UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 2 4 2017

REPLY TO THE ATTENTION OF

WC-15J

CERTIFIED MAIL 7014 2870 0001 9580 7573
RETURN RECEIPT REQUESTED

Ex. 6 (Personal Privacy)
Ex. 6 (Personal Privacy)
Ex. 6 (Personal Privacy) Farm
Ex. 6 (Personal Privacy)

Subject: November 17, 2015 and March 24, 2016 Inspection Reports

Dear Ex. 6 (Personal Privacy):

Enclosed, please find copies of the U.S. Environmental Protection Agency Inspection Reports for the Concentrated Animal Feeding Operation inspections conducted at Ex. 6 (Personal Privacy) Farm on November 17, 2015 and March 24, 2016. The purpose of the inspections was to evaluate and document compliance of Ex. 6 (Personal Privacy) Farm with the Clean Water Act.

If you have any questions, please contact Joan Rogers of my staff at (312) 886-2785.

Sincerely,

Ryan J. Bahr, Chief, Section 2
Water Enforcement and Compliance Assurance Branch

Enclosures

Cc: Thomas Bauman, Wisconsin Department of Natural Resources
Mary Anne Lowndes, Wisconsin Department of Natural Resources
Ben Benninghoff, Wisconsin Department of Natural Resources
Mike Gilbertson, Wisconsin Department of Natural Resources
Lisa Creegan, Wisconsin Department of Natural Resources

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CWA COMPLIANCE EVALUATION INSPECTION REPORT
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 5

Purpose:
Compliance Evaluation Sampling Inspection

Facility:
Ex. 6 (Personal Privacy) Farm
Ex. 6 (Personal Privacy)
[redacted]

Walworth County
Ex. 6 (Personal Privacy)

NPDES Permit Number:
N/A

Date of Inspection:
March 24, 2016

EPA Representatives:
Joan Rogers, Environmental Scientist 312-886-2785
rogers.joan@epa.gov

State Representatives:
Benjamin Benninghoff, WDNR 414-263-8576
Benjamin.Benninghoff@wisconsin.gov
Mike Gilbertson, WDNR
Mike.Gilbertson@wisconsin.gov
Lisa Schultz, WDNR
LisaJ.Schultz@wisconsin.gov

Facility Representatives:
Ex. 6 (Personal Privacy) Ex. 6 (Personal Privacy)

Report Prepared by:
Joan Rogers, Environmental Scientist

Report Date:
April 12, 2016

Inspector Signature and Date: Joan A Rogers 5/17/17

Approver Signature: [signature] 5/23/17

Approval Date: 5/23/17

1. BACKGROUND

The purpose of this report is to describe, evaluate and document the activities of the EPA in a follow-up/reconnaissance inspection at the [redacted] Farm facility on March 24, 2016. Following an inspection on November 17, 2015, EPA became aware of construction plans to install sub-surface perforated drainage tiles in a grassed waterway to the west of the facility. EPA observed runoff of manure and process wastewater to a ditch on the south side of the facility. The ditch flowed west to a culvert under Wisconsin Highway 120 and then to a grassed waterway. During the November 17, 2015 inspection, the surface flow dissipated approximately 200 feet down the grassed waterway. Upon learning of the sub-surface drain tiles, EPA wanted to observe the outlets of the tiles and document the management of flow from the facility.

2. SITE INSPECTION

Table 1: Site Entry

Arrival Time:	9:20 A.M.
Temperature:	34°F
Precipitation:	Rain
Presented credentials?	Yes
Credentials presented to whom and at what time?	[redacted]
EPA vehicle parked in approved location?	Yes
Location where EPA vehicle was parked?	North of Hay Storage
Disposable boots worn?	Yes
Other bio-security measures taken:	None

2.1 Records Review (The following Records Review tables reflect information provided before the walk-through of the facility, unless otherwise noted.)

EPA did not review any records during this inspection. See inspection report for November 17, 2015 inspection for facility details.

2.2 Walkthrough of the Facility

Refer to ATTACHMENT E "[redacted] Farm Photo Log and Walkthrough for March 24, 2016 Inspection" for a description of the walkthrough of the facility and the photos taken during the walkthrough.

2.3 Closing Conference and Post-Inspection

Table 12: Post Walk-Through

Were specific "Potential Violations" discussed with facility personnel?	Yes
Were specific "Areas of Concern" discussed with facility personnel?	Yes

Who were the Potential Violations or Areas of Concern discussed with?	
Facility Owner	
Compliance assistance materials given to facility personnel:	
None	
Exit Time:	Approximately 12:00 P.M.
Disposable Boots Left at Facility?	Yes
Vehicle Washed after leaving facility?	Yes
Date and Time that vehicle was washed:	March 24, 2016 at approximately 1:00 P.M.

Table 13: Waterway Documentation

List the pathway taken by EPA inspectors to document the waterway at the facility.
EPA walked west through the grassed waterway to the confluence of the grassed waterway with the West Branch of the North Branch of Nippersink Creek. There was flow under the vegetation in the grassed waterway for approximately 1/3 of the distance of the grassed waterway. As the ground leveled out, the flow diminished and EPA did not observe flow under the vegetation until near the confluence with the perennial stream. At the confluence, EPA observed two distinct flow channels and observed a tile pipe in one of the channels. EPA also observed that there was bed and bank structures and debris from high flow in the West Branch of the North Branch of Nippersink Creek.

