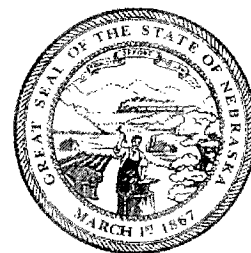


NEBRASKA

Good Life. Great Resources.

DEPT. OF ENVIRONMENT AND ENERGY



Pete Ricketts, Governor

May 6, 2021

Mr. Scott Tingelhoff
General Manager, AltEn, LLC
Capitol Corporate Services Inc.
Suite 800
1125 S. 103rd Street
Omaha, NE 68124

RE: Keiser Pond Pesticide Sampling & Environmental Investigation
Facility ID: 84069
Program ID: NE0137634
Subject: AltEn, LLC Environmental Investigation & Surface Water Sampling Results

Dear Mr. Tingelhoff:

This letter is an update to our letter of April 14, 2021 concerning the requirements for conducting an environmental site investigation related to the releases from the AltEn LLC property near Mead, Nebraska cited in that April 14 letter. Subsequent to the Nebraska Department of Environment and Energy's (NDEE) letter of April 14, sampling results for surface water sampling conducted by NDEE on March 26, 2021 from a pond on property owned by Evelyn and Stan Keiser, 887 County Road 5, Ashland, Nebraska have been received and reviewed. Based on these results, additional assessment work is being required.

Enclosed are the laboratory results for the surface water sample "21PE002251" collected from the pond on the Keiser property on March 26, 2021. The first column of the laboratory report identifies each chemical that was analyzed. The third column provides the numeric results of the chemical in units of Parts Per Billion (ppb) which is also equivalent to micrograms per liter, or $\mu\text{g/L}$. The J-coded results show estimated values for chemicals detected below the limit of quantitation (LOQ) of 5 ppb. A result followed by a result of "ND" indicates that the chemical was not detected.

Below is a comprehensive table showing all the sample results collected from the Keiser pond in comparison to benchmarks that the Environmental Protection Agency (EPA) indicates may be of concern for fish or invertebrates. The March 26, 2021 sampling results indicate that Thiabendazole was detected at 50.1 ppb exceeding the EPA Invertebrate Chronic benchmark; Clothianidin was detected at 50.3 ppb exceeding the EPA Invertebrate Acute and Chronic benchmarks; and Thiamethoxam exceeded the EPA Invertebrate Acute and Chronic benchmarks at 60.6 ppb. The remaining pesticides were either not detected or below the EPA benchmarks.

20210139459

Chemical	3-26-2021 Results (ppb or µg/L) 21PE002251	3-02-21 Results (ppb or µg/L) 21PE001504	Fish Acute (µg/L)	Fish Chronic (µg/L)	Invertebrate Acute (µg/L)	Invertebrate Chronic (µg/L)
Desthio-Prothioconazole	J 3.78	J 1.38	--	--	--	--
Tebuconazole	7.62	J 4.43	1,135	11	1,440	120
Thiabendazole	50.1	16.9	280	110	155	42
Clothianidin	50.3	ND	50,750	9,700	11	0.05
Fluoxastrobin	6.50	ND	--	--	--	--
Thiamethoxam	60.6	ND	57,000	20,000	17.5	0.74

Bold indicates data exceeds acceptable EPA benchmarks

"J" indicates data detected below LOQ of 5 ppb

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

The results also exceeded Title 117 – Nebraska Surface Water Quality Standards for Dissolved Oxygen, Total Phosphate as P and Ammonia as N as indicated in the table below.

Parameter	3-26-2021 Results (mg/L)	2-22-2021 Results (mg/L)	Surface Water Quality Standard
Dissolved Oxygen	0.4	38.2#	Not less than 3.0*
pH	6.7	8.3	Between 6.5-9.0
Conductivity (umhos/cm)	483	1,011	Not more than 2000
Nitrate + Nitrite (as N)	<RL	1.06	--
Total Suspended Solids	30.0	26	--
Total Kjeldahl Nitrogen	23.4	4.52	--
Total Phosphate as P	7.12	0.735	0.050
Ammonia as N	13.4	0.126	46.33/4.45**
Chloride	17.9	68.8	860/230***
Temperature	8.4°C	NA	--
Dissolved Oxygen (saturation)	2.6 %	NA	--
Turbidity (NTU's)	36.1	NA	--
Sodium, Dissolved	13.8	NA	--

