22 received this piece of equipment a couple of weeks
23 ago. Minnesota is pushing on this standard very
24 rapidly. They are applying industrial standards to

1 the livestock units. They are -- so let me get
2 things in sequence for you. The OSHA standards for
3 working in a livestock building on an eight hour
4 day, or any other kind of industrial application
5 where hydrogen sulfide is a major gas, there is a
6 limit of ten parts per million.

7 Q Is that million or billion?

8 A Ten parts per million --

9 Q Okay.

10 A -- of working in for an eight hour work
11 day, the OSHA health standards.

12 Q Okay.

13 A The industrial standards in Minnesota,
14 the Environmental Protection Agency, it is the
15 Minnesota Pollution Agency there, they have for
16 industrial property line values, a maximum of 50
17 parts per billion at the property line, that could
18 be the highway, it could be where your fence line
19 ends and the neighbor's begins, not a residence,
20 but at the property line, of 50 parts per billion
21 which is, what, 500 -- 400 times less than working
22 in it eight hours, if you are downwind from it, of
23 50 parts per billion not to occur more than twice
24 in any seven day period and continuing constantly

1 for any 30 minute time period. And at a 30 parts
2 per billion at the property line to occur no more
3 than twice for a 30 minute period in any one year.
4 So that sort of gives some of the numbers.

5 This particular piece of equipment here
6 will measure from one part per billion up to 50
7 parts per million. So we took readings this
8 morning. I took them at two different locations.
9 I took one group of them at the property line.

10 Q Which property line?

11 A Okay. This would be the road to the
12 east. The wind was blowing from the west. I was
13 in the middle of the plume. Yes, I could smell an
14 odor at that point. I measured, and I got an
15 average value of several readings of two parts per
16 billion. That was at about 300 feet downwind.

17 I also went up on the lagoon bank, and
18 the readings I got right at the lagoon bank was 16
19 parts per billion and 15 parts per billion. So I
20 consistently got a reading which, again, even on
21 that bank was very low.

22 Q Now, where were you on the bank? Were
23 you downwind or upwind?

24 A I was downwind.

1 Q Which side of the lagoon would that then
2 be?

3 A On the east side of the lagoon.

4 Q And the wind coming from the west?

5 A The wind coming from the west. I have
6 also measured a lot of -- in fact, just this
7 weekend, some situations where we have had some
8 higher hydrogen sulfide levels, much higher, from
9 different kinds of operations. And I went on the
10 upwind side of the lagoon, and I was down at ten
11 parts per million on the downwind side. I was --

12 Q That was ten parts per million?

13 A Per million, right. On the different
14 situation.

15 Q Not in this situation?

16 A Not on this.

17 Q Okay.

18 A On the other side I was only at -- I had
19 a different treatment system upwind and I was at
20 one to two parts per billion. What I am saying is
21 that the only place you are going to have gaseous
22 movement is downwind. They are not going to go
23 upstream. There is no energy -- there is no energy
24 there that drives gases in the opposite direction

1 of the wind unless there is no wind.

2 The plume, if you have, let's say, 150
3 feet odor source, that when you go downwind from
4 this and you measure crossways, perpendicular to
5 that, that odor source is not going to be much
6 wider than just that generation -- the width of
7 that generation source. So we have a plume
8 developed in that particular area.

9 Q So with respect to that reading, did that
10 confirm, at least at this point, that the odor
11 abatement is working?

12 A It tells me that the odor abatement is
13 working. It tells me that the lagoon is operating
14 properly, because at this particular time the -- we
15 had no other treatment on this at this moment than
16 in the direction I was taking the reading than just
17 what was coming off the surface of that lagoon.

18 Q And the other test, did you complete what
19 your findings were when you used that other one?

20 A Yes, at the 300 feet I was less than a
21 dilution of two. So I was down in the range of not
22 being offensive odor at the 300 feet this morning.

23 Q And that's towards the end where there is
24 no offensive odor at all?

1 A Yes, that's in that end, yes.

2 Q And does that also confirm that the
3 abatement procedures were efficient and working?

4 A That's the -- I believe that the
5 abatement procedures that is in place is working,
6 yes.

7 Q So far as the atomizers, you understood
8 the testimony of both witnesses concerning the
9 number of nozzles that have been erected?

10 A Yes.

11 Q Both on the lagoon, the side of the
12 lagoon, and the side of the building, and that
13 those are emitting Ecolo?

14 A Yes.

15 Q And, in your opinion, is that an
16 effective practice and should be at least continued
17 for the time being?

18 A That is an effective practice. In my
19 opinion, the most effectiveness of that is this 1
20 percent of the time that -- we looked at Quincy
21 weather data for about an eight-month period plus
22 ten year weather data for this particular area that
23 I have looked at. That 1 percent of the time you
24 have calm conditions, less than one mile per hour

1 wind, and the -- I was there one time during this
2 kind of condition. The Ecolo was surrounding the
3 lagoon. It was -- because when you have no wind
4 you have no forces pushing it one way or the
5 other. I was observing at the road at 300 feet and
6 I was observing the Ecolo, and no odor from the
7 lagoon at that point.

8 Q So far as this machine, is that a
9 relatively new product?

10 A It has been out on the market two or
11 three years. Several years. I shouldn't say two
12 or three years. It has been out on the market --
13 the hydrogen sulfide machine here?

14 Q Yes.

15 A It has been out on the market several
16 years. It is a fairly expensive item.

17 Q How expensive?

18 A About \$10,000.00.

19 Q And you have the right to utilize this
20 from the university?

21 A Yes, I lease it from the university. I
22 purchased this with funding on my research products
23 and I lease it from the university when I use it.

24 Q You are acquainted with Ted Funk who

1 testified previously in this matter?

2 A Yes, I know Ted Funk.

3 Q The test that he made, is this even a
4 more sophisticated testing than what he utilized?

5 A My understanding is he used a Drager tube
6 approach which is an instrument that costs about
7 \$100.00. We use that quite often, but it will not
8 get down into the parts per billion range.

9 Q What he used was a readily acceptable
10 device for measuring when you measure?

11 A Right.

12 Q But this is more -- this gets down to a
13 lower degree?

14 A Yes, it is a very acceptable one. And we
15 use it more in buildings to see what kind of level
16 it is because we are usually talking about higher
17 hydrogen sulfide levels in buildings than in
18 diluted air.

19 MR. LEWIS: May I have just a minute?

20 HEARING OFFICER WALLACE: Yes.

21 Q (By Mr. Lewis) To your knowledge, has the
22 management, from the times you have been there, the
23 management of these abatement procedures, has it
24 been high management?

1 A Yes, it has been good management. I have
2 been in the facilities one of the trips I have been
3 here and I have been on the outside and around the
4 lagoon looking at the Ecolo set up and the general
5 maintenance of the system. There was no additional
6 outside feed spillage, nothing of this sort. It
7 looks like it is being managed well.

8 Q You had an opportunity to judge this in
9 comparison with numerous others that you visit?

10 A Yes, I have visited a lot of different
11 ones, and it is operated very well.

12 Q I think one thing that I didn't mention
13 is the open lots, and the recommendation was that
14 they be scraped, the manure from those lots be
15 scraped regularly?

16 A Well, it is going to be a little
17 difficult to scrape. Up around the building can be
18 scraped on a more frequent basis if there is a
19 concrete area up in that area. But just scraping
20 the dirt lots themselves, it is a little difficult
21 to do too much except just to make sure that they
22 are maintained and no big mud holes type thing. I
23 think that is what you are trying to stay away from
24 in a major area there.

1 Q Mr. Orr testified as to what they were
2 doing on those lots?

3 A Yes.

4 Q From your sighting and seeing, did that
5 appear to be good management?

6 A Yes, it did.

7 Q They were abating odors that might have
8 been there had they not kept the lots clean?

9 A That would be correct.

10 MR. LEWIS: I have nothing further.

11 HEARING OFFICER WALLACE: Let's take a
12 five minute break before you begin cross.

13 (Whereupon a short recess was
14 taken.)

15 HEARING OFFICER WALLACE: Back on the
16 record.

17 Mr. Cooper, cross-examination?

18 MR. COOPER: Yes.

19 CROSS EXAMINATION

20 BY MR. COOPER:

21 Q Dr. Bundy, if the sows were out in the
22 open before the hog confinement building and the
23 lagoon were erected, and odors were not offensive
24 before the building and the lagoon came, then one

1 reasonable inference you would draw from that is
2 that either the confinement building or the lagoon
3 or both is causing the offensive odors? Is that a
4 fair statement?

5 A Sir, I would not make that one based upon
6 my experience.

7 Q Well, I mean, if the evidence shows that
8 the odors were not offensive when the hogs were out
9 in the lot, but the odors became offensive after
10 the building went up and after the lagoon was
11 installed, then a reasonable inference to draw from
12 what I have told you would be that the odors are
13 coming from the lagoon or the building or both;
14 isn't that true?

15 MR. LEWIS: I object because this hearing
16 is totally limited to the area of abatement
17 procedures. That has nothing to do with abatement
18 procedures. I object on that basis.

19 Then, secondly, you are asking something
20 that is not in the realm of -- it is beyond the
21 area of the direct. I didn't ask him to make any
22 assumptions about the relationship between the open
23 area and the confinement facility.

24 MR. COOPER: My response is that we are

1 talking about what is feasible, and it has been
2 represented that one thing that would be feasible
3 would be to take the sows away, and that this would
4 in some way reduce the odors.

5 HEARING OFFICER WALLACE: The objection
6 is overruled.

7 Answer the question, please, Dr. Bundy.

8 THE WITNESS: If I could answer the
9 question, hopefully I am answering direct enough.
10 If not, please correct me.

11 In a situation where we had a new swine
12 confinement facility being built at Iowa State
13 University, a neighbor sued us that had an open lot
14 on his property. The neighbor was directly to the
15 east of us. Calendars were kept of whenever the
16 odors occurred. We, at Iowa State, we had every
17 three minute weather data, and two-thirds of the
18 times that the calendar was marked the wind was
19 exactly in the opposite direction from our unit.
20 The plaintiff said I can tell a difference between
21 a slurry basin and open lots. The calendar showed
22 that that was not the case.

23 So my answer to that is, really was it
24 the open lot after that that was part of the

1 offensiveness or was it only the anaerobic lagoon.
2 I don't know. But I am not sure I am answering
3 your question. But what I am saying is I don't
4 personally have enough information to be able to
5 answer you directly.

6 Q (By Mr. Cooper) Okay. So you don't have
7 enough information to say that removal of the sows
8 would reduce the odors?

9 A I have got enough information saying that
10 there is odors generated from open lots that can be
11 much stronger than from a confinement system. So,
12 therefore, there will be less odors generated from
13 the Orr site, by a considerable amount, by reducing
14 or eliminating that sow unit.

15 Q You were not there before the lagoon and
16 the confinement building were erected, correct?

17 A No, but there was pigs there on that open
18 lot.

19 Q If the pigs did not create offensive
20 odors when they were on the open lot, then a
21 reasonable inference would be that whatever was put
22 up after the pigs were on the open lot caused the
23 offensive odors, would it not?

24 MR. LEWIS: Your Honor, that is too

1 broad. What are offensive odors? Offensive odors
2 where, to whom, and the -- it is an improper
3 question from the standpoint that the aspects --
4 all the aspects are not included in it. It would
5 be impossible for him to answer just that
6 question.

7 MR. LEWIS: Either the witness
8 understands it or he doesn't.

9 HEARING OFFICER WALLACE: The objection
10 is overruled.

11 THE WITNESS: One of the offensiveness is
12 a time related item, 1 percent of the time that
13 odors are generated. The sow lot and the lagoon
14 and the basin are not in the same line, which if
15 there was an odor being generated at an X distance
16 downwind then that would be -- that could be a
17 multiplying factor which could make things more
18 offensive just from the standpoint of frequency.
19 Does that answer your question, sir?

20 Q (By Mr. Cooper) Dr. Bundy, when you
21 prepared your report you indicated that the -- you
22 took data from the Quincy weather station, correct?

23 A That would be correct.

24 Q The prevailing winds at the Quincy

1 weather station, correct?

2 A I took that plus I also took the ten year
3 weather data for the Quincy area.

4 Q How far is the Quincy weather station
5 from Kinderhook?

6 A About 30 miles.

7 Q You will concede, will you not, that
8 there are various local influences that can impact
9 wind direction in Kinderhook that may not impact
10 wind direction in Quincy?

11 A Definitely. There is things that impact
12 the wind on a minute by minute basis, but in
13 general I think that terrain is fairly -- it is not
14 that far apart and the terrain both being close to
15 the river and et cetera that I could draw the
16 conclusions that I did based upon the weather data
17 location, yes, sir.

18 Q I think what you indicated was that the
19 data for the eight months evaluated, which was 244
20 days, for wind directions, were evaluated at the
21 Quincy station, correct?

22 A I believe that's correct.

23 Q The data showed for the eight months
24 evaluated that the air moving across the sow lot

1 toward the Ellison and Wells houses were about five
2 times more frequent than the air moving across the
3 lagoon or from the swine farrowing building; is
4 that correct?

5 A That's correct, uh-huh.

6 Q Now, you have -- I think you will
7 concede, will you not, that the topography can
8 influence where odors go?

9 A Topography has some influence.

10 Q And I think it would be a fair statement,
11 would it not, that the topography and potential air
12 inversions can affect air drainage and raw odors to
13 move down slope in calm conditions?

14 A Yes, it can.

15 Q I think I am quoting from an article you
16 wrote?

17 A Yes, I believe so.

18 Q Do you recognize that?

19 A Well, I didn't recognize verbatim, but,
20 yes.

21 Q And are you familiar with the relative
22 elevations of the hog operation and the
23 complainants in this case? In other words, isn't
24 it true that the hog confinement facility and the

1 lagoon are at higher elevation than the
2 complainants' houses in Kinderhook?

3 A I did not measure it. Yes, there does
4 appear to be a slight difference in terms of
5 elevation.

6 Q And on a calm day, the odors would tend
7 to gravitate downhill; isn't that true?

8 A In terms of my writing there, the slopes
9 that we are talking about is more distinct in terms
10 of just a gradual slope that we are talking about.
11 There at Kinderhook at the Orrs and on south there,
12 it is a gradual move down. It is not a major drop
13 off. But it does go downhill, yes.

14 Q It does go downhill. The area behind --
15 to the north of the Orrs is -- it is hilly; isn't
16 that true?

17 A There is some hills and to the west there
18 is some trees.

19 Q So you didn't go out to -- you didn't go
20 into the town of Kinderhook in the evening and make
21 measurements, did you?

22 A Yes, sir.

23 Q When did you go? What evenings were you
24 in Kinderhook checking the air quality?

1 A I don't have those -- all of those. Two
2 of the dates are here in the report, March 19th,
3 May 3rd, both of those particular dates. Every
4 day, all five trips, and including today, I drove
5 down through on the particular street that I
6 mentioned earlier, in all five times.

7 Q On March 19th, what time were you there?

8 A I don't recall specifically that
9 particular day what time I was there. I believe
10 more during the midpart of the day.

11 Q More during the midpart of the day?

12 A On the 19th and the 3rd I believe both of
13 those were midpart of the day.

14 Q It was not in the evening?

15 A The next two times were in the evening.
16 But these two, I believe, was midpart of the day.

17 Q What dates were you there in the evening?

18 A I don't have those with me. It was more
19 in the midpart of the summer. One time was
20 sometime during Labor Day weekend. The previous
21 time was a month or so earlier. I have got those.
22 They are not with me, but I have got those listed
23 in my address book or calendar.

24 Q Now, you use the term "nuisance." What

1 does that mean to you?

2 A A nuisance is a word that, yes, it is a
3 little hard to explain, but it is -- I think the
4 best way to separate it out from -- it is an odor
5 level -- if we are talking about odor nuisance, it
6 is an odor level that results in not being able to
7 utilize your property in the way that you would
8 like to utilize it without -- well, the way you
9 would like to use it compared to something stronger
10 might be something that would cause a health
11 effect. A nuisance odor is not something that
12 would result in a health effect. It results in a
13 situation where you are kept from utilizing, as one
14 example, something because of the odors being
15 generated.

16 Q In other words, it --

17 A Like barbecuing in the backyard, et
18 cetera.

19 Q It unreasonably interferes with your way
20 of life, the use of property, something like that?

21 A That would be my definition also, yes.

22 Q Now, if there were odors such that an
23 individual couldn't work in their flower garden,
24 you would characterize that as being offensive or a

1 nuisance?

2 A I would -- during that time period, if it
3 by -- if they could not work in it, yes. And I
4 would further define that as more of a specific
5 statement compared to what some regulatory groups
6 use, that seven dilution factor. What may be -- I
7 think we have to look at that part also.