Table 14a: Sampling Information

Were samples taken?	Yes
Were samples split with facility?	Yes
Number of samples taken?	4
Was a trip blank created?	Yes
Identify which sample is the trip blank.	B01
Were field duplicate samples taken (1 duplicate per 20 samples)?	No
Identify which sample(s) is/are the field duplicate(s)	N/A
Were equipment blanks taken (if more than one type of equipment was used to collect samples)?	No
Identify which samples were equipment blanks.	N/A
List chain of custody for fecal coliform samples:	No fecal coliform samples were taken.
List chain of custody for nutrient and general chemistry samples:	EPA hand delivered the samples to the

	Region 5 Central Regional Laboratory at 9:00 A.M. on march 25, 2016.
Location where samples were preserved:	In the facility driveway.
Name of people involved with sample preservation:	Joan Rogers
Time of sample preservation:	11:45 A.M.
Were samples shipped to a lab?	No
Name/Address of shipping location:	N/A
Date and time that samples were dropped off for shipping:	N/A
Did all inspectors involved with the sampling sign the chain of custody?	Yes
Weather conditions at the time of sample collection:	Rain and 34°F
Camera name and type used to photograph sample collection:	Pentax GPS-4

Table 14b: Facility Sample Information

Number	Name	Location	Date	Time	Collector	Color/ Smell	Photo #(s)	Photo-grapher	Method of Collection	Tag Number	ml of Sulfuric Acid used
S01	Pipe	From the outlet of the tile pipe at the confluence with the creek	03/24/16	10:40 A.M.	Joan Rogers	Brown/ No odor noted	None	Joan Rogers	Grab	No Tags were used	1.0
S02	Puddle 1	From the south channel in the grassed waterway on the west side of Highway 120	03/24/16	10:50 A.M.	Joan Rogers	Brown/ No odor noted	RIMG1007 RIMG1008	Joan Rogers	Grab	No Tags were used	1.0
S03	Puddle 2	From the north channel in the grassed waterway on the west side of Highway 120.	03/24/16	11:00 A.M.	Joan Rogers	Brown/ No odor noted	RIMG1010 RIMG1011	Joan Rogers	Grab	No Tags were used	1.0
S04	Ditch	From the flow pathway from the production area just north of the confluence with the ditch on the south side of the facility.	03/24/16	11:10 A.M.	Joan Rogers	Dark Brown/ Thick	RIMG1013 RIMG1014 RIMG1017	Joan Rogers	Grab	No Tags were used	1.5
B01	Ex. 6 (Personal Privacy) [redacted]	At the facility where EPA vehicle was parked	03/24/16	11:50 A.M.	Joan Rogers	Clear/ None	None	N/A	Grab	No Tags were used	

Table 15: Sample Results

Sample ID	Sample Description (all liquid samples unless otherwise noted)	Biochemical Oxygen Demand (mg/L)**	Total Kjeldahl Nitrogen (mg/L)	Nitrate-Nitrite N (mg/L)	Ammonia as N (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)
	Typical limits			*0.1 **	*15*	*.05*	*1000*	
S01	Pipe	4	1.64	20.5	0.20	0.44	752	306
S02	Puddle 1	140	16.7	0.65	6.05	4.54	784	50
S03	Puddle2	44	12.9	0.26	3.08	8.65	812	22
S04	Ditch	1200	163	0.89	19.7	40.2	1390	2490
B01	Ex. 6 (Personal Privacy) [redacted]	6	U	U	U	U	U	U

U = Not Detected

The typical limits are for general use waters and this data comes from the Illinois Water Quality Standards (IEPA 2004) unless otherwise noted. There are no Water Quality Standards for Biochemical Oxygen Demand, Total Kjeldahl Nitrogen, Nitrate-Nitrite, and Total Suspended Solids but some limits are provided and are meant to be a benchmark for comparison only.

* Maximum Nitrate-Nitrite amount for aquatic life (North Carolina State University Water Quality Group)

- Ammonia Nitrogen, Total Phosphorus, Nitrate-Nitrite, Dissolved Solids (TDS), Total Suspended Solids (TSS), Total Kjeldahl Nitrogen (TKN), and Biochemical Oxygen Demand (BOD) were analyzed by the Region 5 Chicago Regional Laboratory.

3. POTENTIAL VIOLATIONS

Refer to the inspection report for the November 17, 2015 inspection for the list of observed potential violations from that inspection. Additionally, the presence of field tiles in the Grassed Waterway could be contributing to the potential for pollutants to reach the perennial stream.

4. AREAS OF CONCERN

Refer to the inspection report for the November 17, 2015 inspection for the list of areas of concern.

5. LIST OF ATTACHMENTS

E) Ex. 6 (Personal Privacy) [redacted] Farm Photo Log and Walkthrough
F) Sample Analysis from March 24, 2016 sampling.

Ex. 6 (Personal Privacy) [redacted] **Farm**

ATTACHMENT E

EPA Inspection March 24, 2016

All photos taken by Joan Rogers, Environmental Scientist/Compliance Officer, U.S. EPA

Camera: Pentax GPS-4

EPA began the follow-up inspection at the culvert under Wisconsin Highway 120 just south of the production area. EPA intended to document the grassed waterway west of the highway after receiving construction plans of drainage pipes that were installed in the grassed waterway. EPA did not know of the existence of the pipes during the previous inspection on November 17, 2015 and needed to document how the whole system was being managed.

Shortly after passing under the highway through a culvert, the flow pathway split into a south channel and a north channel. EPA followed the south channel on the way west and the north channel on the way back east. Flow was observed in both channels, but not all the way to the stream.

