

## DEPT. OF ENVIRONMENT AND ENERGY

April 9, 2021

Evelyn and Stan Kiser  
887 County Road 5  
Ashland, NE 685003

RE: Pond Pesticide Sampling  
Facility ID: 84069  
Program ID: NE0137634  
Subject: Surface Water Sampling Results- Update J-coded results

Dear Mr. and Mrs. Kiser:

This letter is an update to our March 31, 2021 letter concerning the sampling results for the February 22 and March 2, 2021 surface water sampling conducted by the Nebraska Department of Environment and Energy (NDEE) from the pond on your property related to the environmental investigation at the AltEn, LLC facility.

Enclosed are the J-coded laboratory results for the surface water sample "21PE001504" collected from the pond on your property on March 2, 2021. The J-coded results show estimated values for chemicals that previously were identified as less than the limit of detection (LOD) of 5 parts per billion. The first column of the laboratory report identifies each chemical that was tested for. The third column provides the numeric results of the chemical in units of Parts Per Billion (ppb).

Below is a table showing the sample results from your pond in comparison to levels that the Environmental Protection Agency (EPA) indicates may be of concern for fish or invertebrates. The pesticides detected were below these levels.

Surface water Sample	Chemical	Results (ppb or µg/L)	Fish Acute (µg/L)	Fish Chronic (µg/L)	Invertebrate Acute (µg/L)	Invertebrate Chronic (µg/L)
21PE001504	Desthio-Prothioconazole	1.38 - J	--	--	--	--
	Tebuconazole	4.43 - J	1,135	11	1,440	120
	Thiabendazole	16.9	280	110	155	42

"J" indicates updated data that previously were identified as < 5 ppb and are estimated values < the LOD of 5 ppb

--" indicates that a benchmark is not available for this chemical

Additional sampling took place on March 29, 2021. The Department will send you those results when they are available.



Pete Ricketts, Governor



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If you have any questions, please contact me or Zoe DeGrande at (402) 471-2186 or [mike.felix@nebraska.gov](mailto:mike.felix@nebraska.gov) or [zoe.degrande@nebraska.gov](mailto:zoe.degrande@nebraska.gov).

Thank you again for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Mike Felix". The signature is written in a cursive, flowing style.

Mike Felix  
Section Supervisor  
Superfund/VCP Section  
Monitoring and Remediation Division

Enclosures

**Performed By:**

South Dakota Agricultural Laboratories  
1335 Western Avenue  
Brookings, South Dakota 57006  
Phone: 605-692-7325  
E-Mail: regina.wixon@sdaglabs.com

**Collected By:**

Nebraska Dept. of Environment and Energy  
PO Box 98922  
Lincoln, NE 68509  
Phone: 402-471-3377  
E-Mail: wade.gregson@nebraska.gov

**Report Date: 2021-04-01****Amended Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-002  
Lab Sample Id : 21PE001504  
Customer Sample Id : Off-site Surface Water  
Sample Description : Water  
Date Collected : 2021-03-03  
Date Received : 2021-03-05  
Cooler Temp :

**RESULTS**

ANALYTE	UNIT	AS RECEIVED	LOD	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	3	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	1	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	ND	2.5	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	J1.38	1	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	1.2	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Fluxastobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	3	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	3	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	1.2	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	2.5	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Pyraclostrobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-20
Tebuconazole	ppb	J4.43	1	5	LC-MS/MS	2021-03-08	2021-03-08
Tetraconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	16.9	1	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	2	6	LC-MS/MS	2021-03-08	2021-03-09



Thiamethoxam	ppb	ND	1	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	1	5	LC-MS/MS	2021-03-08	2021-03-08