Bold indicates data exceeds Surface Water Quality Standards

* - One-day minimum criterion that applies October 1 through March 31

** - Ammonia concentration exceeded the thirty-day average criteria for Title 117-Surface Water Standards, Chapter 4, Section 003, Warmwater Aquatic Life Use Class Specific Criteria, Specifically Section 003.04A2 (thirty-day average). Ammonia concentration does not exceed the one-hour average for Title 117-Surface Water Standards, Chapter 4, Section 003, Warmwater Aquatic Life Use Class Specific Criteria, Specifically Section 003.04A1, Total Ammonia (one-hour average). Since this was a single sample, there is no one hour average so the results are for comparison to Surface Water Standards.

*** - Not to exceed 860 mg/L at any time or a 4-day average concentration of 230 mg/L

- pond was exhibiting super-saturated conditions of 283% likely due to heavy algal growth/photosynthesis occurring under ice.

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

"NA" - Not analyzed

"<RL" - less than Reporting Limit. The lowest amount of analyte that can be accurately reported by the method used.

Dissolved Oxygen, pH and Conductivity - field measurements taken during sampling

Based on these results, NDEE is including the area of the Keiser pond under the requirements of the environmental investigation steps discussed for the surface water and sediment sampling plan in NDEE's letter of April 14, 2021. This is to include additional monitoring of contaminant levels in pond water over time, sediment sampling, and an assessment of potential remedial actions for these contaminated media. The submittal date for a singular, comprehensive work plan for all the activities outlined in NDEE's referenced April 14 letter, and now including the Keiser property, remains **June 7, 2021**.

If you have any questions, please contact Jim Borovich at (402)471-2223 or jim.borovich@nebraska.gov or Hillary Stoll at (402)471-4252 or hillary.stoll@nebraska.gov. Thank you in advance for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Buell', with a stylized, cursive script.

Tom Buell

Monitoring and Remediation Division Administrator

Enclosure

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 & Energy-David
 Schum
 245 Fallbrook Blvd
 Lincoln ,NE 68521
 Phone: 402-471-4709
 E-Mail: david.schumacher@nebraska.gov

Report Date: 2021-04-20**Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210330-002

Lab Sample Id : 21PE002251

Customer Sample Id : Kaiser Pond #1

Sample Description : Water

Date Collected : 2021-03-26

Date Received : 2021-03-30

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	2021-04-01	2021-04-01
Acetamprid	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Azoxystrobin	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Brassinazole	ppb	ND	2	5	LC-MS/MS	2021-04-01	2021-04-01
Clothianidin	ppb	50.3	2.5	8	LC-MS/MS	2021-04-01	2021-04-01
Cyproconazole	ppb	ND	2	5	LC-MS/MS	2021-04-01	2021-04-01
Desthio-Prothioconazole	ppb	J3.78	2	5	LC-MS/MS	2021-04-01	2021-04-01
Difenoconazole	ppb	ND	1	4	LC-MS/MS	2021-04-01	2021-04-01
Dimoxystrobin	ppb	ND	3	8	LC-MS/MS	2021-04-01	2021-04-01
Dinotefuron	ppb	ND	1.2	4	LC-MS/MS	2021-04-01	2021-04-01
Epoxiconazole	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Fluconazole	ppb	ND	1	4	LC-MS/MS	2021-04-01	2021-04-01
Fluoxastrobin	ppb	6.50	1	3	LC-MS/MS	2021-04-01	2021-04-01
Glufosinate	ppb	ND	3	10	LC-MS/MS	2021-04-07	2021-04-16
Glyphosate	ppb	ND	3	10	LC-MS/MS	2021-04-07	2021-04-16
Imidacloprid	ppb	ND	1.2	4	LC-MS/MS	2021-04-01	2021-04-01
Ipconazole	ppb	ND	2	6	LC-MS/MS	2021-04-01	2021-04-01
Isavuconazole	ppb	ND	1	4	LC-MS/MS	2021-04-01	2021-04-01
Itraconazole	ppb	ND	1	5	LC-MS/MS	2021-04-01	2021-04-01
Metconazole	ppb	ND	2	5	LC-MS/MS	2021-04-01	2021-04-01
Nitenpyram	ppb	ND	2.5	8	LC-MS/MS	2021-04-01	2021-04-01
Orysastrobin	ppb	ND	2	7	LC-MS/MS	2021-04-01	2021-04-01
Picoxystrobin	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Posaconazole	ppb	ND	2	5	LC-MS/MS	2021-04-01	2021-04-01
Propiconazole	ppb	ND	2	5	LC-MS/MS	2021-04-01	2021-04-01
Prothioconazole	ppb	ND	2	6	LC-MS/MS	2021-04-01	2021-04-01
Pyraclostrobin	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Ravuconazole	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Sulfonic Acid Prothioconazole	ppb	ND	3	8	LC-MS/MS	2021-04-01	2021-04-01
Tebuconazole	ppb	7.62	2	5	LC-MS/MS	2021-04-01	2021-04-01