1: RIMG0984
Description: Grassed waterway begins on the west side of Wisconsin Highway 120 and flows west.
Location: On Wisconsin Highway 120 southwest of the production area.
Camera Direction: West
Date/Time: March 24, 2016 9:35 A.M.

2: RIMG0985
Description: WDNR staff location is approximately where the facility owner stated that the pipe was installed. WDNR staff is near the north channel.
Location: Grassed waterway west of the facility.
Camera Direction: Northwest
Date/Time: March 24, 2016 9:37 A.M.

3: RIMG0986
Description: Looking back toward the facility from the grassed waterway. This is the south channel, which can be seen in the vegetation.
Location: Grassed waterway west of the facility.
Camera Direction: Northeast
Date/Time: March 24, 2016 9:40 A.M.

4: RIMG0987
Description: Continuation of the south channel to the west. EPA observed flow in this channel all the way past the trees and to a clump of shrubs.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:40 A.M.

5: RIMG0988
Description: Standing water in the south channel.
Location: Grassed waterway west of the facility.
Camera Direction: Down and northeast
Date/Time: March 24, 2016 9:40 A.M.

6: RIMG0989
Description: Flow in the south channel near the tree.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:40 A.M.

Ex. 6 (Personal Privacy)

[redacted]

7: RIMG0990
Description: EPA did not observe flow in the south channel west of the clump of shrubs.
Location: Grassed waterway west of the facility.
Camera Direction: East
Date/Time: March 24, 2016 9:42 A.M.

8: RIMG0991
Description: West of the clump of shrubs, a pathway was visible, but did not have flow in it.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:42 A.M.

9: RIMG0992
Description: The bottom of the grassed waterway had puddles in machinery tire tracks.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:49 A.M.

10: RIMG0993
Description: Looking back toward the facility from the west end of the grassed waterway. Note the waterway narrows between two crop fields and the two channels merge into one.
Location: Grassed waterway west of the facility.
Camera Direction: East
Date/Time: March 24, 2016 9:49 A.M.

When EPA reached the west end of the grassed waterway, the facility owner showed where the outlet of a tile was located on the north side of the grassed waterway. Using his foot, he moved the vegetation from the pipe and EPA saw the pipe outlet.

The construction plans for the piping in the grassed waterway indicated that there was to be a tile pipe on each side of the grassed waterway. EPA and WDNR observed another pipe on the south side of the waterway, but this pipe was a concrete pipe that the facility owner said was probably a very old field tile. This pipe was submerged in the stream.

EPA and WDNR did not observe another newer tile pipe on the south side of the grassed waterway although there was a second channel to the stream just south of the north tile pipe which could have been the location of the south tile.

11: RIMG0994
Description: The facility owner knew where the outlet to one of the pipes was located and moved away the vegetation to help EPA observe it.
Location: Grassed waterway west of the facility.
Camera Direction: Down
Date/Time: March 24, 2016 9:50 A.M.

12: RIMG0995
Description: End of tile pipe is under water at the west end of the grassed waterway.
Location: Grassed waterway west of the facility.
Camera Direction: Down
Date/Time: March 24, 2016 9:50 A.M.

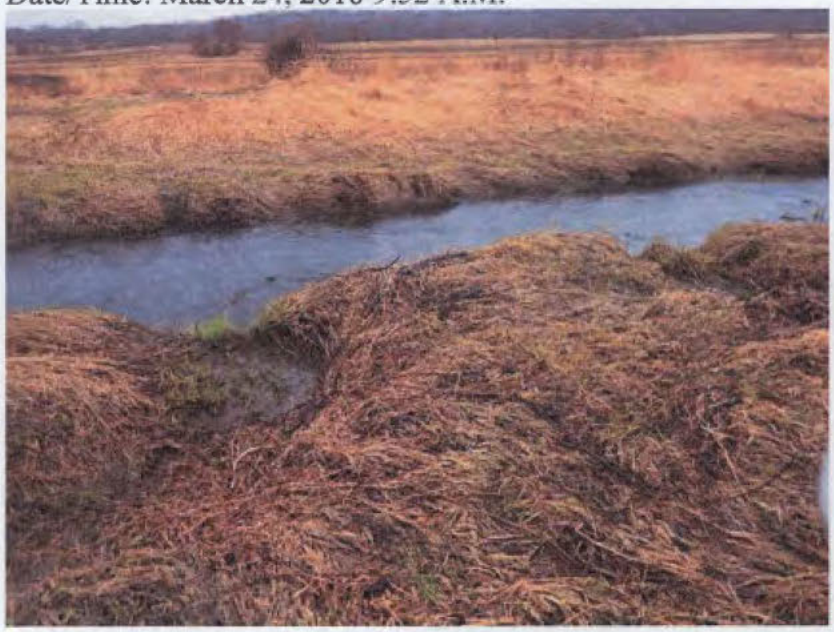
13: RIMG0996
Description: Submerged concrete pipe in the stream. There was a plume of sediment laden flow from this pipe.
Location: Grassed waterway west of the facility.
Camera Direction: Down and west
Date/Time: March 24, 2016 9:51 A.M.

14: RIMG0997
Description: Flow along the ground at the end of the grassed waterway.
Location: Grassed waterway west of the facility.
Camera Direction: Down
Date/Time: March 24, 2016 9:52 A.M.

15: RIMG0998
Description: Channel from outlet of the tile pipe to the stream.
Location: Grassed waterway west of the facility.
Camera Direction: Down and Northwest
Date/Time: March 24, 2016 9:52 A.M.