8 Q If an individual had to quit working
9 outside and come in because the odor was so strong
10 that the eyes and nose were irritated, you would
11 characterize that as a nuisance, would you not?

12 A I would characterize it -- if the cause
13 of that was from the odor as a major source of the
14 odor -- you know, there is a lot of complicating
15 things that gets involved here when you talk about
16 that eye -- you know, it could be -- the swelling
17 of the eye could be a combination, and the odor
18 being only one of those many things. But if the
19 odor caused it, yes, I would agree with it being a
20 nuisance.

21 Q If there were offensive odors detected
22 over a period of 218 days over eight and a half
23 months, you would characterize that as being a
24 substantial interference with the way of life or a

1 substantial nuisance, would you not?

2 A Eight and a half months, that would be
3 about 90 percent of the time. If it was a nuisance
4 odor, that would be more than the 2 percent that I
5 discussed earlier.

6 Q Now, the Ecolo Odor Control System, that
7 is an odor control system that uses, what,
8 chemicals?

9 A I believe it is chemicals. I don't
10 recall. I have seen -- I have looked at the data.
11 I think -- whether it is an enzyme or chemical
12 based, I am not sure which one that is.

13 Q Would it be a masking agent, called a
14 masking agent?

15 A Well, I have not personally evaluated it
16 from a standpoint of laboratory tests, so I
17 couldn't tell you whether it is primarily masking
18 or treatment. So I am not an expert on this
19 particular product as it relates to whether it is a
20 masking or it interacts with the odorous compounds
21 to transfer those into less odorous compounds.

22 Q Then if you have a masking agent it can
23 create an odor that even though it masks the odor
24 of the livestock it can create an offensive odor

1 itself, correct?

2 A It can -- I have tested some that cause a
3 stronger odor. Whether it is -- it gets -- whether
4 it is more offensive or less offensive goes away
5 from the dilution techniques, and in terms of the
6 odor evaluation that we talked about using these
7 instrumentations.

8 Q Well, isn't it true that very little is
9 known about the potential effect of these
10 deodorants on the environment and the possible
11 influence they have on man and animals?

12 MR. LEWIS: I would object, Your Honor.
13 This hearing is on odor abatement measures and
14 whether or not it has an environmental effect,
15 there is no -- the purpose of this hearing is not
16 to determine whether it has some effect on animals
17 or the environment. Your order specifically limits
18 us to measures contained in the evaluation report.

19 HEARING OFFICER WALLACE: Dr. Bundy was
20 asked questions about the system, so the objection
21 is overruled.

22 THE WITNESS: Could you state your
23 question again, please?

24 Q (By Mr. Cooper) It is true, isn't it,

1 that insofar as these masking agents are concerned
2 that little is known about the potential effect of
3 these on the environment and the possible influence
4 they have on man and animals?

5 A Some are and some aren't. The enzymes,
6 many of those have been tested as natural agents,
7 so it all depends on which one of the products we
8 are discussing.

9 Q There are numerous additives and several
10 devices that have been made available to reduce
11 odors; isn't that true?

12 A That's correct, yes.

13 Q And there have been some studies which
14 had suggested that they have very limited success
15 in reducing odor?

16 A There has been some studies that has been
17 reported to that effect, and part of that is due to
18 the way that the product -- in my opinion, the way
19 the product was evaluated with the method of
20 evaluation.

21 There is other reports using dilution
22 olfactometry, which is an ASTM standard approved
23 method, that we use, as well as many Europeans, and
24 has found several of these products work. A study

1 done in the early 1970s, the early 1980s at the
2 University of Illinois using -- without dilution
3 olfactometry did not find any of their products in
4 that particular study worked.

5 HEARING OFFICER WALLACE: Excuse me. Let
6 me interrupt for a second. You are saying dilution
7 what?

8 THE WITNESS: Olfactometry,
9 O-L-F-A-C-T-O-M-E-T-R-Y.

10 HEARING OFFICER WALLACE: Thank you.

11 MR. COOPER: It is nice to have a Hearing
12 Officer that pays attention.

13 Q (By Mr. Cooper) You indicated -- I think
14 you said that the odor abatement is working,
15 correct?

16 A That's my opinion, yes.

17 Q And you have only been there twice in the
18 evening, correct?

19 A I believe twice in the evening, yes.

20 Q And are you familiar with the testimony
21 that was presented before that the problems occur
22 in the evening and not in the daytime?

23 A I read that particular information, yes.

24 Q So the best time to gather information

1 would be in the evening, would it not?

2 A No, you need to collect it at different
3 times of the day. A study that I did back in 1991
4 where we did -- we took six students at 6:00 a.m.,
5 12:00 noon, 6:00 p.m., and midnight, downwind of
6 our livestock unit, did not show that much
7 difference in terms of objectionableness at one
8 particular time versus another.

9 Even though one thing that occurs early
10 in the evening is you are going to have a little
11 bit less mixing typically because of the inversion
12 related to temperature decreases. We do not go
13 down to calm conditions, like many people think,
14 every evening. But our modeling techniques and our
15 prediction modeling allows us to take the different
16 times of the day that we evaluate and make some
17 good judgments over the entire time period.

18 Q When you used that device yesterday, the
19 one that gives you a number?

20 A The hydrogen sulfide?

21 Q Yes.

22 A Yes, this morning.

23 Q What effect does wind speed have on that?

24 A Okay. Wind speed, the effect of wind

1 speed is going to have -- it does have a pump that
2 pulls the air in. A couple of things are going to
3 happen. One thing that is going to happen is that
4 as you increase the wind speed over the surface of
5 the -- of a source generating odors or hydrogen
6 sulfide, typically it is going to increase the
7 amount of hydrogen sulfide given off. The mixing
8 effect of the air going over is going to reduce
9 that. But the effect of this has been very
10 consistent.

11 You know, it takes about 30 to 40 seconds
12 to take a reading. And we all know that wind just
13 doesn't go at two miles per hour constantly over a
14 five minute period. It fluctuates up and down. We
15 get very repeatable readings with that particular
16 instrument. Maybe .0002 or .0004, but, you know,
17 very reasonable readings. So the effect of wind on
18 this machine, in my opinion, since it pulls in the
19 air like it does, it is minimal. It has more
20 effect on the actual hydrogen sulfide in the
21 atmosphere around the machine.

22 Q The wind does have some effect?

23 A The wind will have some effect on
24 things. But the speed -- I am not sure exactly

1 what speed it is being pulled in on on that
2 machine. It is a constant speed.

3 Q The reason why I ask you is because I
4 think yesterday was a windy day, was it not?

5 A I was there this morning.

6 Q Okay.

7 A It was definitely -- there was a wind
8 movement, but there was no caps on the lagoon
9 surface. I would say it was not over five miles
10 per hour this morning when I was out there.

11 Q The trees, are these pine trees or trees
12 with leaves?

13 A These are trees with leaves.

14 Q So the leaves fall off then in the fall
15 just like oak trees and all kinds of trees?

16 A Yes, they do.

17 Q So the leaves would have some substantial
18 effect in changing air flow, I take it, correct?

19 A The leaves would have some effect on air
20 flow.

21 Q All right. So the leaves would have no
22 foliage on them essentially from October to mid
23 April probably, correct?

24 A Those trees would not.

1 Q Okay. And then the same is true of
2 corn? The corn grows --

3 MR. LEWIS: We would object. He said
4 those trees would not and then he said okay. I
5 don't know if he is trying to typify the evidence
6 that okay they drop. This man says that they don't
7 drop. These trees don't drop early.

8 HEARING OFFICER WALLACE: All right.
9 Sustained. Let's go back and clear that up then.

10 THE WITNESS: Okay. What we like in a
11 wind break --

12 HEARING OFFICER WALLACE: No, just
13 clarify your answer.

14 THE WITNESS: Okay. Those trees, the
15 leaves do drop in the wintertime on Austrees. And
16 the corn is --

17 HEARING OFFICER WALLACE: Well, that's --

18 THE WITNESS: Okay.

19 Q (By Mr. Cooper) That's the next
20 question.

21 A Okay.

22 Q And then, as we know, corn grows from the
23 end of April up until it is harvested in October,
24 correct?

1 A That would be correct.

2 MR. COOPER: I don't have anymore
3 questions. Thank you.

4 HEARING OFFICER WALLACE: Redirect?

5 REDIRECT EXAMINATION

6 BY MR. LEWIS:

7 Q Dr. Bundy, it is my understanding that
8 the report that you wrote that the other side had
9 the right to react to that, do whatever they wanted
10 to, to this date, to your knowledge, has there been
11 any testing or data or anything provided, to your
12 knowledge, from the other side?

13 A I have received none.

14 Q All right. It was Mr. Gessner who
15 testified that -- you heard him testify that Ecolo
16 was a neutralizer and not a masking agent?

17 A Yes, sir.

18 Q If that be true, then Ecolo is not a
19 masking agent and not there just to mask?

20 A It would not be there just to mask if it
21 was a neutralizer.

22 MR. LEWIS: I have no further questions.

23 MR. COOPER: I have no further questions.
24 Thank you.

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EXAMINATION

BY HEARING OFFICER WALLACE:

Q Dr. Bundy, what is your hydrogen sulfide machine called?

A A Jerome meter, J-E-R-O-M-E, 631X.

Q And did you name its manufacturer?

A Arizona Instruments, I believe. It is my understanding that it is the only portable hydrogen sulfide meter that gets down to this range that is on the market in the United States. At least at the time we ordered it it was the sole source. And my understanding is that most of the municipal plants that use these use the same model number and the same piece of equipment.

Q Your other machine that you demonstrated is a scentometer?

A A scentometer.

Q Would you spell that for the record, please?

A It is S-C-E-N-T-O-M-E-T-E-R.

Q That's to measure your dilution?

A That's to measure dilutions. Now, in order to use these machines you should first -- you should first go through training where you have

1 been evaluated whether your nose is in the normal
2 range of people. And there is an ASTM standard
3 where we use Albutenol at two different
4 concentrations, an upper and a lower, and in order
5 to validate a person using an instrument of this
6 type or to be on an olfactometry panel, you need to
7 fall between a given range that is spelled out in
8 the ASTM -- the American Standard Testing --

9 Q Materials or --

10 A Yes. The ASTM standard.

11 Q And hydrogen sulfide, what odor is
12 commonly associated with that?

13 A What odor? A rotten egg smell at the
14 higher levels. Now, it is my opinion that the
15 hydrogen sulfide is becoming rapidly -- becoming an
16 odor measurement for livestock basically because of
17 the standard in Minnesota because, as I say, the
18 range that is being utilized or the property line
19 is a very low number, and we were much below that
20 this morning.

21 Q Do you have your report there in front of
22 you?

23 A Yes, I do.

24 Q Could you turn to Figure 1?

1 A Okay.

2 Q You took measurements from the east side
3 of the lagoon; is that correct?

4 A That is correct, yes. I took them at the
5 east side of the lagoon on the bank this morning.
6 That was the readings I got that was 16 -- 15 and
7 16 parts per billion, and that was on top of the
8 bank and that was downwind.

9 Q All right.

10 A Then --

11 Q Your Figure 1 you have the key north as
12 to the top of the page; is that correct?

13 A That is correct.

14 Q So east would be to the right-hand side?

15 A East is to the right, yes.

16 Q If we are looking at the lagoon, which is
17 a little off center from true north and south --

18 A Right, it is off center.

19 Q You were on the east side of the --

20 A I was on the east bank, and then this
21 line over here on the right side is the property
22 line, and I was also right due east of the center
23 part of the lagoon, and I took readings along that
24 road there between the building and down there in

1 the lagoon area on the road right-of-way, which is
2 approximately 300 feet to the east of the lagoon.
3 I took both of those readings.

4 Q Okay. So the -- you are talking about
5 what is marked as 1200 East?

6 A Yes, 1200 E, going up that 1200 E, past
7 the sow lot, past the little donut shape that they
8 call Austrees, on up that line and that is the
9 property line, the roadway, yes.

10 Q All right.

11 A Those readings that I got at that
12 approximately 300 feet from the slurry basin, and
13 that is about five -- about 20 feet below the
14 liquid surface in elevation and those were the
15 readings I got this morning of an average of two
16 parts per billion at that right-of-way there.

17 Q Now, can you measure -- you can measure
18 the dust level and the reduction in dust levels
19 inside the building?

20 A Yes. I did not do that. Of course, they
21 were already practicing those. What I use for
22 measuring dust, I have two different laser particle
23 counters that we pull air through, just like this
24 machine, and by laser it will separate out

1 different particle sizes for us and it actually
2 counts per given volume as well as we use a filter
3 and filter so much air volume going through and
4 measuring with a scale how much dust is in the
5 atmosphere in that building, yes.

6 HEARING OFFICER WALLACE: Okay. Thank
7 you, Dr. Bundy.

8 MR. LEWIS: I have a couple of questions.

9 HEARING OFFICER WALLACE: All right.

10 FURTHER REDIRECT EXAMINATION

11 BY MR. LEWIS:

12 Q Dr. Bundy, you have testified that
13 training would be required in order to use these
14 machines. Did you take the training?

15 A Yes, I did.

16 Q And did you successfully pass?

17 A Yes. The training that was taken was
18 basically -- the first thing would determine if
19 your nose falls in between the limits as what we
20 consider a normal or average person.

21 Q I take it that there is somebody who
22 conducts those tests independently of you who makes
23 that determination?

24 A It is done in my laboratory, but I turn

1 all my laboratory work over to a post doctorate
2 person that I hired to manage my laboratory.

3 Q They make the determination as to whether
4 your nose is okay or not?

5 A Yes, because we run the olfactory
6 laboratory. We ship in samples from Illinois,
7 Indiana, Nebraska, overnight shipment to run in our
8 laboratory, yes.

9 Q Just briefly, you heard Mr. Orr's
10 testimony that this building cost \$250,000.00?

11 HEARING OFFICER WALLACE: If you just had
12 some questions on what I asked then -- we are not
13 going to go back through.

14 MR. LEWIS: I just wanted to add an
15 additional question, with the permission of the
16 Court, concerning the cost and whether it can be
17 effectively and efficiently moved.

18 HEARING OFFICER WALLACE: No.

19 MR. LEWIS: That's not an abatement
20 matter.

21 HEARING OFFICER WALLACE: If you just had
22 some questions on the questions I asked.

23 MR. LEWIS: No.

24 HEARING OFFICER WALLACE: Okay. We will

1 stop right there.

2 MR. LEWIS: Okay.

3 MR. COOPER: Nothing further.

4 HEARING OFFICER WALLACE: Thank you, Dr.

5 Bundy.

6 (The witness left the stand.)

7 HEARING OFFICER WALLACE: All right.

8 Let's go off the record.

9 (Discussion off the record.)

10 HEARING OFFICER WALLACE: Let's come back

11 in one hour, at 1:20.

12 (Whereupon a lunch recess was

13 taken from 12:20 to 1:20 p.m.)

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AFTERNOON SESSION

(September 30, 1997; 1:20 p.m.)

HEARING OFFICER WALLACE: On the record.

Let's reconvene for the afternoon.

All right. Mr. Lewis?

MR. LEWIS: We rest.

HEARING OFFICER WALLACE: All right. Mr.

Cooper?

MR. COOPER: We call Gary Wells.

HEARING OFFICER WALLACE: Mr. Wells, will
you take the stand, sir.

(Whereupon the witness was

sworn by the Hearing Officer.)

G A R Y W E L L S,

having been first duly sworn by the Hearing

Officer, saith as follows:

DIRECT EXAMINATION

BY MR. COOPER:

Q State your name, please.

A Gary Wells.

Q What do you do for a living?

A I work at a chemical plant in Missouri.

Q And do you have any office that you hold
in Kinderhook?

1 A I am mayor and village president.

2 Q Mayor and village president?

3 A Yes, of Kinderhook.

4 Q Have you had other positions with the
5 village?

6 A Yes, I have been mayor before. I was
7 mayor 8 years before, and I was village trustee for
8 12 years. I served on the water and sewer
9 department for 5 years. I am also a member of the
10 United Baptist Church, of which I am a deacon and
11 on the board of trustees.

12 Q Where do you live with reference to this
13 hog facility?

14 A I live downwind of it, down the draw from
15 it. It probably would be south pretty close.

16 (Whereupon documents and
17 photographs were duly marked
18 for purposes of identification
19 as Complainant's Exhibits AH 1
20 through AH 13 as of this date.)

21 Q (By Mr. Cooper) Okay. I will give you
22 three pictures, which have been marked
23 Complainant's AH 2, 3 and 8. Exhibits 2, 3 and 8
24 are what?