Tetraconazole	ppb	ND	1	4	LC-MS/MS	2021-04-01	2021-04-01
Thiabendazole	ppb	50.1	2	5	LC-MS/MS	2021-04-01	2021-04-01
Thiacloprid	ppb	ND	2	6	LC-MS/MS	2021-04-01	2021-04-01
Thiamethoxam	ppb	60.6	1	3	LC-MS/MS	2021-04-01	2021-04-01
Trifloxystrobin	ppb	ND	1	5	LC-MS/MS	2021-04-01	2021-04-01
Uniconazole	ppb	ND	1	3	LC-MS/MS	2021-04-01	2021-04-01
Voriconazole	ppb	ND	1	4	LC-MS/MS	2021-04-01	2021-04-01

QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	ND	128	ND	ND	ND
Acetamprid	ppb	21PE002669	117	ND	ND	ND
Azoxystrobin	ppb	21PE002267	109	ND	ND	ND
Brassinazole	ppb	21PE002267	116	ND	ND	ND
Clothianidin	ppb	21PE002669	89.4	ND	ND	ND
Cyproconazole	ppb	21PE002267	102	ND	ND	ND
Desthio-Prothioconazole	ppb	21PE002267	103	ND	ND	ND
Difenoconazole	ppb	21PE002267	113	ND	ND	ND
Dimoxystrobin	ppb	21PE002267	110	ND	ND	ND
Dinotefuron	ppb	21PE002669	116	ND	ND	ND
Epoxiconazole	ppb	21PE002267	102	ND	ND	ND
Fluconazole	ppb	21PE002267	128	ND	ND	ND
Fluoxastrobin	ppb	21PE002267	116	ND	ND	ND
Glufosinate	ppb	ND	87.9	ND	ND	ND
Glyphosate	ppb	ND	73.7	ND	ND	ND
Imidacloprid	ppb	21PE002669	104	ND	ND	ND
Ipconazole	ppb	21PE002267	112	ND	ND	ND
Isavuconazole	ppb	21PE002267	115	ND	ND	ND
Itraconazole	ppb	21PE002267	107	ND	ND	ND
Metconazole	ppb	21PE002267	116	ND	ND	ND
Nitenpyram	ppb	21PE002669	112	ND	ND	ND
Orysastrobin	ppb	21PE002267	97.7	ND	ND	ND
Picoxystrobin	ppb	21PE002267	114	ND	ND	ND
Posaconazole	ppb	21PE002267	116	ND	ND	ND
Propiconazole	ppb	21PE002267	109	ND	ND	ND
Prothioconazole	ppb	21PE002267	112	ND	ND	ND
Pyraclostrobin	ppb	21PE002267	115	ND	ND	ND
Ravuconazole	ppb	21PE002267	123	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	21PE002267	114	ND	ND	ND
Tebuconazole	ppb	21PE002267	84.2	ND	ND	ND
Tetraconazole	ppb	21PE002267	113	ND	ND	ND
Thiabendazole	ppb	21PE002267	114	ND	ND	ND
Thiacloprid	ppb	21PE002669	116	ND	ND	ND
Thiamethoxam	ppb	21PE002669	117	ND	ND	ND
Trifloxystrobin	ppb	21PE002267	117	ND	ND	ND
Uniconazole	ppb	21PE002267	106	ND	ND	ND
Voriconazole	ppb	21PE002267	128	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

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, Orysastrobin, Pyraclostrobin, Azoxystrobin, Picoxystrobin and Dimoxystrobin.

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.

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.

Reviewed and approved by Regina Wixon, Ph.D.