16: RIMG0999
Description: Looking back up the hill at the grassed waterway.
Location: Grassed waterway west of the facility.
Camera Direction: East
Date/Time: March 24, 2016 9:52 A.M.

17: RIMG1000
Description: A second channel in the streambed could be an indication of the location of the south tile pipe outlet.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:52 A.M.



18: RIMG1001
Description: Second channel in the streambed (on the left in the photo) could be where the south tile outlet was located. EPA and WDNR could not find the tile pipe, though. Channel to the right in the photo is the location of the north pipe outlet.
Location: Grassed waterway west of the facility.
Camera Direction: West
Date/Time: March 24, 2016 9:52 A.M.

Ex. 6 (Personal Privacy)

19: RIMG1002
Description: The stream bank was uninterrupted further south. EPA documented bed and bank in the stream.
Location: Grassed waterway west of the facility.
Camera Direction: South
Date/Time: March 24, 2016 9:57 A.M.

20: RIMG1003
Description: Looking up and to the east from the west end of the grassed waterway.
Location: Grassed waterway west of the facility.
Camera Direction: East
Date/Time: March 24, 2016 10:00 A.M.

EPA and WDNR walked back up the hill to the east through the vegetation of the grassed waterway. EPA intended to do some sampling and headed to the vehicle to get the sample supplies.

21: RIMG1004
Description: A puddle and flow of water in the south pathway.
Location: Grassed waterway west of the facility.
Camera Direction: Down and southwest
Date/Time: March 24, 2016 10:07 A.M.

22: RIMG1005
Description: A puddle and flow of water in the south pathway.
Location: Grassed waterway west of the facility.
Camera Direction: Southwest
Date/Time: March 24, 2016 10:07 A.M.

23: RIMG1006
Description: Water in the south channel.
Location: Grassed waterway west of the facility.
Camera Direction: Northeast
Date/Time: March 24, 2016 10:07 A.M.

EPA gathered sampling supplies and then walked back down to the end of the grassed waterway to sample from the flow coming out of the tile pipe. The facility owner stated that he wanted to split samples with EPA.

EPA took a sample, named S01 "Pipe" from the flow of water at the end of the tile pipe on the north side of the grassed waterway. The end of the pipe was submerged in a pool of water. EPA took this sample at 10:40 A.M. and forgot to take a photo of the sample bottles. See photos numbered 11 and 12, RIMG0994 and RIMG0995 for location of the tile pipe where sample S01 was taken.

EPA took the second sample, S02, named "Puddle 1", from standing water in the south channel at 10:50 A.M.

24: RIMG1007
Description: Sample S02, named "Puddle 1", was taken from the south channel at 10:50 A.M.
Location: Grassed waterway west of the facility.
Camera Direction: Down
Date/Time: March 24, 2016 10:52 A.M.

25: RIMG1008
Description: Sample S02, named "Puddle 1", was taken from the south channel at 10:50 A.M.
Location: Grassed waterway west of the facility.
Camera Direction: Northeast
Date/Time: March 24, 2016 10:52 A.M.

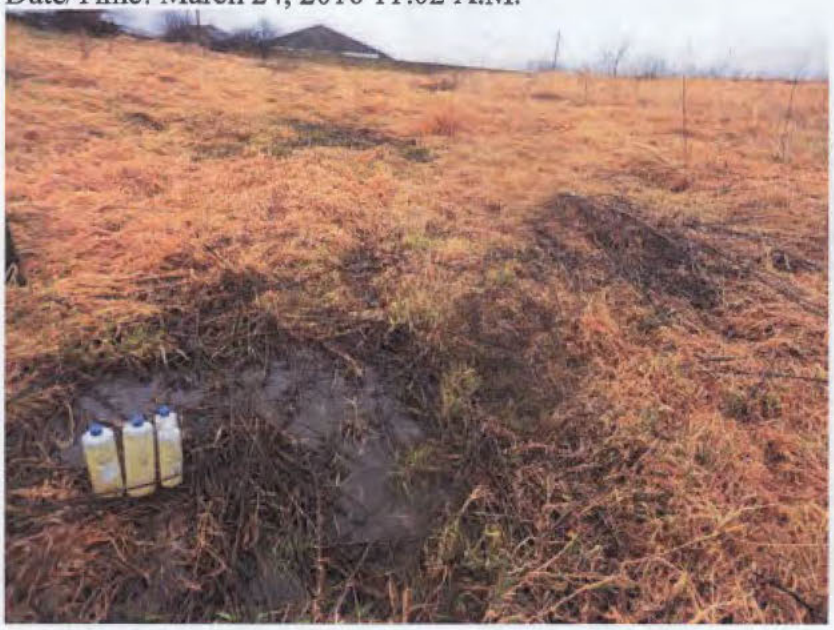
26: RIMG1009
Description: Small amount of flow west of the sample location in the south channel.
Location: Grassed waterway west of the facility.
Camera Direction: Down
Date/Time: March 24, 2016 10:53 A.M.

EPA took the third sample, S03, named "Puddle 2", at 11:00 A.M. from the flow of water in the north channel.

Ex. 6 (Personal Privacy)

[redacted]

27: RIMG1010
Description: Sample S03, "Puddle 2" was taken from the north channel at 11:00 A.M.
Location: Grassed waterway west of the facility.
Camera Direction: Down and northeast
Date/Time: March 24, 2016 11:02 A.M.



28: RIMG1011
Description: Sample S03, "Puddle 2" was taken from the north channel at 11:00 A.M.
Location: Grassed waterway west of the facility.
Camera Direction:East
Date/Time: March 24, 2016 11:02 A.M.

