BE IT REMEMBERED that a hearing was held in the
above-entitled matter before the Pollution Control
Hearings Board of the State of Washington on April 30,
2007, at the Environmental Hearings Office, 4224 Sixth
Avenue Southeast, Building No. 2, Lacey, Washington.
Sitting as the Pollution Control Hearings Board
were Board Member Andrea McNamara Doyle, Presiding,
Board Chair WILLIAM H. LYNCH, and Board Member KATHLEEN
D. MIX.

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opportunity to review the notes.

THE WITNESS: I reviewed the notes at the
time that Mike wrote them back in 2004.

MR. NELSON: Thank you. No objection.

MS. DOYLE: Okay. A-53 is admitted.

Q I would like you to, if you would, read for us starting
at "John S," the third paragraph down.

A "John S. then delivered a presentation on the proposed
alternatives for triggering groundwater monitoring in
the general permit. The facts are: CAFOs can be one
of the sources of nitrate in groundwater. Nitrate
leach to groundwater once past the root zone.
Washington water quality law requires a finding that a
discharge will not violate water quality standards
before issuing a permit."

Q Stop right there for a second. Then there are four
bullet points after the next sentence that are one of
the proposed options in the permit, correct?

A Correct.

Q Have any of those conditions made it into the final
permit?

A The second one, lagoon monitored and certified to meet
NRCS standards. We do have a lagoon liner requirement
in the permit.

Q Okay. But the other three, highest seasonal ground
waters more than 10 feet below the surface, that didn't
make it in?

A No.

Q Post harvest soil samples from land app areas have a
total N of 30 ppm or less.

A The 30 parts per million part isn't in the permit.

Q Is not.

A Is not.

Q And the soil samples from the production areas having a
total N of 30 ppm or less, that didn't make it either,
did it?

A Correct.

Q If you'll turn to the third page of this document, you
earlier testified about Mr. Secrist I think being
connected with El Oro Cattle?

A Yes.

Q Can you read what Mr. Secrist says about two-thirds of
the way down the page, "Willing to."

A "Willing to change BMPs but no groundwater monitoring."

Q Okay. And then down the very last line, where it says
"Jay," would you read that, please.

A "Groundwater monitoring is a bad backstop. We should
test soil. Farmers know what their soil will do."

Q You can stop there. Thanks. Actually, the last
sentence of that, would you read that starting with

"Third party."

A "Third party fears drive concern over the presence of
groundwater monitoring results."

Q Mr. Kolosseus, I'm going to move into a slightly
different line of questioning here. You've already
tested that the draft permit was based, in part at
least, on your review of scientific studies done by the
Department of Ecology, correct?

A Correct.

Q And we've already identified which ones those are for
the most part. I think it's Exhibit A-92, the list of
Ecology assessment program studies?

A Yes.

Q Were there other studies that you looked at and relied
upon in making your determinations?

A That was the bulk of it that I remember.

Q One of the studies that you relied on is Exhibit A-9;
is that correct?

A Yes.

Q Take a look at page 19 of that document, please. And
would you read number 5, please.

A "Near-field monitoring of Edaleen Dairy shows that
lagoon leakage is contaminating groundwater in the
immediate vicinity of Edaleen lagoon. Far-field
monitoring indicates that agricultural activities,
including land application of dairy waste, are
contributing nitrate contamination to shallow
groundwater. In two instances, nitrate contamination
in wells exceeded the Washington State groundwater
quality criteria of 10 milligrams per liter."

Q Okay. Now, sir, are you also familiar with high
nitrates in groundwater being linked to spontaneous
abortions in humans?

A Yes.

Q And if you take a look at Exhibit A-12, is that one of
the studies that you looked at?

A I don't remember looking at this study.

Q What information did you use to base your opinion that
spontaneous abortions can be linked to nitrate
contamination?

MR. NELSON: Misstates the evidence.

MS. DOYLE: Mr. Tebbutt, would you like to
rephrase, please.

MR. TEBBUTT: Yes.

Q Did you review any studies which made that connection
between spontaneous abortions and nitrates in
groundwater?

A I don't think I looked at those studies independently.
That was from the fact sheet. I can't remember where
in the fact sheet it came from. It might have been
from the last version of the fact sheet. I'm not sure what evidence I used to cite that statement, but that's in the fact sheet.

Q But you accepted whatever that reference was in the fact sheet about that issue?
A Yes.

Q You don't challenge that today?
A No.

Q Sir, if you would take a look at Exhibit 35, please. Is this the document that you reviewed in the course of writing the general CAFO permit?
A Yes.

Q And did you discuss this document with anyone at the Department of Ecology?
A John Stormon did the primary review of this document and many of the other documents, so he did the primary review. I also did a cursory review of these documents and I'm not sure how much we discussed them together, but probably at least to some degree we discussed them.

Q Okay. And did this document raise any concerns to you, the study about groundwater contamination?
A I believe this one showed that there was high nitrates in private wells. The difficulty was figuring out what do we do in the permit about that. But it did raise the issue of high nitrate levels.

MR. TUPPER: Objection, Your Honor. The document speaks for itself. This isn't an Ecology document.

MS. DOYLE: You're asking him to read what portion?
MR. TEBBUTT: Two sentences on page 29.

MS. DOYLE: It has been admitted, so I'll go ahead and allow that as an efficient way to tee up your question.

A "Significant impairment of groundwater quality was evident in Region 2 where mean levels of nitrate, ammonia, chloride and specific conductivity were statistically higher than in Region 1. Nitrate results for Region 2 showed 21 percent of the wells exceeded the MCL and 19 percent had elevated levels."

