

NEBRASKA

Good Life. Great Resources.

DEPT. OF ENVIRONMENT AND ENERGY



Pete Ricketts, Governor

Emily and Ray Loftus
1444 Co Rd. 10
Mead, NE 68041

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

Dear Mr. and Mrs. Loftus:

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 1, 2021, NDEE sampled your private drinking water well. The NDEE appreciates your participation in this investigation.

Enclosed are the laboratory results for groundwater sample "Test #1-1444" collected from your well at 1444 Co Rd. 10. 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. If you have any questions regarding the laboratory data enclosed, please contact Zoe DeGrande or me at (402) 471-2186 or zoe.degrande@nebraska.gov or mike.felix@nebraska.gov.

Thank you again for your assistance.

Sincerely,

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

Enclosures

cc: Sue Dempsey, Nebraska Department of Health and Human Services w/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: 2021-03-24**Preliminary Report****South Dakota Agricultural Laboratories has examined the sample of**

Limfinite Package Id : 20210305-004
 Lab Sample Id : 21PE001509
 Customer Sample Id : Test #1-1444
 Sample Description : Water
 Date Collected : 2021-03-01
 Date Received : 2021-03-05

RESULTS

ANALYTE	UNIT	AS RECEIVED	DETECTION LIMIT	METHOD	DATE OF EXTRACTION	DATE OF ANALYSIS
Abamectin	ppb	ND	10	LC-MS/MS	2021-03-12	2021-03-12
Acetamprid	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Azoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Brassinazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Clothianidin	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Cyproconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Desthio-Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Difenoconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Dimoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Dinotefuron	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Epoxiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Fluxastrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Glufosinate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Glyphosate	ppb	ND	10	LC-MS/MS	2021-03-09	2021-03-11
Imidacloprid	ppb	ND	4	LC-MS/MS	2021-03-08	2021-03-09
Ipconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Isavuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Metconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Nitenpyram	ppb	ND	8	LC-MS/MS	2021-03-08	2021-03-09
Orysastobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Picoxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Propiconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Pyraclostrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Ravuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Sulfonic Acid Prothioconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-20
Tebuconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08

Tetraconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiabendazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Thiacloprid	ppb	ND	6	LC-MS/MS	2021-03-08	2021-03-09
Thiamethoxam	ppb	ND	3	LC-MS/MS	2021-03-08	2021-03-09
Trifloxystrobin	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-10
Uniconazole	ppb	ND	5	LC-MS/MS	2021-03-08	2021-03-08
Voriconazole	ppb	ND	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	ND	81.1	ND	ND	ND
Acetamprid	ppb	21PE001504	106	ND	ND	ND
Azoxystrobin	ppb	ND	102	ND	ND	ND
Brassinazole	ppb	ND	106	ND	ND	ND
Clothianidin	ppb	21PE001504	86.7	ND	ND	ND
Cyproconazole	ppb	ND	90.2	ND	ND	ND
Desthio-Prothioconazole	ppb	ND	96.9	ND	ND	ND
Difenoconazole	ppb	ND	92.3	ND	ND	ND
Dimoxystrobin	ppb	ND	110	ND	ND	ND
Dinotefuron	ppb	21PE001504	109	ND	ND	ND
Epoxiconazole	ppb	ND	115	ND	ND	ND
Fluconazole	ppb	ND	98.3	ND	ND	ND
Fluoxastrobin	ppb	ND	108	ND	ND	ND
Glufosinate	ppb	ND	98.9	ND	ND	ND
Glyphosate	ppb	ND	102	ND	ND	ND
Imidacloprid	ppb	21PE001504	109	ND	ND	ND
Ipconazole	ppb	ND	94.9	ND	ND	ND
Isavuconazole	ppb	ND	87.5	ND	ND	ND
Metconazole	ppb	ND	99.3	ND	ND	ND
Nitenpyram	ppb	21PE001504	108	ND	ND	ND
Orysastrobin	ppb	ND	95.4	ND	ND	ND
Picoxystrobin	ppb	ND	98.2	ND	ND	ND
Propiconazole	ppb	ND	108	ND	ND	ND
Prothioconazole	ppb	ND	120	ND	ND	ND
Pyraclostrobin	ppb	ND	86.9	ND	ND	ND
Ravuconazole	ppb	ND	85.4	ND	ND	ND
Sulfonic Acid Prothioconazole	ppb	ND	85.7	ND	ND	ND
Tebuconazole	ppb	ND	90.0	ND	ND	ND
Tetraconazole	ppb	ND	86.4	ND	ND	ND
Thiabendazole	ppb	ND	101	ND	ND	ND
Thiacloprid	ppb	21PE001504	102	ND	ND	ND
Thiamethoxam	ppb	21PE001504	105	ND	ND	ND
Trifloxystrobin	ppb	ND	79.1	ND	ND	ND
Uniconazole	ppb	ND	90.2	ND	ND	ND
Voriconazole	ppb	ND	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

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.

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.