29: RIMG1012
Description: The south channel looking toward the stream.
Location: Grassed waterway west of the facility.
Camera Direction: Southwest
Date/Time: March 24, 2016 11:02 A.M.

EPA then crossed over the highway in order to observe the flow from the production area to the ditch that flows under the highway through the culvert. In a previous inspection, EPA observed manure and process wastewater from open pens and from around the feed storage and mixing areas being transported with precipitation to the ditch on the south side of the production area. EPA had previously sampled at the end of the flow pathway from the production area just before it entered the ditch and there were pollutants in the sample.

On the day of this inspection, EPA observed that the flow pathway was over a foot wide and there was a buildup of solids on either side of the pathway. EPA could not determine if the solids were manure or sediment. EPA took the fourth sample, S04, named "Ditch", at 11:10 A.M from the pathway before it entered the ditch on the south side of the facility.

30: RIMG1013
Description: Sample S04, named "Ditch" was taken at 11:10 A.M. from the flow pathway from the production area before it entered the ditch on the south side of the production area.
Location: Southwest of the 2004 Freestall Barn
Camera Direction: East
Date/Time: March 24, 2016 11:14 A.M.

31: RIMG1014
Description: Sample S04, named "Ditch" was taken at 11:10 A.M. from the flow pathway from the production area before it entered the ditch on the south side of the production area.
Location: Southwest of the 2004 Freestall Barn
Camera Direction: Southeast
Date/Time: March 24, 2016 11:14 A.M.

32: RIMG1015
Description: The ditch south of the production area flows to the west.
Location: Southwest of the 2004 Freestall Barn.
Camera Direction: Southwest
Date/Time: March 24, 2016 11:14 A.M.

33: RIMG1016
Description: The ditch south of the production area flows to the west.
Location: Southwest of the 2004 Freestall Barn.
Camera Direction: Southwest
Date/Time: March 24, 2016 11:14 A.M.

34: RIMG1017
Description: Sample bottles next to the pathway from the production area.
Location: Southwest of the 2004 Freestall Barn.
Camera Direction: North
Date/Time: March 24, 2016 11:14 A.M.

EPA then walked north to observe if the storm water flowed through areas that contained manure or process wastewater before flowing south to the ditch on the south side of the production area. EPA observed the flow

35: RIMG1018
Description: Looking downstream along the runoff pathway from the production area.
Location: West of the 2004 Freestall Barn.
Camera Direction: South
Date/Time: March 24, 2016 11:15 A.M.

36: RIMG1019
Description: The runoff pathway from the production area.
Location: West of the 2004 Freestall Barn.
Camera Direction: Northeast
Date/Time: March 24, 2016 11:15 A.M.

37: RIMG1020
Description: The runoff pathway transports manure and process wastewater from the open pens of the freestall barns.
Location: West of the 2002 Freestall Barn
Camera Direction: Northeast
Date/Time: March 24, 2016 11:16 A.M.

38: RIMG1021
Description: The runoff pathway transports manure and process wastewater from the open pens of the freestall barns.
Location: West of the 2002 Freestall Barn
Camera Direction: Northeast
Date/Time: March 24, 2016 11:16 A.M.

39: RIMG1022
Description: Manure and process wastewater from the calf hutches also is transported with precipitation to the runoff pathway and then to the south.
Location: West of 2002 Freestall Barn.
Camera Direction: Northeast
Date/Time: March 24, 2016 11:16 A.M.

40: RIMG1023
Description: Manure and process wastewater from the calf hutches also is transported with precipitation to the runoff pathway and then to the south.
Location: West of 2002 Freestall Barn.
Camera Direction: Northwest
Date/Time: March 24, 2016 11:16 A.M.

EPA preserved the samples and then gave the facility owner the split samples and a chain of custody. EPA provided a closing conference, removed the disposable booties and exited the facility.

ATTACHMENT F

SAMPLE ANALYSIS FROM MARCH 24, 2016 SAMPLING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate # L2280 Testing

Date: 5/27/2016

Subject: Review of Region 5 Data for [redacted] Farm 2

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Francis Awanya, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

x Francis A Awanya 5/27/2016

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: [redacted] **Farm 2**

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

BOD

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** May-27-16 12:16

Analysis Case Narrative

General Information

Five (5) water samples collected for the project were received at the Chicago Regional Laboratory (CRL) on 03/25/2016. The samples were analyzed for Biochemical Oxygen Demand (BOD) in water using Standard Operating Procedure (SOP) CRL Document # AIG006 Version # 2 (Based on SM 5210B). The designated analyst for those samples is Francis Awanya. Francis can be reached at 312-886-3682. Other pertinent information and dates are provided in the final analysis report. Analysis was completed within the holding time.

Sample Analysis and Results

The data reported herein meet the requirements of "2015 General Field Sampling Plan 103113 – CAFOs" and "2014 reporting request for CAFO samples 062014".

Quality Control

All required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the CRL's QC limits with the following exceptions.

Glucose/Glutamic acid (GGA) checks: A mean recovery of 72.5 % obtained for three GGA checks with individual recoveries of 74.2%, 70.5%, and 72.9% was out of the limits (84.8% - 115.4%) and could indicate low bias. A probable cause is weak seed. Sample results are flagged "L" for estimated and the possible low bias.