1 A These are pictures of the Orrs' M'Orr hog
2 confinement from my bedroom window. One picture
3 shows the bedroom window. I might add, when these
4 pictures were taken, the last of August, there was
5 not no stand pipes or whatever you want to call
6 them. In fact, you can see that through these
7 pictures on the levy part. But they did appear
8 just a couple of days ago, and now they stand up
9 there about 15 feet tall. But they wasn't at the
10 time of the picture.

11 Q A stand pipe?

12 A Yes, whatever they want to call it, a
13 spray pipe, or whatever they want to call those
14 things.

15 Q What about the trees that have been
16 testified to, are they shown in those pictures or
17 not?

18 A No, you can't see none of their trees.

19 Q So in between the building and your house
20 are there any trees?

21 A Just the trees that is between what you
22 can see and my bedroom, or our house, is the trees
23 that we have. At our house we have 30-some trees
24 in and around our yard. These trees go up to 30

1 years old. So if trees was the solution to our
2 problem, then we --

3 MR. LEWIS: We object, Your Honor. He is
4 talking about what he has there, and there is no
5 showing that he has any foundation about any
6 knowledge about the trees.

7 HEARING OFFICER WALLACE: All right. Mr.
8 Wells, just respond to the questions, please.

9 THE WITNESS: Okay.

10 Q (By Mr. Cooper) Mr. Wells, these Exhibits
11 2, 4 and 8, those truly and correctly depict the
12 scene as it is taken from your house to the shed;
13 is that correct?

14 A Yes.

15 Q Or from your backyard to your house?

16 A It is from my bedroom window.

17 MR. COOPER: I would like to offer into
18 evidence those exhibits, Exhibits AH 2, 4 and 8.

19 MR. LEWIS: Your Honor, first of all, we
20 would object at this point until we have had the
21 opportunity to cross-examine. And then, secondly,
22 I already noted on the back of the pictures are
23 written words as to the meaning of the pictures and
24 having a description of what he thinks what bearing

1 they have. We would ask that whatever writing he
2 has be obliterated from the pictures.

3 HEARING OFFICER WALLACE: All right. I
4 will withhold the ruling right now until cross.

5 Q (By Mr. Cooper) The other exhibit that
6 you have, I believe, is 1, and that is your diary;
7 is that correct?

8 A Yes.

9 Q You have maintained a diary from when to
10 when?

11 A From March 2nd to the last day of August.

12 Q Of this year?

13 A Of this year, yes.

14 Q And what have you noted on the diary?

15 A I noticed the diary is much harder to
16 keep this time than it was before, because they
17 have made some improvements in it. The odor that
18 we get now is mostly -- now, there is exceptions.
19 If you go through this, you will see the
20 exceptions, so I will speak generally.

21 HEARING OFFICER WALLACE: Excuse me. The
22 odor is what?

23 THE WITNESS: The odors are not as
24 frequent as it was before. And when they strike it

1 is not a consistent thing. This is what is really
2 hard to keep track of. Like if somebody turns a
3 faucet on you get it and then it dissipates for a
4 while, and you may not get no more for a half
5 hour. Where we get into a lot of trouble is where
6 our house is located at, when it comes down the
7 draw --

8 MR. LEWIS: We object to "when it comes
9 down the draw," Your Honor. There is no evidence
10 that any foundation is laid that he knows where it
11 is coming from. There has been prior testimony
12 about a big operation near Kinderhook that is 10 or
13 20 times as big as this one, with no mediation.

14 MR. COOPER: I will ask him another
15 question.

16 HEARING OFFICER WALLACE: Okay.

17 Q (By Mr. Cooper) I will ask you another
18 question. Are you familiar with this large pig
19 operation south of Kinderhook?

20 A Yes, I am.

21 Q What is the name of it?

22 A Borrowman. It is Jim Borrowman's hog
23 operation.

24 Q How do you spell it?

1 A I don't know.

2 Q Is it B-O-R-R-O-W-M-A-N?

3 A Yes, that sounds good.

4 Q And when winds have been coming -- when
5 you smell this odor in town, have you gone south of
6 town to see whether the odor exists south of town?

7 A Yes.

8 MR. LEWIS: We would object unless there
9 is a foundation laid as to when he did this.

10 HEARING OFFICER WALLACE: Overruled. Go
11 ahead and answer the question.

12 THE WITNESS: Our pump house is probably
13 50 yards south of our town from the city limits.
14 So we have -- it is me and my wife, when I talk
15 about "we." We drive down there on a number of
16 occasions when we have hog odor to see if we can
17 smell it, and it is not there. There is another
18 way that you can tell where it is coming from, if I
19 am allowed to say it.

20 HEARING OFFICER WALLACE: You have
21 answered the question.

22 Q (By Mr. Cooper) Do you have any other
23 opinions concerning where the odor comes from that
24 you smell in your town?

1 MR. LEWIS: We object, Your Honor. To my
2 knowledge there is no case in Illinois that would
3 permit a lay person without any qualifications to
4 have an opinion as to that answer. There is no
5 foundation laid that he has any expertise in that
6 area.

7 HEARING OFFICER WALLACE: The objection
8 is sustained as to Mr. Wells' opinion.

9 Q (By Mr. Cooper) So how far -- the
10 Borrowman facility is how far south of Kinderhook?

11 A About two and a half miles.

12 Q When you smell the odor in Kinderhook how
13 far south have you gone from Kinderhook when you
14 have not smelled it?

15 A About 50 yards.

16 MR. LEWIS: No foundation as to when. We
17 have no idea as to when he said that he did this.

18 HEARING OFFICER WALLACE: Overruled.

19 THE WITNESS: About 50 yards.

20 Q (By Mr. Cooper) Can you tell me when you
21 did this?

22 A Yes, on the nights that we have had it
23 real bad, where we have a real bad hog odor.

24 Q Now, you said when you had real bad hog

1 odor. You said that the odors now, the abatement
2 efforts apparently had some success? They are not
3 as bad as they were before?

4 A It has had a lot of success. We don't
5 have it very often in the daytime, but you
6 generally have it during the nights. And if you go
7 through my odor, you will find that I have quite a
8 few days where we don't smell nothing. If you get
9 a real strong south wind I don't get no odor. And
10 if it is raining or something like that we don't
11 get no odor. So they have improved.

12 Before, I think, when I kept an odor log
13 before, for the entire summer, I think I had one
14 day and one night that we didn't have any odor, and
15 this time I have had 70 bad days or bad nights, I
16 should say, in that period of time from March 2nd
17 to August the 31st. As you can see, there is a lot
18 of good days, and we never had that before.

19 But where I get into a real bad problem
20 is at night. And when it comes in our house, once
21 it fills your house it may leave from the outside
22 but it don't leave your house. It just kind of
23 hangs in there. We have tried different ways of
24 getting rid of it, and none too successful, I might

1 add.

2 Q So in a six-month period there have been
3 70 days?

4 A Right.

5 Q That would be a little over two months
6 worth of days where you have had problems?

7 A Right.

8 Q So it happens about a third of the time
9 then?

10 A I would say so, yes.

11 Q And when you say the odors are in your
12 house, do the odors ever get out of the house,
13 then?

14 A Over a period of time.

15 Q Describe if you would. In other words,
16 how long do the odors stay in the house in the
17 evening?

18 A That will vary. We have tried different
19 things to get this off. We have tried shutting the
20 windows, for instance, but by this time they are
21 already in the house. So we have tried running the
22 fans. We kind of believe this is the best way,
23 leaving everything open and just running the fans,
24 and eventually it kind of filters its way out.

1 HEARING OFFICER WALLACE: Excuse me a
2 minute. Let's go off the record.

3 (Discussion off the record.)

4 HEARING OFFICER WALLACE: Back on the
5 record.

6 You may complete your answer.

7 THE WITNESS: I think I have, Your
8 Honor.

9 Q (By Mr. Cooper) Then how does this affect
10 your daily life?

11 A Well, the nighttime life it affects us
12 quite severely because it affects you when you have
13 to go to bed and go to sleep. The other way it
14 affects you is the subtle way. You are kind of
15 embarrassed to have company over because your house
16 stinks.

17 MR. COOPER: I would like to offer into
18 evidence Complainant's 1 also, subject to
19 cross-examination.

20 No further questions.

21 MR. LEWIS: What is 1?

22 MR. COOPER: His diary. I will give you
23 a copy of it.

24 HEARING OFFICER WALLACE: All right.

1 Cross-examination, Mr. Lewis.

2 MR. LEWIS: Yes. Do you have the
3 pictures?

4 THE WITNESS: Yes, I do.

5 CROSS EXAMINATION

6 BY MR. LEWIS:

7 Q Exhibit Number AH 8, would you look at
8 that. Is that your house compared with the level
9 of the Orr farm?

10 A Yes.

11 Q And as you look at that, you talk about a
12 draw. The draw is actually more in the direction
13 of east and west than north and south, isn't it?
14 There is a draw east and west, isn't there?

15 A I wouldn't call it a -- no. I would have
16 to say no.

17 Q Well, what do you call it?

18 A I guess I would -- perhaps northeast to
19 west.

20 Q Okay. Your house actually looks like, in
21 this picture, if it accurately portrays what it
22 purports to show, it looks like the house, which
23 would be on this mound at the lower end is actually
24 higher than the level to the ground of the Orr

1 place where the building is?

2 A The house -- you mean the bedroom window
3 is higher?

4 Q Yes.

5 A It is possible.

6 Q So there is not really a draw where it
7 comes down to your house? It is pretty much level,
8 isn't it, and your house is actually higher, the
9 windows of your house would be higher than the
10 level of the ground at the Orr place?

11 A I would say probably even. At least it
12 is above the corn. I can't answer your question.

13 Q Well, do you agree with me that this
14 accurately portrays what it purports to show?

15 A Yes.

16 Q And that your house is built on the mound
17 of ground that is at the lower part of Exhibit 8?

18 A Right.

19 Q Now, I believe you said you took this in
20 September of 1997?

21 A The last of August.

22 Q And there was no -- there were no spouts
23 then?

24 A No, no spouts that you could see. In

1 fact, you can look in these pictures.

2 Q I am going to ask you, none that you
3 could see? You are not saying they are not there,
4 are you?

5 A They are there now and you can see them.

6 Q Well, I am saying at this time. You are
7 not saying that they weren't there then?

8 A All I can say is that they were not shown
9 in the picture.

10 Q And you don't know whether they were
11 there or not then, do you?

12 A All I know is what the picture portrays.

13 Q So whether it is accurate or not you
14 don't know that, do you? If those were put in by
15 the witness who has just testified as to their
16 putting them in in the spring of 1997, and that
17 doesn't show there, then this doesn't accurately
18 show the condition of those spouts, does it?

19 A If it doesn't show in the picture, I
20 guess you could be right.

21 Q And in that sense it would not be
22 accurate, would it? You are not denying that they
23 were put in in the spring of 1997?

24 A Oh, no. All I am saying is you can see

1 them now loud and clear, and you couldn't see them
2 at the time we took the pictures.

3 Q If they were there you don't know why you
4 can't see them in this exhibit?

5 A The only reason I would say if you can't
6 see them in the exhibits they ain't there where you
7 can see them.

8 Q They are not where you can see them, but
9 you are not saying they are not there?

10 A Right.

11 Q Whose corn is it that is between the
12 confinement building and the mound upon which your
13 house is built?

14 A The Orrs.

15 Q Pardon?

16 A The Orrs.

17 Q And do you agree that the corn was there
18 then?

19 A Oh, yes. You can see the top of the
20 corn, yes.

21 MR. LEWIS: Your Honor, we would object
22 to the extent that it -- that he has admitted that
23 it doesn't accurately portray the spouts if the
24 spouts were there. He has no explanation as to why

1 it doesn't show it, so other than the fact that it
2 wouldn't accurately portray that. On the back
3 there is writing that we would ask be obliterated
4 because those are comments by the witness. Some of
5 the comments were not even testified to in the
6 court.

7 MR. COOPER: I guess I would make it a
8 limited offer and ask that only the picture be
9 considered and nothing that is on the back, and
10 then the pictures, for whatever it is worth, he
11 took the picture and that's what it showed.

12 HEARING OFFICER WALLACE: All right. I
13 will admit Complainant's AH 8, although I would --
14 I will redact the word "raw" on the back.
15 Otherwise, I think he has testified to everything.
16 I don't think it is testimony. I think it is
17 merely describing the picture. I see nothing
18 objectionable on that. Although I do --

19 Is it your testimony you took this photo
20 August 31st, 1997?

21 THE WITNESS: I can't say August 31st. I
22 said the end of August.

23 (Whereupon said photograph was
24 admitted into evidence as

1 Complainant's Exhibit AH 8 as
2 of this date.)

3 MR. LEWIS: This one doesn't have a
4 number on it. Oh, okay.

5 Q (By Mr. Lewis) Mr. Wells, I will hand you
6 AH Exhibit Number 2. I will ask you, is that
7 similar to the Number 8 that we just had testimony
8 concerning?

9 A Yes.

10 Q It is almost duplicative, isn't it?

11 A Right. It was probably just a different
12 location of the window.

13 Q And this was taken from your window?

14 A Yes.

15 Q And again, this picture would be no
16 different as to the stand pipes of the -- spraying
17 the mist than your other testimony on the other
18 picture?

19 A Right.

20 Q Okay.

21 A It was taken at the same time.

22 Q This would be the same as showing the
23 levelness. You would have no different testimony
24 from this picture as the others?

1 A Right.

2 Q The mound in the lower part is the mound
3 upon which your house is built?

4 A Right.

5 Q The corn is the same?

6 A Right, the corn is the same.

7 MR. LEWIS: Your Honor, I believe it
8 would be more efficient just to object to this one
9 as being duplicative of -- that AH 2 is duplicative
10 of AH 8. I don't think there is any material
11 difference, and then we won't have a problem with
12 what is on the back.

13 MR. COOPER: I don't have any problem
14 with that.

15 HEARING OFFICER WALLACE: They are only
16 slightly different. All right.

17 MR. LEWIS: Then I guess you agree that
18 AH 2, being the Complainant's Exhibit, be
19 withdrawn?

20 MR. COOPER: Yes.

21 Q (By Mr. Lewis) Now, would you look at AH
22 3? Is that your house?

23 A Yes, it is.

24 Q And the windows that you are talking

1 about, these are the windows, I guess, that face
2 towards the north?

3 A Yes, uh-huh.

4 Q And this house shows windows facing
5 towards the north?

6 A Right.

7 Q I notice that they are small windows.

8 A Well, I can't answer that.

9 Q Well, tell me the size?

10 A I can't answer that either. I don't
11 know.

12 Q They are easily closed?

13 A Yes.

14 Q I mean, I take it that there is a window
15 on the lower half and a window in the upper half,
16 and you can slide them up and down?

17 A Right.

18 Q So they are easily closed and they are
19 whatever dimension they are?

20 A Right.

21 Q But they are not large picture windows,
22 are they?

23 A Oh, no, they are bedroom windows.

24 Q So far as all of your other windows, they

1 would be on the other side south of these north
2 windows?

3 A True.

4 Q And you have, it looks like, massive
5 trees on both sides?

6 A Right.

7 Q And this would show that your house is
8 higher than -- in fact, it slopes downward to
9 the -- if this were facing north, they would be --
10 it actually slopes downward toward the east?

11 A Are you talking about -- see, it would be
12 toward the west, off here.

13 Q To the right is west?

14 A Right.

15 Q Actually, your house is higher than the
16 land adjoining to the right-hand side or to the
17 west?

18 A Yes.

19 Q And it actually -- the land slopes down
20 to the west?

21 A Yes, that's true.

22 MR. LEWIS: Your Honor, we would object
23 to this picture on the basis of a prejudicial
24 opinion that needs to be redacted.

1 HEARING OFFICER WALLACE: All right.

2 MR. LEWIS: And also about the draw. It
3 is an opinion not based on the picture, about the
4 draw.

5 MR. COOPER: I don't have any objection
6 to redacting whatever comments are on there.

7 HEARING OFFICER WALLACE: The words, "hog
8 odor big time" will be redacted and also "showing
9 the draw" will be redacted.

10 With those changes, Complainant's Exhibit
11 AH 4 is admitted.

12 (Whereupon said photograph was
13 admitted into evidence as
14 Complainant's Exhibit AH 4 as
15 of this date.)

16 Q (By Mr. Lewis) You are one of the
17 complainants, are you not?

18 A Right.

19 Q And you have testified here before?

20 A Right.

21 Q Who are the other complainants?

22 A Maxine Ellison. Well, Maxine and John.

23 Q Maxine who?

24 A Ellison.

1 Q Ellison?

2 A Yes.

3 Q Would you want to spell that for us?

4 A E-L-L-I-S-O-N, I think.

5 Q Who else?

6 A Her husband John, and Lyndell Chaplin.

7 Q Lyndell Chaplin?

8 A Uh-huh.

9 Q Okay.

10 A And me and Donetta.

11 Q Now, of those complainants here today,

12 Donetta Gott is here and you are here?

13 A Uh-huh.

14 HEARING OFFICER WALLACE: You need to say

15 yes.