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	21PE001509	81.1	ND	ND	ND
Acetamprid	ppb	ND	106	ND	ND	ND
Azoxystrobin	ppb	21PE001509	102	ND	ND	ND
Brassinazole	ppb	21PE001509	106	ND	ND	ND
Clothianidin	ppb	ND	86.7	ND	ND	ND
Cyproconazole	ppb	21PE001509	90.2	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE001509	96.9	ND	ND	ND
Difenoconazole	ppb	21PE001509	92.3	ND	ND	ND
Dimoxystrobin	ppb	21PE001509	110	ND	ND	ND
Dinotefuron	ppb	ND	109	ND	ND	ND
Epoxiconazole	ppb	21PE001509	115	ND	ND	ND
Fluconazole	ppb	21PE001509	98.3	ND	ND	ND
Fluoxastrobin	ppb	21PE001509	108	ND	ND	ND
Glufosinate	ppb	21PE001509	98.9	ND	ND	ND
Glyphosate	ppb	21PE001509	102	ND	ND	ND
Imidacloprid	ppb	ND	109	ND	ND	ND
Ipconazole	ppb	21PE001509	94.9	ND	ND	ND
Isavuconazole	ppb	21PE001509	87.5	ND	ND	ND
Metconazole	ppb	21PE001509	99.3	ND	ND	ND
Nitenpyram	ppb	ND	108	ND	ND	ND
Orysastrobin	ppb	21PE001509	95.4	ND	ND	ND
Picoxystrobin	ppb	21PE001509	98.2	ND	ND	ND
Propiconazole	ppb	21PE001509	108	ND	ND	ND
Prothioconazole	ppb	21PE001509	120	ND	ND	ND
Pyraclostrobin	ppb	21PE001509	86.9	ND	ND	ND
Ravuconazole	ppb	21PE001509	85.4	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE001509	85.7	ND	ND	ND
Tebuconazole	ppb	21PE001509	90.0	ND	ND	ND
Tetraconazole	ppb	21PE001509	86.4	ND	ND	ND
Thiabendazole	ppb	21PE001509	101	ND	ND	ND
Thiacloprid	ppb	ND	102	ND	ND	ND
Thiamethoxam	ppb	ND	105	ND	ND	ND
Trifloxystrobin	ppb	21PE001509	79.1	ND	ND	ND
Uniconazole	ppb	21PE001509	90.2	ND	ND	ND
Voriconazole	ppb	21PE001509	100	ND	ND	ND

### Comments:

### Definitions:

ppb - parts per billion

Detection Limit - Lowest concentration that can be quantitatively reported with confidence

ND - Not Detected above the limit of quantification

Duplicate - Concentration found in repeat sample analysis

Spike Recovery - Recovery based on a known amount of active ingredient spiked into a similar-matrix, blank sample

Matrix Blank - A similar-matrix, blank sample is evaluated

Process Blank - A sample without any matrix (soil, vegetation etc) is processed through the sample analysis procedure

Instrument Blank - Injection solvent is run to demonstrate no carryover between injections on the instrument

## **BRIEF METHOD DESCRIPTION**

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### **Strobins in Water - Purpose and Scope**

Strobins are fairly polar and are usually determined by LC-MS/MS. The limits of detection for the strobins are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### **Strobins in Water - References**

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### **Strobins in Water - Basic Principles**

Strobin water samples are extracted into aqueous methanol followed by filtration and preparation for LC-MS/MS.

**This SOP is for the determination of Strobins in soil, water and vegetation. The limits of detection for soil, water and vegetation range from 1 ppb to 2 ppb. The limit of quantitation is 5 ppb for soil, water and vegetation.**

**The Strobins include: Fluoxastrobin, Trifloxystrobin, Oryastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.**

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### **Azoles in soil, vegetation and water - Purpose and Scope**

Azoles are not ionic and are soluble in many organic solvents. Several of them are volatile enough for gas chromatography, but in this laboratory, LC-MS/MS has been used for azole analysis. The limits of detection for the azoles are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### **Azoles in soil, vegetation and water - References**

Analytical Methods for Pesticides and Plant Growth Regulators. (G. Zweig, ed.) Vol.X, pp. 347 19.1.2.2 Klein and Alder. JAOAC. 86(5): 1015-37 (2003). 19.1.2.3 Ramsteiner et al. JAOAC. 57(1): 192-201 (1974).

### **Azoles in soil, vegetation and water - Basic Principles**

Azole soil, vegetation, and water samples can be extracted in aqueous methanol, filtered and prepared for LC-MS/MS analysis.

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### **Neonicotinoids in soil, water and vegetation - Purpose and Scope**

Neonicotinoids are a class of neuro-active insecticides chemically similar to nicotine. The limits of detection for the neonicotinoids are 1 ppb for limit of detection and 5 ppb for limit of quantitation.

### **Neonicotinoids in soil, water and vegetation - References**

J. Klein and L. Alder, JAOACI 86(5): 101501037 (2003)

### **Neonicotinoids in soil, water and vegetation - Basic Principles**

Neonicotinoids are fairly polar and are extracted with aqueous acetonitrile, filtered and prepared for LC-MS/MS analysis.

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Reviewed and approved by Regina Wixon, Ph.D.