Dilution water blanks: A pair of dilution water with no seed (DWNS) incubated with the samples produced oxygen depletions of 0.49 mg/L and 0.40 mg/L exceeding the limit of 0.2 mg/L. Similarly, the seeded dilution water produced depletions of 1.91 mg/L and 0.85 mg/L. This could indicate contamination. BOD results for sample 1603043-01 (Field Sample Number S01) and 1603043-05 (Field Sample Number B01) could be elevated due to the possible contamination. The reported concentrations represent minimum values. Actual concentrations could be higher. No additional flag was applied.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** May-27-16 12:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted]Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: May-27-16 12:16

BOD, 5 day, SM 5210 B (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	4	L		2	mg/L	1	B16C060	Mar-25-16	Mar-25-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	140	L		2	mg/L	1	B16C060	Mar-25-16	Mar-25-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	44	L		2	mg/L	1	B16C060	Mar-25-16	Mar-25-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	1200	L		2	mg/L	1	B16C060	Mar-25-16	Mar-25-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Biochemical Oxygen Demand	6	L		2	mg/L	1	B16C060	Mar-25-16	Mar-25-16

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** May-27-16 12:16

Notes and Definitions

L	The identification of the analyte is acceptable; the reported value may be biased low. The actual value is expected to be greater than the reported value.
U	Not Detected
NR	Not Reported

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATIC BUREAU ACCREDITED ISO/IE

Date: 6/2/2016

Subject: **Review of Region 5 Data for** Ex. 6 (Personal Privacy) [redacted] **Farm 2**

To: **Water Division, US EPA Region 5**
77 West Jackson Boulevard
Chicago, IL 60604

From: **Laurence Wong, SEEP Analyst**

US EPA Region 5 Chicago Regional Laboratory

Analyst is a (check one): ✓ SEE Enrollee __ORISE Participant __Contractor
Grantee Organization or Contract Company: _____
Assigned to the Chicago Regional Laboratory at U.S. EPA, Region 5
Reviewed by (initials, date): FAB 6/2/2016, chemist at Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Laurence Wong June 2, 2016

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Brennan Farm 2

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

Solids, TDS

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Priva[redacted]Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Jun-02-16 15:40

ANALYSIS CASE NARRATIVE

General Information

Five (5) water samples under Work Order #1603043 were received on March 25, 2016 for Total Dissolved Solids (TDS) analysis. The designated analyst was Laurence Wong; and the contact person, Francis Awanya (phone number: 312-886-3682).

The sample preparation and analysis began on March 30, 2016, and were completed on March 31, 2016. The samples were kept in refrigerator at ≤ 6°C at all-time except when in use. The sample holding time limit was met. Other pertinent information is provided in the final analysis report.

The sample preparation and analysis followed procedure CRL SOP AIG017 Version #2 (based on Standard Method 2540 C).

Sample Analysis and Results

The data reported herein met the DQO for "2015 General Field Sampling Plan 103113-CAFOs" and the "2014 reporting request for CAFO samples 062014".

Quality Control

All quality control (QC) audits followed CRL guidelines. The required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the CRL's QC limits.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Priv[redacted]Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:40

Dissolved Solids, SM 2540C (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	752			20.0	mg/L	1	B16C061	Mar-30-16	Mar-30-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	784			20.0	mg/L	1	B16C061	Mar-30-16	Mar-30-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	812			20.0	mg/L	1	B16C061	Mar-30-16	Mar-30-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	1390			20.0	mg/L	1	B16C061	Mar-30-16	Mar-30-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Dissolved Solids	U			20.0	mg/L	1	B16C061	Mar-30-16	Mar-30-16

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Pr[redacted]Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:40

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:40

Notes and Definitions

U	Not Detected
NR	Not Reported

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATIC BUREAU ACCREDITED ISO/IE

Date: 6/2/2016

Subject: Review of Region 5 Data for Ex. 6 (Personal Privacy) [redacted] Farm 2

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Laurence Wong, SEEP Analyst
US EPA Region 5 Chicago Regional Laboratory

Analyst is a (check one): ✓ SEE Enrollee __ORISE Participant __Contractor
Grantee Organization or Contract Company: _____
Assigned to the Chicago Regional Laboratory at U.S. EPA, Region 5
Reviewed by (initials, date): FAB 6/2/2016, chemist at Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Laurence Wong June 2, 2016

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Ex. 6 (Personal Privac [redacted] Farm 2

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

Solids, TSS

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Projec[redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Jun-02-16 15:32

ANALYSIS CASE NARRATIVE

General Information

Five (5) water samples under Work Order #1603043 were received on March 25, 2016 for Total Suspended Solids (TSS) analysis. The designated analyst was Laurence Wong; and the contact person, Francis Awanya (phone number: 312-886-3682).

The sample preparation and analysis began on March 30, 2016, and were completed on March 31, 2016. The samples were kept in refrigerator at ≤ 6°C at all-time except when in use. The sample holding time limit was met. Other pertinent information is provided in the final analysis report.

The sample preparation and analysis followed procedure CRL SOP AIG018 Version #1 (based on Standard Method 2540 D).

Sample Analysis and Results

The data reported herein met the DQO for "2015 General Field Sampling Plan 103113-CAFOs" and the "2014 reporting request for CAFO samples 062014".