16 THE WITNESS: Yes.

17 Q (By Mr. Lewis) Maxine Ellison and John

18 Ellison and Lyndell Chaplin are not here, are they?

19 A Right, they are not.

20 Q I will ask you, did you or Donetta Gott

21 or any of the complainants, to your knowledge, did

22 you have any test made by witnesses outside

23 yourself, such as you have heard Dr. Bundy testify

24 to?

1 A No, I haven't. I have to confess, it was
2 probably my fault, but I didn't even know we could
3 until I heard it today from you all.

4 Q Well, you didn't hear it from me.

5 A Well, Mr. Bundy or whoever.

6 Q I didn't prevent you from doing whatever
7 you wanted, did I?

8 A No.

9 Q And your lawyer didn't either, did he?

10 A No, nobody ever said anything about it,
11 one way or another.

12 Q But at least as we sit here today, there
13 are no tests that you have made like any of the
14 kinds of tests testified to by Dr. Bundy?

15 A The only test I would say would be the
16 smelling test. We are getting pretty good at that.

17 Q But you don't have any instrument by
18 which you are doing a smelling test?

19 A Right.

20 Q Which direction would the hog confinement
21 building be from your house?

22 A Probably north.

23 Q It would be north. And that would be
24 blowing -- if the wind came, the wind is northwest,

1 you mean it is coming from the northwest, don't
2 you?

3 A Right.

4 Q And the wind would be blowing toward the
5 Orr farm?

6 A Yes, partly.

7 Q And the Borrowman farm is south of you?

8 A Right.

9 Q So northwest wind would be coming in part
10 from the direction of the Borrowman farm, wouldn't
11 it?

12 A A northwest wind would bring it from the
13 Borrowman farm?

14 Q If it was blowing northwest and the
15 Borrowman farm is south of you, it would then be
16 blowing northwest or blowing toward you from the
17 Borrowman farm, wouldn't it?

18 A No way.

19 Q Well, which way does the northwest wind
20 blow?

21 A It blows out of the north.

22 Q Pardon?

23 A It would blow out of the north.

24 Q Which way are you? Are you northwest or

1 are you south or are you due south of the Orr farm?

2 A I would say.

3 Q So northwesterly, then it would be going

4 southeasterly, wouldn't it? The wind would be

5 going southeasterly?

6 A The wind would be going southeasterly,

7 yes.

8 Q Do you have air-conditioning?

9 A Yes, we do.

10 Q Do you have central air?

11 A No.

12 Q What kind is it, a window unit?

13 A Window.

14 Q You can close your windows and turn on

15 the air conditioner, can't you?

16 A We can if we have to.

17 Q And close your windows and turn on your

18 heat as well, can't you?

19 A Right.

20 Q You hang up clothes outside?

21 A Yes.

22 Q And you are still following that

23 practice?

24 A Yes.

1 Q Do you have a dryer?

2 A Yes.

3 Q Even though you have a dryer you still
4 hang your clothes outside?

5 A We hang some of them outside, yes, we
6 do.

7 Q I notice on many of your entries that we
8 don't have the time that you said that you noted an
9 odor. That would be true, wouldn't it?

10 A No, I would say most of them tell the
11 time.

12 Q Well, here is March 20. I am sorry. On
13 May 30 at 12:45, it would be noon, wouldn't it? It
14 wouldn't be at night, would it?

15 A There have been some recorded days in
16 there, yes. There are exceptions, but that's what
17 they are if they are there.

18 Q If I find on May 30th at 12:45, do you
19 mean at noon and not at night? It also says
20 hanging up clothes.

21 A Okay. That would be noon there, yes.

22 Q There is no note that you proceeded on
23 and -- is it your wife that hangs up clothes or do
24 you?

1 A She does.

2 Q She didn't take them down?

3 A No, she didn't take them down.

4 Q Just for instance, and I don't want to go
5 through all of these, but here is June 5, June 6,
6 and June 8. You say that there is a strong odor in
7 your house. You don't equate that with the
8 direction of the wind at all, do you?

9 A I think most of the time it has the wind
10 down. However, I have --

11 Q Do you want to look at this? You have no
12 doubt that those dates --

13 A If I ain't got it down, then I ain't got
14 it down. Probably what it means, if I may, is that
15 there wasn't much airflow.

16 Q Here is June 28th. Here is another
17 example. At 5:00 p.m. you got home from work and
18 you smell a strong odor as soon as you open the
19 truck. There is nothing on that date to know what
20 direction the wind came from, is there?

21 A That's possible.

22 Q If I say that -- do you want to look at
23 it?

24 A No, I take you at your word.

1 Q June 29, no indication of any direction
2 of wind, correct?

3 A If you say.

4 Q June 26th, no indication of wind
5 direction?

6 A Usually where you have it not recorded is
7 because there is not much airflow.

8 Q The question was it is just not there?

9 A If you say it is not then I ain't got it
10 there.

11 Q Of course, if there is not much airflow,
12 the fact that there is not much airflow it could be
13 coming from Borrowman and/or Orr, couldn't it?

14 A Well, possibly. But the Orrs are a whole
15 lot closer.

16 Q I know they are closer, but I think the
17 evidence that I understand is that Borrowman has
18 seven acres in a lagoon. That is approximately
19 correct, isn't it?

20 A Two and a half miles out of town.

21 Q And a third of an acre -- that is
22 compared to the Orrs' third of an acre?

23 A Which is about three-fifths of a mile out
24 of town.

1 Q I didn't ask that question. I am talking
2 about the size of the lagoon comparably.

3 A The Orrs' is smaller.

4 Q If the wind is still, a seven acre lagoon
5 as compared with a one-third acre lagoon could very
6 well be coming, as you said, from the Borrowman's
7 farm, couldn't it?

8 A I don't think so. No, I don't think so.

9 Q Well, you said it could be before.

10 A Well, anything is possible, just highly
11 unlikely.

12 Q The size of the operation -- the
13 Borrowmans have 12,400 hogs, would you agree with
14 that?

15 A Yes, two and a half miles out of town.

16 Q And the Orrs have a total of 60 sows and
17 700 pigs?

18 A Yes, I agree with that, three-fifths of a
19 mile from my house.

20 Q But the size is tremendously over the
21 size of the Orrs' place?

22 A So is the distance it has got to travel.

23 Q But if the wind is still --

24 A If there isn't any wind, it is still.

1 Q I said if the wind -- well, you said that
2 you didn't make notations probably because the wind
3 is still?

4 A Right.

5 Q If the wind is still, it can travel from
6 different places, can't it?

7 A I suppose it can. It is possible.

8 Q You have never had anybody study other
9 than yourself and the complainants --

10 A Right.

11 Q -- as to where it was coming from?

12 A True.

13 Q You also know that the Borrowmans have
14 taken no remedial action that you know of?

15 A I can't answer that one way or the other.

16 Q You haven't seen any trees, no spouts,
17 and you have -- to your knowledge, there has been
18 no remedial action, has there?

19 A I haven't checked. I really don't know.

20 Q Here is a period from March 28th to April
21 17th, you apparently lost your log and have no idea
22 what happened?

23 A Right, that's true.

24 Q On April 23, 12:00 noon, hanging up

1 clothes, strong odor, no wind direction. The same
2 testimony would be true that you believe maybe you
3 didn't put it down there because the wind was
4 still?

5 A I would have to say that. I can't swear
6 to it, but I believe that to be so.

7 Q May 7, and I won't belabor this more
8 other than the fact that the Hearing Officer and
9 the Illinois Pollution Control Board can make a
10 study of it, but again May 7, open up house, no
11 indication of wind direction, right?

12 A If that's what you say.

13 Q Would I be correct that most of the time
14 that you note the wind direction and the odor that
15 the wind is from the northwest?

16 A I never kept track of that. I really
17 can't say. If that's what it proves to be then I
18 would say yes, but I don't know at this point.

19 Q I see on August 9, you have the word -- I
20 think it means calm, C-A-L-M, very calm?

21 A Probably.

22 Q Do you have your other windows open or
23 shut?

24 A All the windows are open.

1 Q All windows are open?

2 A Yes.

3 Q So if you had an odor in the house and
4 all the windows were open, and you don't have the
5 direction of the wind, again, you would not be able
6 to establish where the odor came from, would you?

7 A I disagree with that. If I am standing
8 in the kitchen, and it is not in the rest of the
9 house, the kitchen is -- you guys are -- the Orrs
10 are north of us. That's where it generally comes
11 in at, is in the kitchen, because that's where we
12 spend a lot of our time at.

13 Q August 9, very calm, odor came in house.
14 You didn't say where it came in.

15 A No, I didn't. I probably didn't.

16 Q Then you shut your bedroom windows, but
17 you don't know whether the odor came in -- in what
18 window?

19 A No.

20 Q You made no test to determine that?

21 A Right.

22 Q Again, just as an example, August 11, you
23 had odor and there is no wind direction whatsoever,
24 is there?

1 A That's what you say.

2 Q Well, I am --

3 A I take it for --

4 Q That's what it says. Do you want to look
5 at it?

6 A No, I accept you at your word.

7 Q August 23, again, no indication of wind
8 direction. It probably means that the wind was --
9 that the air was still?

10 A Pretty much so.

11 Q August 28, no wind direction. Do you
12 agree with that?

13 A What did it say?

14 Q It just says got out of bed at 3:00.
15 There is no wind direction shown.

16 A Yes, that's about 3:00 in the morning. I
17 have no way of knowing which way the wind is
18 blowing.

19 Q And August 20 and August 31, those are
20 the last two entries and, again, we don't get the
21 benefit of any wind direction. Do you agree with
22 that?

23 A If you say so.

24 Q And you made no test to quantify the

1 amount of the odor or the amount of the gases in
2 your house, did you?

3 A That's true.

4 MR. LEWIS: I have nothing further.

5 HEARING OFFICER WALLACE: Redirect?

6 MR. COOPER: Nothing.

7 MR. COOPER: Do you have the diary over
8 there?

9 THE WITNESS: Yes.

10 HEARING OFFICER WALLACE: Thank you.

11 MR. LEWIS: Can I keep this one?

12 MR. COOPER: Sure.

13 EXAMINATION

14 BY HEARING OFFICER WALLACE:

15 Q Mr. Wells, have you seen this diagram at
16 all?

17 A Yes, I have seen it, yes.

18 HEARING OFFICER WALLACE: I am showing
19 him Figure 1 to Dr. Bundy's study.

20 Q (By Hearing Officer Wallace) Is the house
21 that is marked Wells, is that your house?

22 A Yes, it is.

23 Q And would you agree or disagree that this
24 is a fairly accurate representation of the

1 geographic area?

2 A Pretty accurate, I would say.

3 Q So looking back at this photo --

4 A Yes.

5 Q -- the white buildings to the right of
6 the photo, on the right-hand side of the photo,
7 what are those buildings, if you know?

8 A This is Orrs' machine shed. That's where
9 they park their equipment. If this picture went
10 out another inch you would see their house here,
11 and that is their barn. So this is where the Orrs
12 live, or David Orr lives.

13 Q So looking at our Figure 1 map where it
14 says Orrs, that shows one block, right?

15 A Uh-huh.

16 Q It does not show both the house and the
17 machine shed?

18 A Right. It probably shows the house, I
19 would say. I don't know if it shows only one. You
20 have a machine shed, a barn, and his house back
21 there.

22 Q Then the white building in the very
23 center of the photo is the hog confinement
24 building?

1 A Yes, it is.

2 HEARING OFFICER WALLACE: All right.

3 Thank you, Mr. Wells.

4 THE WITNESS: Okay.

5 HEARING OFFICER WALLACE: I am going to
6 admit Complainant's Exhibit AH 1, the diary of Mr.
7 Wells.

8 (Whereupon said document was
9 admitted into evidence as
10 Complainant's Exhibit AH 1 as
11 of this date.)

12 EXAMINATION (continued)

13 BY HEARING OFFICER WALLACE:

14 Q I did have one more question. Looking at
15 Complainant's Exhibit AH 8 again.

16 A Okay.

17 Q Mr. Wells, if you look at the hog
18 confinement building and to the right of the hog
19 confinement building there are two what appear to
20 be poles. Do you know what those are?

21 A I think they are poles, telephone poles.

22 Q You think they are utility poles?

23 A Yes.

24 HEARING OFFICER WALLACE: All right.

1 Thank you. You may step down.

2 THE WITNESS: Thank you.

3 (The witness left the stand.)

4 MR. COOPER: We call Donetta Gott.

5 HEARING OFFICER WALLACE: Ms. Gott, take
6 the witness stand, please.

7 (Whereupon the witness was
8 sworn by the Hearing Officer.)

9 D O N E T T A G O T T,
10 having been first duly sworn by the Hearing
11 Officer, saith as follows:

12 DIRECT EXAMINATION

13 BY MR. COOPER:

14 Q State your name, please.

15 A Donetta Gott.

16 Q And where do you work?

17 A I work in Hannibal.

18 Q And you live in Kinderhook?

19 A Yes.

20 Q And are you on the city council, the
21 village council?

22 A Yes.

23 Q How long have you been on it?

24 A Since May.

1 Q There are some other people who are not
2 here who are plaintiffs or complainants, correct?
3 A (Nodded head up and down.)
4 Q You have to say yes or no.
5 A Yes.
6 Q Do you know where they are?
7 MR. LEWIS: We object, Your Honor.
8 THE WITNESS: Yes.
9 HEARING OFFICER WALLACE: Finish your
10 objection.
11 MR. LEWIS: That will be immaterial as to
12 where they are.
13 HEARING OFFICER WALLACE: The objection
14 is overruled. Your answer was yes.
15 Q (By Mr. Cooper) Can you tell me why they
16 are not here today?
17 A The Ellisons are both home. Mr. Ellison
18 is a severe heart patient. He can't climb stairs.
19 Mrs. Ellison just got out of the hospital. She has
20 extensive heart problems, and she can't climb
21 stairs or even travel. She is home bound. Mr.
22 Chaplin just started a new job, and has no days to
23 take off and preferred not to.
24 MR. LEWIS: We object. That is hearsay,

1 Your Honor.

2 HEARING OFFICER WALLACE: That is
3 overruled.

4 Q (By Mr. Cooper) Now, you prepared a
5 diary, I believe?

6 A Yes.

7 Q And I believe I put a sticker on it. Let
8 me find it. We have AH 10. These are comments of
9 various individuals who live in Kinderhook
10 concerning this hog operation; is that correct?

11 A Yes.

12 MR. COOPER: I would like to admit those
13 as comments subject to your cross-examination
14 later.

15 MR. LEWIS: We would object, subject to
16 cross.

17 HEARING OFFICER WALLACE: All right.

18 HEARING OFFICER WALLACE: What number was
19 that?

20 MR. COOPER: What is the number on that?

21 THE WITNESS: AH 10.

22 HEARING OFFICER WALLACE: Okay. Thank
23 you.

24 Q (By Mr. Cooper) Okay. AH 6 is the diary

1 that you prepared?

2 A Yes.

3 Q Can you just summarize for me what period
4 of time the diary covers?

5 A 05-31-96 to 09-28-97.

6 Q And did you survey all months in there or
7 omit some months?

8 A No, there was about three and a half
9 months that was not surveyed through that.

10 Q Why were they not surveyed?

11 A I got tired of doing it. I called Dale
12 Brockamp with the EPA to ask him if we had to
13 continue doing this.

14 MR. LEWIS: We would object. That would
15 be hearsay, what her conversation with Brockamp
16 was.

17 HEARING OFFICER WALLACE: Overruled.

18 THE WITNESS: He said, no, we didn't have
19 to continue. So I quit until -- from November
20 through February I did not keep it. Then I decided
21 that there was no way that we could prove we still
22 had an odor problem if I didn't keep a diary, so we
23 started keeping a diary again.

24 Q (By Mr. Cooper) So this is -- how many

1 months were surveyed? How many days were surveyed?

2 A How many days?

3 Q Yes.

4 A It was about eight and a half months.

5 Q Are your observations truly and correctly
6 recorded on there concerning the weather and the
7 wind and what you observed?

8 A Yes.

9 Q And you have to say yes or no.

10 A Yes.

11 Q On how many of those days did you
12 experience odor problems?

13 A About 218.

14 Q Out of how many?

15 A Out of eight and a half months, 218.

16 Q And can you describe the odor problems in
17 general over -- don't go through every one of them,
18 but just give us your observations of the odor
19 problems and how they have impacted your life since
20 the last EPA hearing?

