

# NEBRASKA

Good Life. Great Resources.



Pete Ricketts, Governor

## DEPT. OF ENVIRONMENT AND ENERGY

April 13, 2021

Lonny Hanson  
1251 Rd. K  
Mead, NE 68041

RE: Hanson Private Well  
Facility ID: 84069  
Program ID: NE0137634  
Subject: Private Well Pesticide Sampling Results

Dear Mr. Hanson:

The Nebraska Department of Environment and Energy (NDEE) is conducting drinking water well sampling near Mead, Nebraska related to an environmental investigation at the AltEn, LLC facility. On March 9, 2021, NDEE sampled your private drinking water well. The NDEE appreciates your participation in this investigation.

Enclosed are the laboratory results for groundwater sample "Well #3- Hanson Hydrant" collected from your well at 1251 Rd. K. The samples were tested for various types of pesticides associated with the seed treatment of field corn. The first column of the laboratory report identifies each chemical that was tested for. The third column- titled, "As Received"- provides the numeric results of the chemical in units of Parts Per Billion (ppb) which is also equivalent to micrograms per liter, or ug/L. A result followed by a result of "ND" indicates that the chemical was not detected.

The results indicate that there were no pesticides detected in the sample collected from your private well.

If you have any questions regarding any potential health effects associated with exposure to these chemicals, please contact Sue Dempsey at (402) 471-0510 or [sue.dempsey@nebraska.gov](mailto:sue.dempsey@nebraska.gov). If you have any questions regarding the laboratory data enclosed, 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,

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

Enclosures

ec: Sue Dempsey, Nebraska Department of Health and Human Services w/enclosure



**Performed By:**

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**Report Date: 2021-04-07****Final Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210317-003  
 Lab Sample Id : 21PE001934  
 Customer Sample Id : Well #3- Hanson Hydrant  
 Sample Description : Water  
 Date Collected : 2021-03-09  
 Date Received : 2021-03-17  
 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	2021-03-18	2021-03-19
Acetamprid	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Azoxystrobin	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Brassinazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Clothianidin	ppb	ND	2.5	8	LC-MS/MS	2021-03-18	2021-03-18
Cyproconazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Desthio-Prothioconazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Difenoconazole	ppb	ND	1	4	LC-MS/MS	2021-03-18	2021-03-20
Dimoxystrobin	ppb	ND	3	8	LC-MS/MS	2021-03-18	2021-03-18
Dinotefuron	ppb	ND	1.2	4	LC-MS/MS	2021-03-18	2021-03-18
Epoxiconazole	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-20
Fluconazole	ppb	ND	1	4	LC-MS/MS	2021-03-18	2021-03-20
Fluoxastrobin	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Glufosinate	ppb	ND	3	10	LC-MS/MS	2021-03-29	2021-04-05
Glyphosate	ppb	ND	3	10	LC-MS/MS	2021-03-29	2021-04-05
Imidacloprid	ppb	ND	1.2	4	LC-MS/MS	2021-03-18	2021-03-18
Ipconazole	ppb	ND	2	6	LC-MS/MS	2021-03-18	2021-03-20
Isavuconazole	ppb	ND	1	4	LC-MS/MS	2021-03-18	2021-03-20
Metconazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Nitenpyram	ppb	ND	2.5	8	LC-MS/MS	2021-03-18	2021-03-18
Orysastrobin	ppb	ND	2	7	LC-MS/MS	2021-03-18	2021-03-18
Picoxystrobin	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Propiconazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Prothioconazole	ppb	ND	2	6	LC-MS/MS	2021-03-18	2021-03-20
Pyraclostrobin	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Ravuconazole	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-20
Sulfonic Acid Prothioconazole	ppb	ND	3	8	LC-MS/MS	2021-03-18	2021-03-20
Tebuconazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20
Tetraconazole	ppb	ND	1	4	LC-MS/MS	2021-03-18	2021-03-20
Thiabendazole	ppb	ND	2	5	LC-MS/MS	2021-03-18	2021-03-20

Thiacloprid	ppb	ND	2	6	LC-MS/MS	2021-03-18	2021-03-18
Thiamethoxam	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-18
Trifloxystrobin	ppb	ND	1	5	LC-MS/MS	2021-03-18	2021-03-18
Uniconazole	ppb	ND	1	3	LC-MS/MS	2021-03-18	2021-03-20
Voriconazole	ppb	ND	1	4	LC-MS/MS	2021-03-18	2021-03-20

## QUALITY ASSURANCE

ANALYTE	UNIT	DUPLICATE	SPIKE RECOVERY	MATRIX BLANK	PROCESS BLANK	INSTRUMENT BLANK
Abamectin	ppb	ND	95.0	ND	ND	ND
Acetamprid	ppb	21PE001928	122	ND	ND	ND
Azoxystrobin	ppb	ND	101	ND	ND	ND
Brassinazole	ppb	ND	109	ND	ND	ND
Clothianidin	ppb	21PE001928	112	ND	ND	ND
Cyproconazole	ppb	ND	117	ND	ND	ND
Desthio-Prothioconazole	ppb	ND	122	ND	ND	ND
Difenoconazole	ppb	ND	117	ND	ND	ND
Dimoxystrobin	ppb	ND	123	ND	ND	ND
Dinotefuron	ppb	21PE001928	108	ND	ND	ND
Epoxiconazole	ppb	ND	103	ND	ND	ND
Fluconazole	ppb	ND	119	ND	ND	ND
Fluoxastrobin	ppb	ND	111	ND	ND	ND
Glufosinate	ppb	21PE001928	91.4	ND	ND	ND
Glyphosate	ppb	21PE001928	124	ND	ND	ND
Imidacloprid	ppb	21PE001928	124	ND	ND	ND
Ipconazole	ppb	ND	97.4	ND	ND	ND
Isavuconazole	ppb	ND	112	ND	ND	ND
Metconazole	ppb	ND	123	ND	ND	ND
Nitenpyram	ppb	21PE001928	112	ND	ND	ND
Orysastrobin	ppb	ND	87.2	ND	ND	ND
Picoxystrobin	ppb	ND	108	ND	ND	ND
Propiconazole	ppb	ND	113	ND	ND	ND
Prothioconazole	ppb	ND	111	ND	ND	ND
Pyraclostrobin	ppb	ND	124	ND	ND	ND
Ravuconazole	ppb	ND	116	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	ND	104	ND	ND	ND
Tebuconazole	ppb	ND	108	ND	ND	ND
Tetraconazole	ppb	ND	115	ND	ND	ND
Thiabendazole	ppb	ND	99.4	ND	ND	ND
Thiacloprid	ppb	21PE001928	122	ND	ND	ND
Thiamethoxam	ppb	21PE001928	123	ND	ND	ND
Trifloxystrobin	ppb	ND	123	ND	ND	ND
Uniconazole	ppb	ND	117	ND	ND	ND
Voriconazole	ppb	ND	104	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, Oryzastrobin, 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.**