Quality Control

All quality control (QC) audits followed CRL guidelines. The required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the CRL's QC limits.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Privacy) Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Jun-02-16 15:32

Total Suspended Solids, SM 2540 D (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	306			5	mg/L	1	B16C062	Mar-30-16	Mar-30-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	50			5	mg/L	1	B16C062	Mar-30-16	Mar-30-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	22			5	mg/L	1	B16C062	Mar-30-16	Mar-30-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	2490			5	mg/L	1	B16C062	Mar-30-16	Mar-30-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Suspended Solids	U			5	mg/L	1	B16C062	Mar-30-16	Mar-30-16

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5	Project: [redacted] Farm 2	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Joan Rogers	Jun-02-16 15:32

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Jun-02-16 15:32

Notes and Definitions

U	Not Detected
NR	Not Reported

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate # L2280 Testing

Date: 5/9/2016

Subject: Review of Region 5 Data for [redacted] Farm 2

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Anna Knoebel, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Anna Knoebel

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: [redacted] Farm 2

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

Ammonia N DA, Distilled

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5	Project: [redacted] Farm 2	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL, 60604	Project Manager: Joan Rogers	May-09-16 14:22

ANALYSIS CASE NARRATIVE – Distilled Ammonia Nitrogen in Water

Work Order: 1603043
Analyst: Anna Knoebel
Phone #: (312) 353-9467

General Information

Five water samples for Ammonia Nitrogen were received on March 25, 2016. All holding times were met.

Sample Analysis and Results

The samples were distilled and analyzed on April 19, 2016 for Ammonia Nitrogen in water using CRL SOP AIG029B, Version # 3 (based on method 4500 – NH3- B & H). The samples were stored in the refrigerator at all times, except when in use.

The data reported herein meets the Data Quality Objectives referenced in the "*2015 General Field Sampling Plan 040715*" and "*2014 reporting request for CAFO samples 062014*".

Samples were analyzed on April 19 – 21, 2016 with some quality control audit exceedances. Troubleshooting of the instrument was performed without success and service by the manufacturer could not be completed before hold time expiration (April 21, 2016). Data from the first day was reported with minimal flagging.

Quality Control

Initial Calibration Blank (ICB) and Method Blank (BLK):

The ICB result (0.14 mg/L) was above the analysis MDL limit (0.06 mg/L) and the BLK result (0.30 mg/L) was above the preparation MDL limit (0.08 mg/L). Subsequently, sample 1603043-01 (S01) was flagged "J" (estimated). The other sample results were not affected by the blank contamination because they were more than ten times the ICB/BLK result or non-detect, no further flags were necessary.

- All other quality control audits were within CRL limits or did not result in qualification of the data.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** May-09-16 14:22

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5	Project: [redacted] Farm 2	
77 West Jackson Boulevard	Project Number: [none]	Reported:
Chicago IL. 60604	Project Manager: Joan Rogers	May-09-16 14:22

Ammonia Nitrogen, SM4500B & H (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	**0.20**	J	0.08	0.20	mg/L	1	B16D030	Apr-19-16	Apr-19-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	**6.05**		0.80	2.00	mg/L	10	B16D030	Apr-19-16	Apr-19-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	**3.80**		0.80	2.00	mg/L	10	B16D030	Apr-19-16	Apr-19-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	**19.7**		1.60	4.00	mg/L	20	B16D030	Apr-19-16	Apr-19-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Ammonia as N	U		0.08	0.20	mg/L	1	B16D030	Apr-19-16	Apr-19-16

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5	Project: Ex. 6 (Personal P[redacted] Farm 2	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL. 60604	Project Manager: Joan Rogers	May-09-16 14:22

Notes and Definitions

J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Not Detected
NR	Not Reported

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate #L2280 Testing

Date: 4/6/2016

Subject: Review of Region 5 Data for Ex. 6 (Personal Privacy) [redacted] Farm 2

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Nidia Fuentes, Analyst
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Nidia Fuentes 4/6/2016

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Ex. 6 (Personal Privacy) [redacted] Farm 2

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

TKN DA

Total Phosphorus DA

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Apr-06-16 09:49

Analysis Case Narrative

General Information

A total of five water samples to be analyzed for Total Phosphorus (TP) were received at the Chicago Regional Laboratory on March 25, 2016. The samples were digested and analyzed using CRL SOP AIG034B, Version #3 (based on EPA method 365.4).
All holding times were met. The designated analyst for these samples is Nidia Fuentes. Nidia can be reached at 312-353-9079.

Sample Analysis and Results

The data reported herein meets the Data Quality Objectives referenced in the "FY 2016 General Field Sampling Plan 11162015" and "2014 reporting request for CAFO samples 062014". The data reported herein meet the limits reference in CRL SOP AIG034B Version #3 (based on EPA method 365.4).

Quality Control

All quality control audits were within the CRL limits.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Priv [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Apr-06-16 09:49

Analysis Case Narrative

General Information

A total of five water samples to be analyzed for Total Kjeldahl Nitrogen (TKN) were received at the Chicago Regional Laboratory on March 25, 2016. The samples were digested and analyzed using CRL SOP AIG035B, Version #3 (based on EPA method 351.2).
All holding times were met. The designated analyst for these samples is Nidia Fuentes. Nidia can be reached at 312-353-9079.

Sample Analysis and Results

The data reported herein meets the Data Quality Objectives referenced in the "FY 2016 General Field Sampling Plan 11162015" and "2014 reporting request for CAFO samples 062014". The data reported herein meet the limits reference in CRL SOP AIG035B Version #3 (based on EPA method 351.2).

Quality Control

All quality control audits were within the CRL limits.