Q You can stop there. Thank you. Would you take a look at Exhibit A-38, please. Is this another study that you reviewed as part of the permit development process?
A Yes.

Q Sir, this was another report that you received as part of CARE's comments to the Department of Ecology, correct?
A Yes.

Q Is that how that document was brought to your attention, do you know?
A Yes, I think so.

MR. TEBBUTT: Your Honor, I move the admission of Exhibit A-38.

MR. LAVIGNE: No objection.

MR. TUPPER: I'm sorry, what exhibit?
MR. TEBBUTT: A-38.

MR. TUPPER: We have that as 37.
MR. TEBBUTT: The Heritage College study.
MR. TUPPER: I am sorry.
MR. TEBBUTT: May I proceed, Mr. Tupper?
MR. TUPPER: Yes.

Q Okay.

MR. TEBBUTT: Your Honor, I would move A-35.

MR. LAVIGNE: No objection.
MR. NELSON: No objection.

MR. TUPPER: I am sorry.

Q It's that third paragraph under "Summary." It's that third paragraph under "Summary."
A [Reading] There are three major conclusions from this survey. The first conclusion is that concentrations of nitrate/nitrite-N are elevated in three areas of the region as shown in figure 1.

Q Continue on, please.
A [Reading] The second major conclusion is that there are fecal coliform present in a significant number of wells in the region as shown in figure 2. The locations of wells that test positive for total coliforms are in areas of highest groundwater, nitrate/nitrite-N concentrations. The sources of these bacteria can only be animal feces. Consequently, these results suggest that sources of contaminants are feedlots and/or dairy operations.

Q And then just the very next sentence, please.
A [Reading] The third conclusion we have reached is that...
BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

COMMUNITY ASSOCIATION FOR RESTORATION OF THE ENVIRONMENT
(“CARE”),

Appellants,

vs.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,
Respondent.

NORTHWEST DAIRY ASSOCIATION,
WASHINGTON STATE DAIRY FEDERATION,
WASHINGTON CATTLEMEN’S ASSOCIATION,
WASHINGTON CATTLE FEEDERS ASSOCIATION,
ASSOCIATION, NORTHWEST POULTRY INDUSTRIES COUNCIL,

Intervenors.

TRANSCRIPT OF PROCEEDINGS
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DAY FIVE
________
May 4, 2007
Lacey, Washington

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transitions, so we need to work with those forms that are most readily available to the plant and have environmental implication.

Q And why would nitrates have more environmental implication than other forms of nitrogen?

A Well, nitrate in particular, as we know, it's implicated as an issue with regard to health, and there is an EPA standard of 10 PPM for that in groundwater, particularly drinking water.

Q So there's one for nitrates but not other forms of nitrogen, is what you're saying?

A I believe there may be some triggers for some of the other forms, but I'm not exactly sure, for instance, what the ammonia level might be.

Q Okay.

MS. DOYLE: Did you have anything additional?

MR. LYNCH: No.

MS. DOYLE: Ms. Mix?

EXAMINATION

BY MS. MIX:

Q Just a couple of questions, and first a comment, Dr. Harrison. I would just like to say I really appreciate that tie you're wearing today that's covered with the big cows.

A I wore my multi-species one yesterday.

Q I didn't notice the multi-species one, but that one is very nice.

A Thank you.

MR. LYNCH: I think that's her only question.

(LAUGHTER.)

THE WITNESS: That was easy.

Q I appreciate Mr. Tupper's set of questions on the issue of this practice 590. I think it's 590, correct? You referred to it as, quote, the biggie?

A Yes.

Q What is that, what's the source of that?

A The Natural Resource Conservation Service.

Q It is out of that document?

A Yes. And the way that the Natural Resource Conservation Service functions is that they develop these standards at the national level. For instance, 590 is called nutrient management. And what they do is periodically at the national level they'll update those, and then they give the states the opportunity -- within one year of having the national standard, then the states either need to adopt that as it is or they can provide more state-specific information.

So our state actually has a number of times made revisions to that 590 in the last half a dozen years to make it more state-specific.

Q Okay. Then if you could turn to Exhibit 55 in one of the black notebooks, this is one that you referred to yesterday dealing with post-harvest soil nitrate testing.

A Yes.

Q How does this relate to 590, first off?

A Okay. As I was sharing earlier, within the overall system of managing nutrients, we've got the standards and then there will be specifications and so forth. Oftentimes in the NRCS standards and specifications, they'll refer to other guidance.

For taking samples, soil samples, in the fall and interpreting those results, this is our guidance for the Pacific Northwest, particularly west of the Cascades, and with particular guidance to interpret the soil tests, this will show up on page 7 and 8, and it shows up as three-tiered where you've got three different ranges of soil nitrate. Those trigger three different sets of management changes, and they're laid out for both silage corn as well as grass.

Q So this is the document that sets the standard that informs the operator that their soil testing -- that they need to respond to information in their soil testing?

A I'll agree if I can define "standard" for myself.

Q Oh, sure. I'm trying to connect this stuff up.

A Targets, I guess that's what we're trying to do, is create targets.

Q Okay.

A Because, for instance, if you had -- well, what was brought up earlier in the week was this 30 parts per million nitrate. Well, what if my farm has 31, now what do I do, or if it has 29? So we tend to give ranges, realizing that there's variation out in the field, and then give specific guidance relating to those ranges.

Q I think you've answered this, but the operator covered by this permit is going to need assistance or go to the conservation district and others to prepare the nutrient management plan?

A Most people choose to do that because, as you can see by what's been presented this week, it's not a simple task. And the plans also have to be approved, and, you know, oftentimes different parts of those plans have to be -- for instance, there