21 A Well, they have been the same as far as I
22 am concerned. I still have to come in, and I still
23 have to use asthma medication. I still get sore
24 throats. I still have --

1 MR. LEWIS: Objection, Your Honor. There
2 is no medical testimony --

3 THE WITNESS: Eye problems.

4 MR. LEWIS: -- that this witness has
5 brought up before. There is no testimony
6 concerning what she has to use. There is no
7 medical doctor. There has never been a medical
8 witness. This would be self-serving. She wouldn't
9 be qualified. There is no foundation laid. It
10 should not be admitted.

11 HEARING OFFICER WALLACE: Your objection
12 is noted. She can testify as to what she is
13 doing. Whether or not there is a correlation or
14 not the Board can determine that.

15 THE WITNESS: I still can't open up my
16 house. If I have --

17 MR. LEWIS: Can we show a continuing
18 objection without raising objections each time?

19 HEARING OFFICER WALLACE: I think that
20 what she just said is a factual statement.

21 MR. LEWIS: It is different, I agree, but
22 I hate to --

23 HEARING OFFICER WALLACE: To the extent
24 that she may answer something different you may

1 object.

2 MR. LEWIS: Okay.

3 THE WITNESS: I still have odor in the
4 house. I am still highly affected and I can't live
5 the life that I would like to live.

6 Q (By Mr. Cooper) The way the odor impacts
7 you, that is described in the diary; is that
8 correct?

9 A Yes, yes.

10 Q Let me give you this AH 7. This is
11 Mary's --

12 A Maxine Ellison.

13 Q Or Maxine Ellison's diary; is that
14 correct?

15 A Yes.

16 MR. COOPER: We would like to offer that
17 as a comment also.

18 Q (By Mr. Cooper) That contains her
19 observations, correct?

20 A Yes.

21 MR. LEWIS: We object to having someone
22 else's diary who is not here subject to
23 cross-examination. It is worse than hearsay,
24 hearsay. We believe it would be prejudicial to

1 permit a diary when that person is not here at
2 all. I think the Hearing Officer can see how
3 important cross-examination was as to Mr. Wells.

4 MR. COOPER: I admit it is hearsay, and
5 all evidence is prejudicial. I think it is
6 admissible as a comment for whatever it is worth
7 for the Board.

8 HEARING OFFICER WALLACE: Okay. I will
9 not admit Complainant's Exhibit AH 7, the diary of
10 Maxine Ellison into evidence. I will accept it as
11 an offer of proof. We will place it in the record
12 for the Board to determine whether or not they wish
13 to consider it or not, or whether they wish to
14 overturn my ruling on it.

15 Q (By Mr. Cooper) How would you
16 characterize the odors now or since the last
17 Pollution Control Board hearing as compared to
18 before?

19 A Sometimes they are even more intense.
20 They have an overtone of chemical or whatever.
21 There is another overtone of odor to the hog odor.
22 But there is times when it is more of a manure
23 smell.

24 Q Does this odor that you have now, does

1 that interfere with your life?

2 A Daily, nightly.

3 MR. LEWIS: I do object on the basis I
4 already raised as to this item.

5 HEARING OFFICER WALLACE: So noted and
6 overruled.

7 You may answer.

8 THE WITNESS: Daily and nightly.

9 Q (By Mr. Cooper) Now, have you ever, while
10 you have experienced these odors, have you ever
11 traveled south of town?

12 A Many times, yes.

13 Q In other words, while there was odor in
14 town you traveled south of town?

15 A Yes.

16 Q And could you detect any odor south of
17 town?

18 A No.

19 Q How far south of town did you go?

20 A I went clear past the Jim Borrowman
21 facility. There wasn't even any odor there.

22 Q I have two maps here. One is AH 12 which
23 is a state geologic survey map. Can you -- does
24 that indicate where Kinderhook is?

1 A Yes, it does.

2 MR. LEWIS: We object to this, Your
3 Honor. We have already gone through all of the
4 maps and we had the engineers here and we had all
5 of the testimony concerning the maps, and this
6 would be simply repetitive. It does not have to do
7 with the melioration or reducing hog odors. It is
8 trying to retry the issues as to these maps, and
9 that has nothing to do with the present hearing.

10 MR. COOPER: I just wanted to show where
11 the Borrowman farm is, where the Orr facility is,
12 and the relative elevations that are shown on the
13 map.

14 MR. LEWIS: We also had the relative
15 elevations shown before. And as to whether or not
16 these are accurate, as to where the -- I have no
17 objections to showing where the Borrowman farm is
18 in comparison with their house.

19 HEARING OFFICER WALLACE: All right. The
20 objection is noted and overruled.

21 You may continue.

22 Q (By Mr. Cooper) Could you -- do you know
23 on that map where Borrowman's is approximately?

24 A Two and a half to three miles south on

1 96.

2 Q Okay.

3 MR. LEWIS: I object. That was not
4 responsive to the question. That does not tie in
5 with this map at all. She just says it is
6 approximately two and a half to three miles south.

7 THE WITNESS: On 96, 196.

8 Q (By Mr. Cooper) Here is a scale that
9 shows miles. The scale is as long as my pen.

10 MR. LEWIS: We object. There is no
11 showing any foundation that she knows how to read
12 this map. The lawyer is telling her how to read
13 it.

14 HEARING OFFICER WALLACE: All right.

15 MR. COOPER: I will withdraw the
16 question.

17 Q (By Mr. Cooper) You have pointed out
18 something on the map. What is your finger on on
19 the map?

20 A It says Grub Hollow Bridge, and the
21 Borrowman facility is adjacent to that.

22 Q All right. Would you put a big X where
23 the Borrowman facility would be?

24 A (Witness complied.)

1 Q I am going to circle it just so you can
2 see it there. I am going to give you AH 13. On
3 this map can you indicate where the Orr facility
4 is?

5 A Yes, right there.

6 Q Why don't you put like a Y or something
7 there.

8 A (Witness complied.)

9 Q You put a W. That's fine. I will circle
10 that. There is a W at the Orr facility and an X at
11 the Borrowman's facility, correct?

12 A Uh-huh.

13 Q Exhibit 13, is that a record that came
14 out of the City's files?

15 A Yes.

16 Q What does that show?

17 A This would show the elevation of
18 Kinderhook.

19 Q Of the different houses?

20 A Yes.

21 MR. LEWIS: We object to this testimony
22 and the use of this exhibit. We have had this
23 before and we had the engineer showing the
24 elevations. There is no foundation that she knows

1 elevations or that she has anything other than what
2 we have already had in testimony concerning
3 elevations.

4 MR. COOPER: I was not at the hearing
5 before. If it is cumulative, it is cumulative, and
6 I am sure they consider the original, but I think
7 that it gives the Board some assistance in knowing
8 what the terrain is like. It is an official
9 record.

10 HEARING OFFICER WALLACE: Go ahead and
11 continue. I think we did cover it. I think that
12 map is already in evidence or a map similar, but if
13 you have a few questions go ahead.

14 Q (By Mr. Cooper) Anyhow, that map just
15 shows -- it has Gott and Wells and it shows what
16 the elevations are, correct?

17 A Yes.

18 Q All I have is two more exhibits and these
19 are two pictures, AH 11 and AH 5. Can you tell me
20 what those are?

21 A These are pictures that were taken
22 07-14-97 from the Kinderhook park, and one taken
23 05-04-97 from the backyard of Gary Wells.

24 Q And AH 9 is what?

1 A These are the sheriff's incident verified
2 reports.

3 MR. LEWIS: We object, Your Honor, to the
4 sheriff's incident verified reports with -- anybody
5 could call and make a report, and to have sheriff's
6 reports would be hearsay, and not subject to
7 cross-examination in any way. Those could be
8 generated simply by people voluntarily making
9 reports to have reports. We object to the use of
10 those without any ability to cross-examine
11 whatsoever.

12 HEARING OFFICER WALLACE: What is the
13 date on that?

14 THE WITNESS: These are all verified
15 reports.

16 HEARING OFFICER WALLACE: What is the
17 date on them?

18 THE WITNESS: The dates, there is seven:
19 05-20-97, 06-24-97, 07-04-97, 07-14-97, 08-03-97,
20 09-09-97 and 09-15-97.

21 HEARING OFFICER WALLACE: All right. I
22 will accept those into evidence solely for the
23 purpose that a report was made to the sheriff's
24 office, not for the truth of the matter contained

1 therein.

2 MR. COOPER: All the exhibits that I have
3 identified I offer into evidence. I have no
4 further questions.

5 HEARING OFFICER WALLACE: Before we go
6 on, let's go off the record a minute.

7 (Discussion off the record.)

8 HEARING OFFICER WALLACE: Back on the
9 record.

10 You may continue with cross-examination.

11 MR. COOPER: I have AH 2. One of them
12 was in and one of them was out, 2 or 3.

13 HEARING OFFICER WALLACE: I show 2 was
14 withdrawn. Then I have 8 and 4. Just so we are
15 all clear, I do have others to rule on that I
16 haven't ruled on yet.

17 MR. COOPER: Okay.

18 HEARING OFFICER WALLACE: All right. You
19 may continue.

20 CROSS EXAMINATION

21 BY MR. LEWIS:

22 Q I show you Complainant's Exhibit Number
23 AH 9; is that correct?

24 A Uh-huh.

1 HEARING OFFICER WALLACE: Yes? Ms. Gott,
2 you always need to say yes.

3 THE WITNESS: Okay. Yes.

4 HEARING OFFICER WALLACE: Thank you.

5 Q (By Mr. Lewis) The first report was
6 reported by you, Donetta Gott?

7 A Is that what it says? Yes.

8 Q Would the second report be made by you,
9 Donetta Gott?

10 A Yes.

11 Q Would the third report be by Gary Wells,
12 who is a complainant?

13 A Yes.

14 Q Would the fourth one be by Donetta Gott?

15 A Yes.

16 Q Would the fifth one be by Donetta Gott?

17 A Yes.

18 Q Would the sixth one be by Donetta Gott?

19 A Yes.

20 Q And would the seventh one be by Gary
21 Wells?

22 A Yes.

23 Q Would I be correct that there is no other
24 sheriff's report other than made by the two of you

1 complainants? To your knowledge, this is it, isn't
2 it?

3 A As far as I know.

4 Q Now, when it comes to verification,
5 whoever went out you don't know what they
6 verified? They just verified they smelled odor;
7 isn't that right?

8 A What does it says on there?

9 Q Well, I am asking you.

10 A Yes, they verified hog odor. If it
11 states on there I called in strong hog odor, and
12 they verified, that means they verified strong hog
13 odor.

14 Q But they didn't verify where it came
15 from, did they?

16 A In Kinderhook.

17 Q But they didn't verify where it came
18 from?

19 A It is all in the report.

20 Q Just answer my question.

21 A You will have to give it to me to let me
22 read it.

23 Q Well, read number one where you made your
24 complaint. There is no verification that it came

1 from a particular place, is there?

2 A It says come to Kinderhook to document
3 hog odor.

4 Q Yes, came to Kinderhook, but there is no
5 verification --

6 A No, not where it was, no.

7 Q -- as to where the odor came from? Now,
8 here is a strong odor in Kinderhook by somebody who
9 supposedly came out. Again, no indication of where
10 it came from?

11 A No, they don't contact you back, no.

12 Q So there was no feedback and, therefore,
13 the Hearing Officer and the Illinois Pollution
14 Control Board and myself, as attorney for the
15 respondents, we cannot tell from here where the
16 odor came from, can we?

17 A Not unless it says in Kinderhook, yes.

18 Q Well, Kinderhook, it would be in
19 Kinderhook. There could be odor coming from the --

20 A I call it in from my house when I have
21 hog odor strong.

22 Q I know, but they come just to Kinderhook,
23 right?

24 A Uh-huh.

1 Q In fact, this one is by the park and ball
2 diamond. Where is the park and ball diamond?
3 A The park is a block away from me, and the
4 ball diamond is two blocks east.
5 Q Is that the same park and ball diamond
6 that --
7 A The high school.
8 Q -- Mrs. Speed (spelled phonetically)
9 testified that they had activities --
10 A Yes.
11 Q -- there and never had a problem? Is
12 that the same park?
13 A This is at night. She is there in the
14 daytime.
15 Q I know, but it is the same park?
16 A Yes, the same park.
17 Q Well, you say this is at night. It says
18 Thursday, time, vacant?
19 A There is a time on there somewhere, isn't
20 there? Time, 21:25, whatever that is.
21 Q Okay. Time notified, 1076. What does
22 that mean?
23 A Well, I don't know. You tell me.
24 Q This shows the date and time the report

1 was made, but this does not have the tie in as to
2 when they came and checked the odor, does it?

3 A That is when they verified it, is what
4 they told me at the sheriff's office.

5 MR. LEWIS: I object to what they told
6 her.

7 Q (By Mr. Lewis) I am saying on this paper
8 is there any such verification? There isn't, is
9 there?

10 A The time is on there.

11 Q The time of what? Report made, time --

12 A That is the sheriff's report and it has a
13 time on there and the area.

14 Q The time the report was made, but there
15 is no tie in with when they came out to verify it?

16 A That is the time.

17 Q That they came to verify it?

18 A Yes.

19 Q So you don't have a time, then, that you
20 made the report?

21 A I don't know. Is there?

22 Q Is there anything on there as to when you
23 made the report?

24 A I don't know. You tell me.

1 Q Well, you look and you tell me.

2 A Report made, date, and then it says
3 times.

4 HEARING OFFICER WALLACE: Mr. Lewis, try
5 not to badger the witness.

6 Q (By Mr. Lewis) The time --

7 A Report made, date, and time.

8 Q And time is left blank?

9 A But the time is there.

10 Q The time -- it doesn't show on here what
11 that time is?

12 A There is no time on any of these if you
13 will look at that.

14 Q Well, that's what I am asking you. There
15 is no time on any of them?

16 A There is time there.

17 Q When the report was made?

18 A Yes. No, when they came out is what I
19 was told. When they verified it, that's the time.

20 Q It says report made. Who made the
21 report? You did?

22 A Right.

23 Q Where would the low lying areas around
24 Kinderhook be? Which direction would the low lying

1 areas around Kinderhook be?

2 A It would be in the low lying areas.

3 Q Well, my question --

4 HEARING OFFICER WALLACE: Just a minute.

5 Ms. Gott, it will go a lot faster if you will try

6 to answer the question. He is asking you where

7 they are.

8 THE WITNESS: Well, one of them is in my

9 area, in behind my house, and I am in one of the

10 low lying areas, the draw.

11 Q (By Mr. Lewis) Would you say that a low

12 lying area around Kinderhook could also be south?

13 There is a low lying area south, isn't there?

14 A I am not aware of any low lying areas

15 south.

16 Q Well, isn't Kinderhook basically built up

17 on a hill?

18 A South of Kinderhook is downwind, yes.

19 Q And it is low lying?

20 A Yes, the elevation goes down as you go

21 south.

22 Q Well, that could be low lying?

23 A It could be.

24 Q A lot lower lying than your property?

1 A But not in Kinderhook.

2 Q It says around Kinderhook, low lying
3 areas around Kinderhook. And a low lying area
4 around --

5 A I don't consider Kinderhook two and a
6 half miles away around Kinderhook.

7 HEARING OFFICER WALLACE: All right.
8 That answer is stricken. It is nonresponsive.

9 Q (By Mr. Lewis) The Borrowman farm,
10 regardless of what you consider, is around
11 Kinderhook?

12 A I don't consider it around Kinderhook.

13 Q Do you know what the sheriff considers?

14 A No.

15 Q And if it is around Kinderhook it is a
16 lower lying area than your house, the Borrowman
17 farms?

18 A It is, yes.

19 Q Do you know how to read a topographical
20 map?

21 A Somewhat. I can read numbers which means
22 elevation.

23 Q On Exhibit AH 13 that you marked, the
24 Wells house and the Gott house has been marked; is

1 that correct?

2 A Yes.

3 Q And then to the north of there is the --

4 would north be to the top?

5 A North is this way (indicating).

6 Q All right.

7 A This way (indicating).

8 Q So on this you don't show the Orr farm?

9 A No, it is not on there.

10 Q So we can't tell the topography from

11 Exhibit AH 13?

12 A No, not from that map.

13 Q You cannot from AH 13, can you?

14 A No.

15 Q Where is the W farm?

16 A (Indicating).

17 Q Whose is that?

18 A That would be the Orr facility.

19 HEARING OFFICER WALLACE: That would be

20 what?

21 THE WITNESS: The Orr facility.

22 Q (By Mr. Lewis) Where is your place?

23 A This is Kinderhook. I can't see that far

24 away. I am sorry.