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Apr-06-16 09:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Apr-06-16 09:49

Phosphorus, Colorimetric, EPA 365.4 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Phosphorus	0.44		0.06	0.15	mg/L	1	B16C066	Mar-30-16	Mar-31-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Phosphorus	4.54		0.60	1.50	mg/L	10	B16C066	Mar-30-16	Mar-31-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Phosphorus	8.65		0.60	1.50	mg/L	10	B16C066	Mar-30-16	Mar-31-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Phosphorus	40.2		3.00	7.50	mg/L	50	B16C066	Mar-30-16	Mar-31-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Phosphorus	U		0.06	0.15	mg/L	1	B16C066	Mar-30-16	Mar-31-16

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Apr-06-16 09:49

Total Kjeldahl Nitrogen, EPA 351.2 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	**1.64**		0.20	0.50	mg/L	1	B16C067	Mar-30-16	Mar-31-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	**16.7**		2.00	5.00	mg/L	10	B16C067	Mar-30-16	Mar-31-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	**12.9**		2.00	5.00	mg/L	10	B16C067	Mar-30-16	Mar-31-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	**163**		10.0	25.0	mg/L	50	B16C067	Mar-30-16	Mar-31-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Total Kjeldahl Nitrogen	**U**		0.20	0.50	mg/L	1	B16C067	Mar-30-16	Mar-31-16

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Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: Ex. 6 (Personal Priv [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Apr-06-16 09:49

Notes and Definitions

U	Not Detected
NR	Not Reported

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CHICAGO REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: 4/29/2016

Subject: Review of Region 5 Data fo[redacted] Farm 2

To: Water Division, US EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604

From: Anna Knoebel, Chemist
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with EPA's *Guidance on Environmental Data Verification and Data Validation* (Document EPA QA/G-8), CRL verified and validated the data but does not perform data quality assessment based on project plans.

This report was reviewed and the information provided herein accurately represents the analysis performed.

X Anna Knoebel

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results fo[redacted] **Farm 2**

/ /

Data Management Coordinator and DateTransmitted

Analyses included in this report:

Nitrate-Nitrite N DA, Enzymatic reduction

Environmental Protection Agency Region 5
Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605
Phone:(312)353-8370 Fax:(312)886-2591

Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL. 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Apr-29-16 10:55

ANALYSIS CASE NARRATIVE – Nitrate-Nitrite Nitrogen in Water

Work Order: 1603043
Analyst: Anna Knoebel
Phone #: (312) 353-9467

General Information

Five water samples for Nitrate-Nitrite Nitrogen were received on March 25, 2016. All holding times were met.

Sample Analysis and Results

The samples were analyzed for Nitrate-Nitrite Nitrogen in water on April 18, 2016 using CRL SOP AIG031B, Version # 1 (SOP based on ASTM D7781-14). The samples were stored in the refrigerator at all times except when in use.

A new SOP (AIG031B) which follows ASTM method D7781-14 (*Standard Test Method for Nitrate-Nitrite in Water by Nitrate Reductase*) was added in August of 2015. This method is different than the method referenced in the "*2015 General Field Sampling Plan 040715*". The data reported herein meets the Data Quality Objectives referenced in CRL SOPs AIG031B, Version # 1 and "*2014 reporting request for CAFO samples 062014*".

Quality Control

Matrix Spike (MS)

The matrix spike recovery (54 %) for sample 1603043-01 (S01) was below the acceptance limit (70 – 125 %). The blank spike (BS) recovery (109 %) and other QC audit recoveries were within the CRL limits. The sample and spike were diluted tenfold, as a result the spike was diluted out. No flags were necessary on this basis.

All other quality control audits were within CRL limits or did not result in qualification of the data.

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Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	**Reported:** Apr-29-16 10:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1603043-01	Water	Mar-24-16 10:40	Mar-25-16 09:15
S02	1603043-02	Water	Mar-24-16 10:50	Mar-25-16 09:15
S03	1603043-03	Water	Mar-24-16 11:00	Mar-25-16 09:15
S04	1603043-04	Water	Mar-24-16 11:10	Mar-25-16 09:15
B01	1603043-05	Water	Mar-24-16 11:50	Mar-25-16 09:15

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Water Division, US EPA Region 5 77 West Jackson Boulevard Chicago IL, 60604	Project: [redacted] Farm 2 Project Number: [none] Project Manager: Joan Rogers	Reported: Apr-29-16 10:55

Nitrate-Nitrite Nitrogen, Nitrate Reductase, ASTM D7781 - 14 (modified)
US EPA Region 5 Chicago Regional Laboratory

S01 (1603043-01) Water Sampled: Mar-24-16 10:40 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Nitrate-Nitrite N	20.5		0.40	1.00	mg/L	10	B16D027	Apr-18-16	Apr-18-16

S02 (1603043-02) Water Sampled: Mar-24-16 10:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Nitrate-Nitrite N	0.65		0.04	0.10	mg/L	1	B16D027	Apr-18-16	Apr-18-16

S03 (1603043-03) Water Sampled: Mar-24-16 11:00 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Nitrate-Nitrite N	0.26		0.04	0.10	mg/L	1	B16D027	Apr-18-16	Apr-18-16

S04 (1603043-04) Water Sampled: Mar-24-16 11:10 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Nitrate-Nitrite N	0.89		0.20	0.50	mg/L	5	B16D027	Apr-18-16	Apr-18-16

B01 (1603043-05) Water Sampled: Mar-24-16 11:50 Received: Mar-25-16 09:15

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Nitrate-Nitrite N	U	U	0.04	0.10	mg/L	1	B16D027	Apr-18-16	Apr-18-16

Environmental Protection Agency Region 5
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Water Division, US EPA Region 5	Project: [redacted] Farm 2	
77 West Jackson Boulevard	Project Number: [none]	**Reported:**
Chicago IL, 60604	Project Manager: Joan Rogers	Apr-29-16 10:55

Notes and Definitions

U	Not Detected
NR	Not Reported