Submitted by the customer:



Pesticide Residue Sample Submission Form

South Dakota Agricultural Laboratories
1335 Western Avenue
Brookings, SD. 57006
(605) 692-7325

20210330-002
21PE002251

Kaiser Pond #1

Name: Dave Schumacher *Sample ID: _____
Address: 245 Fallbrook Blvd. City: Lincoln State: NE
Zip: 68521 Phone: (402) 471-4709 Email: dave.schumacher@nebraska.gov

*Sample ID must be marked clearly on the sample you submit. **Results will be emailed to the provided email address.

Billing Information: ☐ Check box if billing is the same as the customer information

Name: Nebraska Dept. of Environmental and Energy Address: PO Box 98922
City: Lincoln State: NE Zip: 68521
Phone: (402) 471-4709 Email: NDEE.accounting@nebraska.gov

Individual tests are \$162 each, unless otherwise marked. Scans are \$212 and include all of the compounds in a particular category. Acceptable samples include Vegetation, Water or Soil. Call to confirm other substrates.

Thank you for choosing South Dakota Agricultural Labs! We do add analytes to our testing regiment throughout the year. If a chemical of interest is not listed, please call us:
(605) 692-7325.

How much sample should you send?

Please send 30g of vegetation or 100g of soil to run an individual test. What does this look like? For vegetation, it would be about a quart sized bag packed full. If more than one test is required, please fill a gallon sized bag. For soil samples, please send 2 cups, if more than one test is required send 4 cups.

Analyses offered

Please turn page over to view the current pesticide analyses.

If you are interested in a screen of active ingredients, please check the box next to the bold-faced heading. This will include all active ingredients within the PGR screen for \$212.

Example: PGR Screen ☒

If you are interested in single analyses, please circle the active ingredients. The cost of each individual analyte is \$162 unless otherwise marked.

Example: Mesotrione

Sample(s) Received at SD Ag Labs
Date 2021-03-30
Received by
Alyssa Kennedy

AltEn: Sample Results from the Keiser Pond taken March 26, 2021 by Dave Bubb, Nebraska Department of Environment and Energy. Samples collected at 10:20.

Parameter	Approximately middle of dam near outfall	Reporting Limit
Temperature °(C)	8.4	N/A
Dissolved Oxygen (mg/l)	0.4	N/A
Dissolved Oxygen, Percent Saturation (%)	2.6	N/A
Conductivity (umhos/cm)	483	N/A
pH (St. Units)	6.7	N/A
Turbidity (NTU's)	36.1	N/A
Nitrate/Nitrite as N (mg/l)	<RL	0.05
Sodium, Dissolved (mg/l)	13.8	0.15
Total Suspended Solids (mg/l)	30.0	5
Total Kjeldahl Nitrogen (mg/l)	23.4	0.5
Total Phosphate as P (mg/l)	7.12	0.04
Ammonia as N (mg/l)	13.4	0.05
Allowable Ammonia, Title 117-Surface Water Standards, One-hour average	46.33	N/A
Allowable Ammonia, Title 117-Surface Water Standards, Thirty Day average	4.45	N/A
Chloride (mg/l)	17.9	1

N/A-Non-Applicable

Ammonia concentration does not exceed the one-hour average for Title 117-Surface Water Standards, Chapter 4, Section 003, Warmwater Aquatic Life Use Class Specific Criteria, Specifically Section 003.04A1, Total Ammonia (one-hour average).

Ammonia concentration exceeded the thirty-day average criteria for Title 117-Surface Water Standards, Chapter 4, Section 003, Warmwater Aquatic Life Use Class Specific Criteria, Specifically Section 003.04A2 (thirty-day average).

Since this was a single sample, there is no one hour average so the results are for comparison to Surface Water Standards.

Total phosphate is extremely high at 7.12 mg/l. This would equate to 7,120 µg/l. Title 117-Surface Water Standards allow for 50 µg/l Total Phosphorus. Chapter 4, Section 003.05 Nutrient Criteria for Lakes and Impounded Waters. However, these criteria are based on seasonal averages from April 1 to September 30, therefore this is used for comparison purposes.

Dissolved oxygen was almost non-existent at 0.4 mg/l. This is a violation of Title 117-Surface Water Standards, Chapter 4, Section 003.04C Class A-Warmwater, specifically, section 003.04C1 Dissolved Oxygen, one-day minimum of not less than 3.0 mg/l for all life stages other than early-life stages. This criterion applies from October 1 through March 31, (003.04C1b).