1 Q You can't tell your house as to what the
2 topography is, can you?

3 A No. It is right here (indicating).

4 Q But you can't tell the topography, can
5 you?

6 A No, not on this map, no.

7 Q So on neither of these maps can you tell
8 us the relative topography of the Orr place
9 compared with your place? You can't, can you?

10 A I could with the combination of the two.

11 Q If you look at both of them?

12 A Yes.

13 Q Which one do you need to look at?

14 A Both of them.

15 Q We are looking at AH 12. That does not
16 show the line where the Orr property is, does it?

17 A The Orr property is right along here on
18 the --

19 Q Now, can you follow a line that is
20 connected that shows any elevation?

21 A There is elevation here and elevation
22 there.

23 Q But not in the middle where the Orr
24 property is?

1 A Not there.

2 Q So you couldn't tell from that, could
3 you?

4 A You would have to go with the terrain
5 around.

6 Q The same is true as with Number AH 13?

7 A I can tell you what it is where I am.

8 Q What is it where you are?

9 A It is about 513, 509, 507. I have this
10 block here (indicating).

11 Q You can't tell the Orr farm in relation
12 to this?

13 A You are up in the 600s up there.

14 Q It doesn't show any 600 except on the
15 side and you can't see any lines in between, right?

16 A There is 600.

17 Q That's on the side. I am asking you do
18 you know -- these lines in between would have a
19 different elevation. That's what a contour
20 elevation is all about.

21 A Right.

22 Q You can't tell, can you?

23 A Well, it lays all the same back there.

24 Q Well, the lines don't say it lays the

1 same. You don't know that it lays the same, do
2 you?

3 A Right here it says 600.

4 Q That's way over to the right. That's the
5 highest there is, way over off the farm, right?

6 A You are a few feet off.

7 Q How many feet off?

8 A I don't know. You can look at the area
9 there.

10 Q Well, you tell me. Do you know?

11 A It is close enough that you ought to be
12 able to look at it.

13 Q But you don't know that, do you?

14 A No, I don't know that.

15 Q In fact, the pictures show that it is
16 very level, don't they? On AH 11, the picture that
17 you are attempting to introduce --

18 A That shows that they are up hill.

19 Q What's up hill?

20 A See the hill here? See how that curves?
21 They are up. You are going up.

22 Q Are you saying that then they can tell
23 from that that you are going up? Mr. Wells said it
24 was pretty level.

1 A That's his observation. This isn't taken
2 from his bedroom window.

3 Q Where was it taken?

4 A This is taken by the lot the block beside
5 him, down by the back fence.

6 Q Where are you?

7 A Where am I?

8 Q Yes, where is your house?

9 A I am a block away.

10 Q Which way? Is it to the left or to the
11 right of --

12 A To the south.

13 Q And that would be just behind Wells,
14 then?

15 A I am a block south of Wells.

16 Q You would agree that the Wells house is
17 higher than the topography --

18 A No, I would not agree with that.

19 Q You disagree with Wells?

20 A Yes, I do.

21 Q You are saying whatever you are
22 testifying to can be seen from this picture AH 11?

23 A That they are up hill?

24 Q Yes.

1 A Yes.

2 Q Do you know how much up hill?

3 A No.

4 Q Look at AH 5. Is the same true that you
5 can tell from that picture, from the park, that the
6 park is at a different level than the ground?

7 A Yes, I can see that.

8 Q How much? Do you know?

9 A I couldn't tell you.

10 Q Now, to me it looks like it is even
11 higher, the park, but to you it doesn't?

12 A No.

13 Q It will be up to the Hearing Officer as
14 to what it is, and you don't have any idea what it
15 is?

16 A No, I don't know what it is.

17 MR. LEWIS: As to Number 7, is that the
18 one that you did not admit?

19 HEARING OFFICER WALLACE: Right. Maxine
20 Ellison's diary, AH 7, is not admitted into
21 evidence. I am taking it with me as an offer of
22 proof.

23 Q (By Mr. Lewis) Now, did you do anything
24 or did anyone, to your knowledge, on your behalf or

1 on behalf of any of the complainants measure the
2 odor?

3 A Measure the odor?

4 Q Yes. Did you have any tests done?

5 A Mechanically, no.

6 Q So you have no scientific equipment?

7 A No.

8 Q You didn't have it yourself or ask anyone
9 else to come in with any scientific equipment?

10 A No.

11 Q Do you agree with Mr. Wells that it has
12 gotten considerably better?

13 A No.

14 Q You don't agree with him?

15 A No, I don't.

16 Q You heard his testimony?

17 A Yes, I did.

18 Q He is one of the complainants?

19 A Yes.

20 Q You don't have any testimony that Mr. --
21 That the Orr brothers have done anything other than
22 the mediation that they have testified to? You are
23 not contesting that they didn't do what they said
24 they did, are you?

1 A I have no proof that they have done
2 anything.

3 Q You don't have any proof that they didn't
4 do anything, either, do you?

5 A No.

6 Q No witnesses whatsoever and you made no
7 discovery evidence to go on the farm to see what
8 has been done, did you?

9 A No.

10 Q Who took the pictures AH 5 and AH 11?

11 A I took those.

12 Q And when did you take them?

13 A There is dates on the pictures. I think
14 05-20-97 and 07-something '97.

15 Q Are you saying that the stand pipes were
16 there or were not there?

17 A They have had stand pipes around the
18 lagoon.

19 Q And you have seen those, haven't you?

20 A Through pictures of Mr. Bundy's. But the
21 stand pipes in front of the confinement building
22 were just put up. Those haven't been there. They
23 were put up there the last couple of days, I would
24 guess.

1 Q So you are saying to your knowledge the
2 stand pipes near the confinement building were put
3 up in just the last two or three days?

4 A There is more that has been put up that
5 is very visible that go beyond the confinement
6 building.

7 Q In the last --

8 A Those were not -- yes.

9 Q In the last --

10 A Those were not there.

11 HEARING OFFICER WALLACE: Wait for her to
12 give her answer.

13 Q (By Mr. Lewis) Those were not there?

14 A No.

15 Q And when you say that they were put up
16 just within the last --

17 A Very recently. I can't tell you when.

18 Q Well, approximately how recently?

19 A I am saying very recently.

20 Q Well, I think I have the right to ask you
21 approximately. What do you mean by "very
22 recently"?

23 A Within the last week.

24 Q Mrs. Gott, you say you had a conversation

1 with Mr. Brockamp?

2 A Yes.

3 Q You did tell him, did you not, that there
4 was a substantial material odor coming from the
5 Borrowman farm? You said that?

6 A No, I didn't tell him. I said people
7 were -- the Borrowmans were complaining of it. The
8 family of Borrowmans that live next to it. I did
9 not tell him there was odor coming from the
10 Borrowman's.

11 Q But you told him people were complaining
12 about it?

13 A The people that live within a fourth of a
14 mile, I have heard that, yes, they are complaining
15 of the Borrowman facility.

16 Q And you told Mr. Brockamp that?

17 A I don't recall whether I told him that or
18 not.

19 Q You may have?

20 A I don't -- I haven't talked to Mr.
21 Brockamp in quite some time.

22 Q But you are aware that there were people
23 complaining about the odor coming from the
24 Borrowman farm?

1 A The only people that I know that
2 complained were the people that lived right next to
3 them.

4 Q Now, I understand that you have quite a
5 reputation for a good garden?

6 A Yes.

7 Q Flowers?

8 A Yes.

9 Q All of that work is done outside?

10 A Yes.

11 Q And you had a real nice flower garden
12 this summer?

13 A Yes.

14 Q And a real nice garden?

15 A (Nodded head up and down.)

16 Q And you do all the gardening and the
17 flowers yourself, don't you?

18 A Yes.

19 Q What about the mowing, do you mow the
20 lawn?

21 A Yes.

22 Q You do that yourself?

23 A Yes.

24 Q Are you a single person, then, in the

1 house?

2 A Yes.

3 Q So everything that is done there you do

4 it?

5 A Yes.

6 Q You mow the yard regularly?

7 A Yes.

8 Q You keep it very nice?

9 A Yes.

10 Q Okay. Do you have your calendar or

11 whatever?

12 A Yes.

13 Q Just starting out with your 05-31, that

14 would be May 31 of 1996; is that correct?

15 A Yes.

16 Q And do you report that there was no wind?

17 A Yes.

18 Q I take it that that means if there is no

19 wind the air is very still?

20 A Yes.

21 Q So there is no wind blowing in any

22 direction?

23 A No.

24 Q The odor can come from anywhere, can't

1 it?

2 A It comes down on draws is where it comes
3 from.

4 Q Well, it comes down from the draws and
5 you have no measurements of any draw or what the
6 direction the draw is, do you?

7 A No. There is no wind, though.

8 Q You have had no study made as to where
9 the odors are coming from when the wind is still,
10 have you?

11 A No.

12 Q 06-01-96, just for instance, there is no
13 indication of any odors 06-20 -- 06-02 and 06-03
14 there is no indication of any odor, is there?

15 A No.

16 Q 06-04, again, when you had to close the
17 windows there was no wind, was there?

18 A Right.

19 Q You had a house full of odor but no study
20 made and no other person to testify as to where the
21 odor came from, did you?

22 A No.

23 Q The same thing on 06-06-96, no wind?

24 A Right.

1 Q 06-05, rain, p.m., no indication of any
2 odor; is that correct?

3 A When was that?

4 Q 06-05-96.

5 A Yes, it rained.

6 Q If the wind is blowing from the
7 northwest, then, to your knowledge, would it then
8 go southeast?

9 A (Nodded head up and down.)

10 HEARING OFFICER WALLACE: I am sorry?

11 THE WITNESS: Yes.

12 Q (By Mr. Lewis) Now, the Orr farm would
13 not be in your path for a wind going southeast,
14 would it?

15 A If it moved from the northwest going
16 southeast it would go past my house to get there,
17 wouldn't it.

18 Q You are almost directly south, are you
19 not?

20 A From the Orr facility?

21 Q Right.

22 A Yes.

23 Q You are not southeast? You are south,
24 aren't you?

1 A Yes, I am south.

2 Q So that's correct, isn't it?

3 A Yes.

4 Q On 06-08-96, no winds again?

5 A Yes.

6 Q On 06-09, and I assume that is 1996, no
7 indication of where the wind -- of what direction
8 the wind is?

9 A I forgot to put it on there, evidently.
10 We tried to be thorough.

11 Q Well, but there is no indication?

12 A That day, no, there wasn't.

13 Q Each day I have asked you there has not
14 been any indication of wind, right?

15 A We don't have any. There is no wind.

16 Q Well, I don't want to belabor it, but I
17 do want to go through it enough. On 06-09 no
18 indication of wind. On 06-10, no wind. On 06-11,
19 no --

20 HEARING OFFICER WALLACE: Are there years
21 on that?

22 MR. LEWIS: Yes, 06-11-96.

23 HEARING OFFICER WALLACE: All right.

24 MR. LEWIS: We would ask that all of that

1 be not considered, Judge, because that was of the
2 time of the hearing.

3 MR. COOPER: The hearing was in May.

4 THE WITNESS: Our hearing was the 30th of
5 May.

6 HEARING OFFICER WALLACE: Continue your
7 questions.

8 Q (By Mr. Lewis) Well, now I am going to
9 February 19. I take it that is in 1997?

10 A It should say at the top of the page,
11 doesn't it?

12 Q On the left-hand side I see 1997. That
13 would be correct? That is correct, isn't it, that
14 it is 1997? February 19, 6:00 p.m.?

15 A Yes. I have got two places on that page
16 that says 1997.

17 HEARING OFFICER WALLACE: So then the
18 answer to his question is yes?

19 THE WITNESS: Yes.

20 HEARING OFFICER WALLACE: Thank you.

21 Q (By Mr. Lewis) There was no wind?

22 A No. You will find that almost every
23 entry.

24 Q On 03-04 -- as you say, on most of them

1 there are no readings; is that right?

2 A No, there is no wind.

3 Q Most of your entries were taken when

4 there was no wind?

5 A That's right.

6 Q Okay. Here on February 19th of 1996

7 (sic) at 6:00 p.m., is that 45 degrees outside?

8 A In February of 1996?

9 Q February 19th of 1997.

10 A What date?

11 Q February 19th, 1997.

12 A What was your question?

13 Q That 45 degrees, does that mean the

14 temperature outside?

15 A Yes.

16 Q You had to come in from outside and close

17 the patio door. Does the patio door --

18 A I have plexy glass on my patio in the

19 wintertime and the sun warms that, and there is

20 times that I can have snow on the deck and it can

21 be 80 degrees on that patio or on the screened

22 porch.

23 Q But at least it is 45 outside and you

24 came in from outside and closed your patio door; is

1 that correct?

2 A I have my patio door open almost year
3 round, or try to.

4 Q This is going to compare Mr. Wells and
5 yours. For instance, on 03-11, in the morning you
6 say no wind. On March 11 he says winds.

7 A What time is that?

8 Q Well, it is in the morning. His is winds
9 at 9:30. Yours is no wind at 7:00 a.m.

10 A Maybe it was windy at 9:30. There wasn't
11 any at 7:00.

12 Q Well, we would gather from all of your
13 entries of no wind that there is almost never any
14 wind that affects you?

15 A Right. It is in the evening when the air
16 is still.

17 Q Again, at no point did you ever make a
18 study as to whether that --

19 HEARING OFFICER WALLACE: I think she has
20 answered that about four times.

21 MR. LEWIS: Okay.

22 Q (By Mr. Lewis) Look at 1997, May 9, at
23 9:15 p.m. Here is an example where there is not
24 any indication of whether you had wind or not. Are

1 you like Mr. Wells, that if you didn't have wind
2 then you probably didn't put it down?

3 A No, there is just times you forget.

4 Q So you don't know if there was wind there
5 or not?

6 A No. If it doesn't say, now I couldn't
7 tell you.

8 Q If there is a notation -- if you have a
9 date that you describe and there is no indication
10 of when, then the Hearing Officer and the Illinois
11 Pollution Control Board would not be able to then
12 say whether there was wind or not?

13 A If it doesn't say there is any wind, I
14 don't know how they would know if there was wind.
15 It gets very monotonous keeping that so, you know,
16 you forget.

17 Q Mr. Wells testified when the wind was
18 from the north he had a problem. But in your case
19 you can't identify it with winds hardly at all, can
20 you, because most of yours are no wind?

21 A No. Can I identify it with wind? Is
22 that what you are saying?

23 Q Yes.

24 A There is times there is wind.

1 Q But most of your entries --

2 A Are no wind.

3 Q -- are no wind. On those days you can't
4 identify the presence of the odor as a result of
5 wind, can you?

6 A It depends on the time of the day.

7 Perhaps his was kept at a different time than when
8 I kept mine. Mine is mostly at night. I work
9 through the day. I am not there except on the
10 weekends.

11 MR. LEWIS: I have nothing further.

12 HEARING OFFICER WALLACE: Redirect?

13 MR. COOPER: No questions.

14 HEARING OFFICER WALLACE: If you could
15 hand me the exhibits. Thank you.

16 EXAMINATION

17 BY HEARING OFFICER WALLACE:

18 Q Ms. Gott, can you see this photo?

19 A Yes.

20 Q Once again, the view is looking which
21 direction?

22 A I was standing at the block that Wells is
23 also on, but their house isn't on that block. I
24 was standing at the back fence area on their

1 property. I took the picture from there.

2 Q So you are looking north?

3 A Yes.

4 Q Or in a northerly direction?

5 A Yes, uh-huh.

6 Q On Complainant's Exhibit 5, which

7 direction are you --

8 A I was in the road by the park.

9 Q Looking which direction?

10 A North.

11 HEARING OFFICER WALLACE: All right. If

12 you want to follow along, I will go through these

13 exhibits to have it in the record.

14 Complainant's Exhibit AH 1, Wells' diary,

15 has been admitted.

16 Complainant's Exhibit AH 2, a photo, was

17 withdrawn.

18 Complainant's Exhibit AH 3, a photo, was

19 not offered.

20 Complainant's Exhibit AH 4, a photo, was

21 admitted.

22 Complainant's Exhibit AH 5, a photo from

23 the park, did you object?

24 MR. LEWIS: Yes. I think you admitted

1 it.

2 HEARING OFFICER WALLACE: Yes. I just
3 wanted to make sure for the record.

4 Complainant's Exhibit AH 6, Ms. Gott's
5 diary, is admitted.

6 Complainant's Exhibit AH 7, Maxine
7 Ellison's diary, is not admitted.

8 Complainant's Exhibit AH 8, the photo
9 looking north, is admitted.

10 Complainant's Exhibit AH 9, the sheriff's
11 reports, are admitted for the purpose that the
12 sheriff's office was called.

13 Complainant's Exhibit AH 10, citizen
14 comments, they are accepted, as the Board accepts
15 public comments.

16 Complainant's Exhibit AH 11, the photos
17 from the Wells' house is admitted.

18 Complainant's Exhibit AH 12, the State
19 Geological Survey Map, and Complainant's Exhibit AH
20 13, the city map, did you object to both of those?

21 MR. LEWIS: Yes.

22 HEARING OFFICER WALLACE: All right.

23 HEARING OFFICER WALLACE: I am going to
24 admit both 12 and 13.

1 (Whereupon said documents were
2 admitted into evidence as
3 Complainant's Exhibits AH 5 and
4 AH 6 and AH 8 through AH 13 as
5 of this date.)

6 HEARING OFFICER WALLACE: Thank you, Ms.
7 Gott. You may step down.

8 THE WITNESS: Thank you.

9 (The witness left the stand.)

10 HEARING OFFICER WALLACE: Do you have
11 additional witnesses?

12 MR. COOPER: We have no further
13 evidence.

14 HEARING OFFICER WALLACE: All right.
15 Let's go off the record.

16 (Discussion off the record.)

17 HEARING OFFICER WALLACE: Let's take
18 about a five or a ten minute break.

19 (Whereupon a short recess was
20 taken.)

21 HEARING OFFICER WALLACE: Back on the
22 record.

23 Mr. Cooper, you had nothing further?

24 MR. COOPER: Nothing further.

1 HEARING OFFICER WALLACE: Mr. Lewis, you
2 wish to put on some rebuttal?

3 MR. LEWIS: Yes. We call Mr. Orr
4 briefly.

5 HEARING OFFICER WALLACE: All right. You
6 are still under oath.

7 THE WITNESS: Okay.

8 D A V I D O R R,
9 having been previously duly sworn by the Hearing
10 Officer, called as a rebuttal witness, saith as
11 follows:

12 DIRECT EXAMINATION

13 BY MR. LEWIS:

14 Q Mr. Orr, state your full name.

15 A David Orr.

16 Q You are the same David Orr that has
17 heretofore testified under oath?

18 A Yes.

19 Q I will ask you, with respect to the
20 testimony of both Mr. Wells and Mrs. Gott
21 concerning the time that you put in the risers with
22 the misting equipment.

23 A Yes.

24 Q You heard testimony that you just put

1 them in or that you put them in in the last few
2 days or that you put them in within about the last
3 week. Did you hear that testimony?

4 A Yes, I did.

5 Q Is that true?

6 A No, it is not.

7 Q When did you put them in?

8 A It was in April, I believe.

9 Q That was April of what year?

10 A Of 1997.

11 Q Did you put any in in the last month?

12 A No, we have not.

13 Q Did you put any in in the last two
14 months?

15 A No.

16 Q So whatever the pictures show or don't
17 show that they have introduced into evidence, if
18 they do not show whether or not the risers are
19 there, they would be incorrect?

20 A That's right.

21 Q Now, you have heard the testimony of Mrs.
22 Gott concerning the Borrowman farm?

23 A Yes.

24 Q And is that the newer operation that has

1 opened?

2 A Yes, it is.

3 Q When did it open, approximately?

4 A I believe that was in the fall of 1995

5 when they started using that or spring of 1996, one

6 or the other.

7 Q You have heard the testimony concerning

8 the relative size. What is the size -- are you

9 acquainted with the Borrowman operation?

10 A Yes, I am.

11 Q Where is it located?

12 A South of Kinderhook.

13 Q How many acres in the lagoon itself?

14 A Seven acres.

15 Q That compares with yours of how much?

16 A One-third of an acre.

17 Q Are you acquainted with how many sows and

18 pigs they put in?

19 A They have all finishing facilities, a

20 nursery.

21 Q Finishing facilities means they feed out

22 the gilt and barrows?

23 A Yes.

24 Q How many do they feed out?

1 A At one time down there they had a little
2 over 12,000.

3 Q Is that approximately what they continue
4 to have?

5 A Yes, constantly.

6 Q How many sows?

7 A They don't have any sows.

8 Q These are all finishing hogs?

9 A Yes, they are.

10 Q That 12,400 compares with your how many?

11 A We have 60 sows and about 700 small pigs.

12 Q Now, you heard the testimony that Mrs.
13 Gott didn't smell anything at the Borrowman farm?

14 A Yes.

15 Q Have you been by the Borrowman farm?

16 A Yes.

17 Q What have you noted about it?

18 A It has a lot of odor to it.

19 Q Have they taken any remedial action that
20 you know of?

21 A No, they haven't.

22 Q Does the outside appearance show
23 anything?

24 A No.

1 Q With respect to the experience you have
2 had as far north as your house, have you smelled
3 from the Borrowman farm?

4 A Yes, we have.

5 Q How can you tell it is coming from the
6 Borrowman farm?

7 A Because on the south side of our house we
8 don't have -- our hogs are all on the north side
9 and the wind is out of the south.

10 Q So when the wind is out of south you have
11 a terrible odor?

12 A Yes, we have.

13 Q And is the odor from the Borrowman farm
14 being generally complained of?

15 A Yes, I have heard a lot of complaints.

16 Q You know the topography of your ground,
17 do you not?

18 A Yes, pretty well.

19 Q You heard Mrs. Gott say that she couldn't
20 tell from the maps whether -- you know, how much
21 higher or lower her place or the Wells' place was
22 from your confined feeding.

23 A Yes.

24 Q They did, however, say that there is a

1 hollow?

2 A Yes.

3 Q As if it was running north and south.

4 Did you hear that?

5 A Yes.

6 Q Does any hollow run north and south at

7 your place?

8 A There is kind of a lower place that runs

9 north and south in the field.

10 Q What direction is it, more north and

11 south or east and west?

12 A There is a deep hollow that runs east and

13 west.

14 Q Is that the deep hollow that they are

15 talking about?

16 A No, they are talking about a different

17 spot in the field, I guess.

18 Q That's a hollow between the places but

19 they are higher than that hollow?

20 A Yes.

21 Q Considerably higher?

22 A Yes.

23 Q And that, then, would serve as a trap for

24 odor rather than provide odor?

1 A Yeah. Yes. Excuse me.

2 MR. LEWIS: I have nothing further, Your

3 Honor.

4 HEARING OFFICER WALLACE: Cross?

5 MR. COOPER: No cross.

6 EXAMINATION

7 BY HEARING OFFICER WALLACE:

8 Q Mr. Orr --

9 A Yes.

10 Q -- according to this map your house is --

11 it looks to be within ten yards of your sow lot; is

12 that --

13 A It is further back. It is about 50 or 60

14 yards.

15 Q You currently have sows on the lot?

16 A Yes, to the north.

17 Q Do you have 60 head or 150 head?

18 A We have 150 head on the lots. We were

19 talking about the confinement building. There is

20 60 in the confinement building.

21 Q So what is your total number of sows?

22 A About 200, 210.

23 Q Okay. So you have 150 or so on the sow

24 lot --

1 A Yes.

2 Q -- right now?

3 A Yes.

4 Q And then the remainder in the --

5 A Yes.

6 Q -- inside?

7 A Yes.

8 Q Do you have any smaller hogs outside?

9 A No, it is just all sows.

10 HEARING OFFICER WALLACE: Okay. Thank

11 you. You may step down.

12 (The witness left the stand.)

13 MR. LEWIS: We call Dr. Bundy.

14 HEARING OFFICER WALLACE: Dr. Bundy, you

15 are still under oath from earlier.

16 THE WITNESS: Yes.

17 D W A I N E B U N D Y,

18 having been previously duly sworn by the Hearing

19 Officer, called as a rebuttal witness, saith as

20 follows:

21 DIRECT EXAMINATION

22 BY MR. LEWIS:

23 Q Would you state your name, please.

24 A Dwaine Bundy.

1 Q Were you on the premises of the Orr farm
2 in question during the time that the risers that
3 distribute the Ecolo mist, before they were --
4 after they were installed?

5 A Yes, I have been.

6 Q And do you remember approximately when
7 you were there when you saw the risers already in
8 place?

9 A That was early in May. I believe the
10 date was May 3rd when I was there.

11 Q Of what year?

12 A 1997.

13 (Whereupon photographs were
14 duly marked for purposes of
15 identification as Respondent's
16 Exhibits AH 10 and AH 11 as of
17 this date.)

18 Q (By Mr. Lewis) Looking at Respondent's AH
19 Exhibit Number 10, does that show the risers in
20 place?

21 A It shows the risers in place, and it
22 shows the Ecolo coming out of the top of the
23 nozzles.

24 Q Does that show, then, the risers in a

1 location to be south of the lagoon and south of the
2 hog confinement?

3 A Yes, it shows some in both locations.

4 Q Did you see any -- you were there today.
5 Did you see any new ones installed from the ones
6 that you saw installed already?

7 A No, I did not.

8 Q Okay. Now, as to Respondent's Exhibit
9 Number 11, can you tell us what that purports to
10 show?

11 A This purports to show two or three
12 things. Since there was no date on this particular
13 picture, Exhibit AH, Respondent's AH --

14 Q That is AH 10?

15 A That's correct.

16 Q Okay.

17 A It showed a number on the back of it,
18 Number 8A and another number corresponding to
19 Number 7A, which all the other numbers were the
20 same on both of them. It shows the corn field
21 before it was -- before the corn was up. Whether
22 it was planted or not at that time I don't know.
23 But it dates the pictures that these risers were up
24 prior to the corn being up large enough in this

1 picture to see.

2 The second thing it shows, it shows the
3 ravine right next to the lagoon to the south as
4 well as the confinement building, the ravine
5 directly to the south of the confinement building
6 which shows the direction of the flow of water at
7 that point.

8 Q What is the direction of the flow of the
9 water? Is it north and south or east and west?

10 A East and west.

11 Q So what effect would the ravine have as a
12 natural barrier for odor?

13 A As I reported earlier, a deep ravine has
14 the effect, under still conditions, of settling
15 down into that particular area.

16 MR. LEWIS: We will ask that Respondent's
17 Exhibits AH 10 and AH 11 be introduced into
18 evidence.

19 MR. COOPER: No objection.

20 Q (By Mr. Lewis) So the ravine is south,
21 but it actually flows east and west?

22 A That's correct.

23 Q It doesn't carry, then, any additional
24 odor to the properties of Gott and Wells?

1 A That would be correct.

2 Q You are an engineer and have seen the
3 pictures of the Gott and Wells' properties. Do you
4 agree that they are approximately level with the
5 height of the ground level of the confinement
6 house?

7 A I think it appears to be slightly level
8 or slightly below. There appears to be a crown in
9 the way the water flows west of the Orrs' house.
10 That sort of flows both directions at that point.
11 If you notice in the pictures it shows from the sow
12 lot the water flowing out to the east at that
13 location, so it does not show any specific drainage
14 direction of that field. And the only drainage --
15 drainage from water does not follow the same as
16 drainage from air.

17 HEARING OFFICER WALLACE: What photo are
18 you referring to? We don't have a photo of the sow
19 lot.

20 THE WITNESS: Okay. The report -- Figure
21 8, which is not a good example of what I mentioned,
22 shows the flow behind the grain facility or behind
23 the machine storage at the Orr residence, part of
24 that flowing back to the north.

1 HEARING OFFICER WALLACE: All right.

2 THE WITNESS: And also Figure 3.

3 HEARING OFFICER WALLACE: Just a minute,
4 Dr. Bundy.

5 Did you submit the real photos with the
6 report that was sent to the --

7 MR. LEWIS: Yes, we did.

8 THE WITNESS: They were the color.

9 MR. LEWIS: You don't have the real
10 ones?

11 THE WITNESS: I don't have the real
12 ones. I have a copy of the photos.

13 HEARING OFFICER WALLACE: If you have
14 submitted the real photos to the Board, then they
15 should be in the Chicago office. I don't need to
16 see it. I am just asking for purposes of
17 clarification. If the original photos were
18 submitted with the report, then they are in my
19 Chicago office at the clerk's office.

20 MR. LEWIS: I am sure they were, and I
21 can provide another copy that has the photos.

22 HEARING OFFICER WALLACE: Okay. That
23 would be very helpful. We can withdraw the
24 previously marked.

1 MR. LEWIS: I have one here, Your Honor,
2 that shows the colored photos.

3 HEARING OFFICER WALLACE: Okay. We will
4 withdraw Respondent's Exhibit AH 1 and mark that as
5 Respondent's Exhibit AH 12. Any objection?

6 MR. COOPER: No objection.

7 MR. LEWIS: Could I have this one, then?

8 HEARING OFFICER WALLACE: Yes. Then 12
9 will be admitted into evidence.

10 (Whereupon said document was
11 duly marked for identification
12 and admitted into evidence as
13 Respondent's Exhibit AH 12 as
14 of this date.)

15 HEARING OFFICER WALLACE: All right. Go
16 ahead.

17 Q (By Mr. Lewis) Mr. Bundy, you heard Mrs.
18 Gott's testimony that out of approximately eight
19 and a half months, which I conclude to be about 260
20 days, that she had odor for 218 days out of that
21 period of time?

22 A Yes, I heard that testimony.

23 Q Based upon your knowledge and experience
24 and based upon your study and what you understand

1 about the features that affect this particular
2 operation, by a reasonable degree of engineering
3 certainty, do you believe that possibly can be
4 correct?

5 A No, I do not.

6 Q Why not?

7 A One, is the percent of time that we have
8 calm conditions. There is only about 1 percent
9 each month. I base that upon, one, ten years of
10 weather data, U.S. weather data and, two, based
11 upon approximately eight months of weather data
12 that I reported summarized in the May 15th report.

13 I talked about 1 percent there. What I
14 did at that point was I accumulated all of the
15 weather data that I collected, and I put the
16 percent of each reading that I took that was calm,
17 and there was, I believe, either 8 or 12 readings
18 per day. Excuse me. It was either 8 or 24. I
19 can't remember if it was hourly or every three
20 hours in that particular case. It showed only 1
21 percent of the time that it was calm conditions.

22 Wind, I have not found, in any of my
23 studies, even in front of a livestock building,
24 whether it is very large or small -- well, I

1 shouldn't say in front of it. Next to a livestock
2 building, where I am standing upwind, that I have
3 observed odors from that unit, the confinement
4 unit.

5 I have also collected -- we asked
6 ourselves the question, based on two years of
7 weather data of Central Iowa, where we had our own
8 weather station up and operating, where we took
9 data every three minutes, and we took wind speed,
10 wind direction, temperature, and humidity, and we
11 summarized that three minute weather data into
12 hourly data.

13 Then we asked ourselves the question,
14 what is the change between wind speeds at 6:00
15 a.m., 9:00 a.m., noon, 3:00, 6:00, et cetera, at
16 different times in the day, and we found a slight
17 reduction in the evening, but we did not find that
18 it was a significantly large number of every day it
19 becomes calm in the afternoon, in the evening, on a
20 day by day basis. We just did not find that to
21 bear true in the study we did.

22 Q Now, what relationship, then, does this
23 have with the testimony of Mrs. Gott?

24 A The testimony is that the wind being of

1 calm conditions, number one, and the second thing,
2 the direction that the wind is out of. If the
3 condition is not calm, then there is a plume width
4 that is generated from the direction that the wind
5 is blowing, and with the size of the slurry basin
6 there -- of the anaerobic lagoon there, and the
7 distance downwind, taking the wind directions into
8 account, based on the many months of Quincy weather
9 data that I used, that it shows a percent of the
10 time that the wind is between these two angles.

11 The odor -- as long as there is a wind,
12 the odor will only be receipted or received at the
13 other direction from this particular unit from this
14 particular basin, whenever the wind falls between
15 those two angles. Now, if it is over to the next
16 side it may be from the lot. It may be from the
17 building, or it may be completely from some other
18 odor source.

19 So from my experience, we do not find
20 that for this narrow of a wind, this narrow of a
21 150 foot by 100 foot anaerobic lagoon, based on the
22 distance that we are talking about, we don't see
23 odor from a single source being -- having a
24 receptor that far away that much of the time even

1 if every time that the wind was blowing that way
2 that the odor would be strong enough to carry that
3 far, and that has not been the case either.

4 Q When you talk about the prism of width of
5 the odor area, would you explain what you meant by
6 that --

7 A By that plume?

8 Q Yes, by the plume.

9 A Yes. The plume -- as I have mentioned, I
10 have taken over 600 days from site, 300 days where
11 I have taken about half of those personally, many
12 of these personally, that whenever you go downwind,
13 and many times we use the next road down in areas
14 where we have a lot of rectangular road systems,
15 and whenever the wind is blowing across the unit
16 and you can observe the odor, that when you go down
17 a quarter of a mile, and if you can observe that
18 odor, that you go into that odor and you go out of
19 that odor plume at about the same width as what
20 that source is.

21 If it is a 100 foot wide source, downwind
22 you go into it and out of it in about 100 foot.
23 That is not to say that the wind doesn't slightly
24 shift every 30 seconds, because it does, but it

1 still follows that general pattern.

2 Q If the wind is then from the northwest,
3 the plume would be certainly not directed towards
4 the Wells and Gott?

5 A That would be correct.

6 Q Did you come up with an opinion as to
7 what percentage of the time, based on your studies,
8 that this odor from Orr might be experienced by
9 Wells and Gott?

10 A I did that based upon two locations, the
11 Ellison and the Wells. I did not do it from the
12 Gott. Those numbers that I came up with on the
13 report is the weather data has shown a maximum of 3
14 percent of the time that wind blows across the
15 anaerobic lagoon and will pass over the resident on
16 2045 North Street. Similarly, only about 2 percent
17 of the time that that wind blows across the swine
18 unit that the resident on 2045 North is in the
19 plume area.

20 This compares to 15 percent of the time
21 that air passing over the sow lot will also pass
22 over one of the resident's homes or houses at that
23 point. That is the maximum, giving 100 percent
24 credit that the air movement across will carry the

1 odor that far.

2 As I mentioned this morning, it was at
3 the 300 foot that I detected a light odor. It was
4 not considered a nuisance odor. It was a light
5 odor at 300 foot. I don't know how far that would
6 carry, but it definitely was a very weak odor, even
7 at the 300 foot.

8 Q Now, if it be true that Mrs. Gott and/or
9 Mr. Wells experienced severe odor for 218 days out
10 of 260, what, in your opinion, does this indicate
11 as to whether or not there may be another source
12 contributing to the odor?

13 A It would be my opinion that there has to
14 be one or more other sources that is also being
15 observed, and not all of those as being odors
16 coming from the Orr property.

17 MR. LEWIS: We have no further questions.

18 HEARING OFFICER WALLACE: All right.

19 Cross-examination?

20 MR. COOPER: Yes.

21 CROSS EXAMINATION

22 BY MR. COOPER:

23 Q If it is true, as Mr. Wells indicated,
24 that a little over one-third of the time they have

1 odors in town, and as Mrs. Gott testified,
2 substantially more often than that, if that is
3 true, then it is your opinion that the odors must
4 come from some other source?

5 A I did not make that statement. Because
6 the comment you said, if it blew across town. The
7 town -- are you referring to any one residence in
8 town, or are you referring to a residence in town?
9 It makes a big difference what that plume is.

10 Q Are you familiar with the Shipman
11 article, Susan Shipman from Duke University?

12 A I have read several of her articles. I
13 am quite acquainted with Dr. Shipman, yes.

14 Q And that hog odors are more frequent
15 downwind in swine operations and stable atmospheric
16 conditions, meaning wind speeds less than two miles
17 an hour?

18 A I have seen her statement relating to
19 that, yes.

20 Q In other words, even with the low wind
21 there can be hog odors that are dissipated? It is
22 the plume that comes down, correct?

23 A Oh, I will agree that there is a plume
24 associated with wind speeds less than two miles an

1 hour, because we typically think of one mile an
2 hour and less being still air, and not two miles an
3 hour.

4 Q And Shipman also believes -- do you
5 consider her to be somewhat authoritative?

6 A She has quite a bit of writing, yes.

7 Q She also believes that the plume is
8 shoved downwind and it is not disbursed. Would you
9 agree with that?

10 A That the plume is what, now?

11 Q Shoved downwind and not disbursed even in
12 low wind conditions?

13 A In low wind conditions the plume stays
14 intact. It is -- the definition of what is a low
15 wind, is it one mile an hour, is it a half mile an
16 hour, or two miles an hour. Low wind speed will
17 stay intact.

18 Zero wind speed and a half mile an hour
19 wind speed down where the climatic weather
20 measuring devices cannot read the data that -- read
21 that -- how many half miles per hour. It is a big
22 difference. So we have to clarify -- in my
23 opinion, we have to clarify what she is saying
24 there.

1 Q Well, you are familiar with the fact that
2 the Pollution Control Board has determined that the
3 source of the odor is M'Orr Pork's confinement and
4 lagoon?

5 A They stated that there was odors coming
6 from the M'Orr Pork confinement lagoon, yes.

7 Q You heard some of the witnesses testify
8 that once you go south out of Kinderhook the odors
9 abate?

10 A I have heard statements made of that --
11 made of that today, yes.

12 Q So the witnesses would be between the
13 Borrowman facility and the M'Orr Pork facility,
14 correct?

15 A That was the testimony that I heard.

16 Q So if there is an odor in Kinderhook and
17 there is not an odor south of where the witnesses
18 are standing, which is north of the Borrowman
19 facility, the reasonable inference you would draw,
20 as an expert, is that the source of the odor is not
21 the Borrowman facility?

22 A That would be the inference that I would
23 draw from what they said. But, again, I did not
24 see at what location they made that reading. There

1 is a many, many multitude of things that for me to
2 accept something I have got to have more
3 information.

4 Q Well, in order to really be -- have a
5 great deal of knowledge about this, the best thing
6 to do would be to be in Kinderhook in the evening,
7 because the testimony is that the odors occur most
8 frequently in the evening hours.

9 A I was there on two evenings late in the
10 afternoon, 9:00 to 10:00 in the evening, at that
11 time.

12 Q All right. Would you say that people who
13 live in town throughout the year are in a better
14 position to judge whether or not there are odors
15 than someone who is there two nights out of the
16 year?

17 A They are much better to say if they smell
18 swine odors. They may not be better to say where
19 they come from.

20 Q I don't know if you are familiar with all
21 of the citizen letters that are in the file
22 concerning the odors in Kinderhook.

23 A I have probably not read all of those, if
24 any.

1 Q Letters that come from not Mrs. Gott and
2 not Mr. Wells, but from other people who live in
3 town complaining of the odors?

4 A I don't know when they were written or
5 anything, really, about those, so I really can't
6 make any comments about those.

7 MR. COOPER: I don't have anymore
8 questions.

9 HEARING OFFICER WALLACE: Redirect?

10 MR. LEWIS: Yes.

11 REDIRECT EXAMINATION

12 BY MR. LEWIS:

13 Q From the testimony that you heard from
14 Gott and Wells, do you see, by a reasonable degree
15 of engineering certainty, any differentiation that
16 there is from their testimony as to the source of
17 the hog odor?

18 A I was trying to differentiate, and I was
19 having a little bit of problem coming up with
20 exactly where all these measurements were taken in
21 town and so forth. So it would be difficult for me
22 to make a clear statement concerning that.

23 Q Well, in fact, they didn't have any study
24 or measurements other than at their houses, did

1 they?

2 A They did mention that they went south of
3 Kinderhook at some point. Where at south, it was
4 unclear to me.

5 MR. LEWIS: I have nothing further.

6 MR. COOPER: No questions.

7 EXAMINATION

8 BY HEARING OFFICER WALLACE:

9 Q Dr. Bundy, would you explain the movement
10 of a plume a little more, please?

11 A Okay. Typically the movement of a plume
12 and the dissipation of a plume is in a vertical
13 profile. The plume -- the air movement, as it
14 moves across an odor surface, because we are
15 talking about an odor plume, first we have to have
16 a source. We have got to pick up the odors with
17 the wind as it -- or air as it comes across.

18 So then as the air picks up some of the
19 odors then we have this plume that is more odorous
20 than it was before it went through the odorous
21 source. Then we look at dissipation of these
22 odors. There is over 200 odorous organic compounds
23 that have been identified. As these move downwind,
24 the way you drop off some of these odorous

1 compounds below your threshold, where you can no
2 longer detect it, is additional air mixing with it.

3 Typically, that air is in a vertical
4 mixing pattern. The width goes out just slightly,
5 but it has the little tail on each end where there
6 is less odorous air moved out there. So you can't
7 detect much of that out here because it is below
8 the threshold.

9 So basically the air movement in an odor
10 plume on a plane moves this direction, and
11 vertically it moves this direction (indicating).
12 That's the reason why whenever the climatic
13 conditions is in favor of dissipating of odors it
14 is whenever you have more mixing with the upper
15 atmosphere.

16 You are going to mix in this direction to
17 get rid of the odors (indicating). So the plume is
18 not much wider as it goes downwind as the source
19 itself, and it is mixing in a vertical direction to
20 dissipate it.

21 Q Okay. Now, does the plume ever
22 essentially stop, or is it continually moving if
23 there is wind?

24 A Okay. The rate of that plume, under

1 completely still conditions, no movement at all,
2 there is odors being generated at that point. So
3 something else -- and the direction that these
4 molecules, odorous molecules is going to go is the
5 least resistance.

6 So if you have zero air movement, which
7 is -- essentially, we never have that, but if it
8 approaches zero, then the odorous molecules that
9 are heavier will try to flow down to the lowest
10 area, like a ravine or something. It will follow
11 down a ravine or something, like mentioned in my
12 writings earlier. So under that condition, you
13 know, no force, it sort of dissipates out this way
14 (indicating). It diffuses more.

15 Because your major driving force is --
16 follows what we call Dalton's law under no
17 movement. Dalton's law states that the partial
18 pressures of different -- I will try to make it a
19 little simpler here. But that the dissipation is
20 that if you put so many like molecules in a given
21 area they are going to dissipate and sort of
22 equalize out in the whole room. That would be
23 under no wind movement.

24 That is sort of what happens under the

1 zero, when we have sort of a plume that just sits
2 there at that location. That's when you don't have
3 the driving force. The major driving force is the
4 wind speed. The major mixing force is cloud cover,
5 temperature, as I said, wind speed, and humidity.
6 That's what causes the mixing with the upper
7 atmosphere with the air as it moves up.

8 In many cases, if things are working like
9 they should be working, there has been people
10 report from very low flying airplanes that they can
11 detect odors from any odorous source, and that's
12 because the mixing is going vertically and it is
13 dissipating vertically.

14 Q Do high humidity days increase or
15 decrease the --

16 A The high humidity days -- it depends upon
17 the management system. If in a high humidity day
18 if the kind of manure management system you have,
19 if it reduces the number of odorous gases being
20 given off, then that would be something that would
21 tend to reduce the amount of odors. But,
22 typically, high humidity days will result with low
23 wind speed and will result in sort of hanging
24 around the building.

1 That's why we find that it is a bad time
2 to agitate a manure pit in a building or something,
3 because on a high humidity day the gases that
4 generate just want to hang right there with those
5 animals inside the building. So under a high
6 humidity day, depending on other conditions, you
7 normally think of it hanging around there real
8 close.

9 Q I don't know what it was like in Iowa
10 yesterday, but in Central Illinois it was very
11 windy. What effect does real high winds have on
12 the plume?

13 A Real high winds will have -- if it is
14 odors coming out of a building, it is going to have
15 the effect of typically a faster mixing. Coming
16 off of a surface, if that high wind results in
17 generating more odors off that surface by causing
18 surface turbulence, then that will generate more
19 odors being given off that surface. But, at the
20 same time, you are mixing faster. So it is a
21 complicated affair of exactly how all those things
22 work together.

23 Q Did you hear Mr. Orr testify that he
24 could smell odors from his house, which is south of

1 his operations?

2 A Yes, I did.

3 Q Now, if you are in close proximity to a
4 hog facility, can you still determine where the
5 odors are coming from?

6 A If you are in close proximity, in many
7 times, yes. Because you may need to walk in and
8 out of the plume, depending on where you are at.
9 As an example, I can walk around the lagoon, an
10 anaerobic lagoon, and I can definitely, on the back
11 side of it, on the side the wind is blowing into
12 it, the system, I will not smell any odors at all
13 from that livestock unit, unless there is another
14 odor source behind it that is generated. But you
15 are not smelling it from that source.

16 So if you are behind the house, as an
17 example, let's say you are on the south side of the
18 house, and if the wind is blowing from across your
19 hog unit toward your -- behind the house, you can
20 smell it there. If the wind is blowing in the
21 opposite direction, and you are standing behind
22 your house or in the front of your house, you will
23 not detect the odors. When David Orr talked about
24 that, I didn't quite understand which direction he

1 thought the wind was blowing from.

2 Q Well, isn't -- certainly, taking the sow
3 lot which has, from the testimony, a certain
4 buildup of manure on it, doesn't that generate an
5 odor regardless of the wind direction?

6 A Oh, it generates odors, but where that
7 odor goes. You can stand right next to that sow
8 lot if you are upwind from it. Now, the only time
9 that that would not necessarily be the case is what
10 if -- let's take, for example, that on that sow lot
11 you had a lot of manure straw on it and you blew
12 that manure straw across the fence, and you were
13 standing behind that odorous source from that
14 manure straw. I have not seen that in this case.
15 But you have to have an odor source behind it or
16 you are not going to smell it.

17 HEARING OFFICER WALLACE: All right.
18 Thank you, Dr. Bundy.

19 (The witness left the stand.)

20 HEARING OFFICER WALLACE: Respondent's
21 Exhibits AH 10 and AH 11 are admitted into
22 evidence.

23 (Whereupon said documents were
24 admitted into evidence as

1 Respondent's Exhibits AH 10 and
2 AH 11 as of this date.)

3 HEARING OFFICER WALLACE: Anything
4 further, Mr. Lewis?

5 MR. LEWIS: Your Honor, because of the
6 introduction of comments of individuals, we would
7 like leave to introduce our set of comments from
8 individuals in Kinderhook. We can provide those
9 within two weeks and give Mr. Duncan Cooper a copy
10 of those also.

11 MR. COOPER: I object to evidence coming
12 in that was not presented today.

13 HEARING OFFICER WALLACE: I don't see any
14 reason why it couldn't have been presented today,
15 so leave is not granted.

16 All right. Anything further than that?

17 MR. LEWIS: No, except for the matter of
18 final argument and/or briefs.

19 HEARING OFFICER WALLACE: Okay. Did you
20 have any surrebuttal?

21 MR. COOPER: No.

22 HEARING OFFICER WALLACE: Okay. Let's go
23 off the record.

24 (Discussion off the record.)

1 HEARING OFFICER WALLACE: All right.

2 Back on the record.

3 We had an off-the-record discussion. The
4 parties will file post hearing briefs. Again,
5 since this hearing was ordered on abatement
6 measures, the respondents will file its post
7 hearing brief first, and that will be due 45 days
8 from today. Then the complainants will file their
9 response 30 days following that.

10 I would note for the record that there
11 have been members of the public in and out of the
12 hearing today. Thank you for your attendance.

13 I would also note that pursuant to the
14 Board rules I find no credibility problems that
15 should be noted concerning the witnesses at this
16 time.

17 I believe all of the exhibits have been
18 admitted that have been offered. If there is
19 nothing further from either of the parties, thank
20 you very much.

21 MR. LEWIS: Can we make a comment on the
22 credibility?

23 HEARING OFFICER WALLACE: You want to
24 make a comment?

1 MR. LEWIS: Yes. Mrs. Gott specifically
2 testified, and Mr. Wells, about the equipment being
3 actually installed in the last week or the last few
4 days, and I think through the pictures and the
5 testimony it indicates that their credibility is
6 less than accurate.

7 HEARING OFFICER WALLACE: All right. I
8 will note that for the record that you made that
9 argument. I guess I will withhold the ruling that
10 I find no clear-cut issues of credibility that I
11 would have to note for the record. That is
12 something that the Board will have to look at and
13 evaluate.

14 Mr. Cooper, did you care to respond?

15 MR. COOPER: No.

16 HEARING OFFICER WALLACE: Okay. That
17 being the case, I thank you very much. This
18 hearing is over.

19 (All hearing exhibits were
20 retained by Hearing Officer
21 Wallace.)

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24

1 STATE OF ILLINOIS)
) SS
2 COUNTY OF MONTGOMERY)

3 C E R T I F I C A T E

4 I, DARLENE M. NIEMEYER, a Notary Public
5 in and for the County of Montgomery, State of
6 Illinois, DO HEREBY CERTIFY that the foregoing 252
7 pages comprise a true, complete and correct
8 transcript of the proceedings held on the 30th of
9 September A.D., 1997, at the Pike County
10 Courthouse, Pittsfield, Illinois, in the case of
11 Donetta Gott, Lyndell Chaplin, Gary Wells, Earnest
12 L. Ellison and Maxine Ellison v. M'Orr Pork, Inc.,
13 in proceedings held before the Honorable Michael L.
14 Wallace, Hearing Officer, and recorded in machine
15 shorthand by me.

16 IN WITNESS WHEREOF I have hereunto set my
17 hand and affixed my Notarial Seal this 9th day of
18 October A.D., 1997.

19

20

21 Notary Public and
22 Certified Shorthand Reporter and
Registered Professional Reporter

23 CSR License No. 084-003677
My Commission Expires: 03-02-99

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