Manure Hauling Audits

CAFO Workshops 2025

Outline

- Types of field audits
- When we conduct a manure hauling audits
- What we look for during manure hauling audits
- Proper record keeping

What are the types of field audits?

- Five types of audits
  - Announced audits
  - Unannounced audits
  - Spill response
  - Complaint response
  - Field audits

What is a Manure Hauling Audit?

- Manure hauling audits are application inspections that document compliance with nutrient management and permit requirements
  - Field walkover
  - During or after manure and process wastewater is applied
  - s. NR 243.14 requirements
- Audits document real-world compliance

Announced vs. Unannounced Audits

- Announced
  - Typically planned well in advance
  - Multiple audits at one time
- Unannounced
  - Proactive audits when staff are in the field
  - More common in higher density areas

Spill Response

- Response to land application runoff event
  - Surface runoff or subsurface drainage discharge
- May not discharge to waters of the state
  - Exemptions for 25-year, 24-hour event
- Direct clean up efforts
- Water sampling

Complaint Response

- Staff will follow up on all complaints
- Legitimate complaints result in staff response
- Most common complaints
  - Truck traffic
  - Heavy application
  - Ponding
    - Turnaround areas
  - Runoff occurring

Field Audits

- Aspects of nutrient management that do not involve manure applications
  - Cropping
  - Erosion
  - Restrictive feature verification

What do we look for during audits?

- General Spreading Restrictions
  - Manure leaving field boundaries
  - Manure migrating within field boundaries
  - Manure ponding
  - Setback requirements
  - Depth to bedrock and groundwater

Any manure runoff (left field boundaries)? ◯ Yes ◯ No

If yes, check resource(s) impacted ☐ Surface Waters ☐ Wetlands ☐ Potential Groundwater ☐ None

Notes:

Manure Setbacks and Restrictions (during non-frozen or snow covered conditions)	**Requirement Met?**		
100 feet from private wells (1000 feet to municipal wells when applicable)	◯ Yes	◯ No	◯ N/A
100 feet from other groundwater conduits	◯ Yes	◯ No	◯ N/A
25 feet from wetlands	◯ Yes	◯ No	◯ N/A
25 feet to surface waters/conduits to surface waters (incorporated or injected)	◯ Yes	◯ No	◯ N/A
100 feet setback to surface waters/conduits to surface waters (surface app)	◯ Yes	◯ No	◯ N/A
No manure spread in grassed waterways (non-conduits to surface waters)	◯ Yes	◯ No	◯ N/A
No excessive ponding or runoff within field boundaries	◯ Yes	◯ No	◯ N/A
Depth to groundwater greater than 24 inches (if checked, need to dig hole)	◯ Yes	◯ No	◯ Not Verified
Depth to bedrock greater than 24 inches (if checked, need to dig hole)	◯ Yes	◯ No	◯ Not Verified
Are permanent grass waterways or buffers properly maintained?	◯ Yes	◯ No	◯ N/A
Are tillage setbacks being met? (minimum 5 feet from surface waters)	◯ Yes	◯ No	◯ N/A
Does the field appear to be managed to prevent excessive erosion / soil loss?	◯ Yes	◯ No	◯ N/A

Note: "NA" means the requirement does not apply due to absence of setback feature, method, etc.

Notes:

Tile features observed (inlets/outlets/breathers)?	◯ Yes	◯ No
Outlets found?	◯ Yes	◯ No
Are tile features on restriction maps?	◯ Yes	◯ No
Setbacks to tile features met? (25 feet for incorporated/inject; 100 feet for surface)	◯ Yes	◯ No

Outlet observations: ☐ Flowing ☐ Not flowing ☐ Manure present ☐ No manure present

Notes:

Setbacks

- Private wells – 100 feet
  - Verify the locations of the wells
- Direct conduits to ground water – 100 feet
- No applications on soils with less than 2 feet to bedrock/groundwater
- Wetlands – 25 feet
- SWQMA – Depends on the option selected in the nutrient management plan
  - Options found in s. NR 243.14(4)
  - Setbacks can range from 25-100 feet
- Silurian Performance Standards Apply

Surface Water Quality Management Area

- What is a SWQMA?
  - 1,000 feet from the OHWM of a lake, pond or flowage.
  - 1,000 feet from the high-water mark of a glacial pothole lake.
  - 300 feet from the OHWM of navigable waters that consist of a river or stream or other non−lake navigable waters.
  - The area within 300 feet of conduit to navigable waters
    - Tile line intake structures
    - Open vent pipes
    - Sinkholes
    - Ag well head
    - Drainage ditches and grassed waterways
    - Road ditches

How are you measuring setbacks in the field?

- Please describe how you are measuring setbacks in the field prior to land applications
  - Use 1-4 words to describe how you measure the setbacks
  - Scan the QR code or go to slido.com
    - Code 4027730

In-Field Examples

Migrating Within Field Boundaries

- Practices shall retain land applied manure and process wastewater on the soil where they are applied with minimal movement
- Case-by-case
  - No minimum threshold
- Turnaround areas are susceptible


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Ponding – What is it?

- Case by Case
  - No clear definition
  - There is discretion for the turnaround areas
- Incorporation
  - 80% of the manure is covered by the soil
  - Is it meeting this definition?
- Typically means manure has migrated within field boundaries or application rates are too high for soil conditions

Examples


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Depth to Bedrock and Groundwater

- Does not matter the location or type of bedrock
  - Less than 2 feet is prohibited
- Verification is required
  - DATCP 01 – Verification of Depth to Bedrock
- Depth to groundwater verification
  - Prior to application on “W” soils
    - 2-foot hole and check one hour later
    - Subsurface drainage


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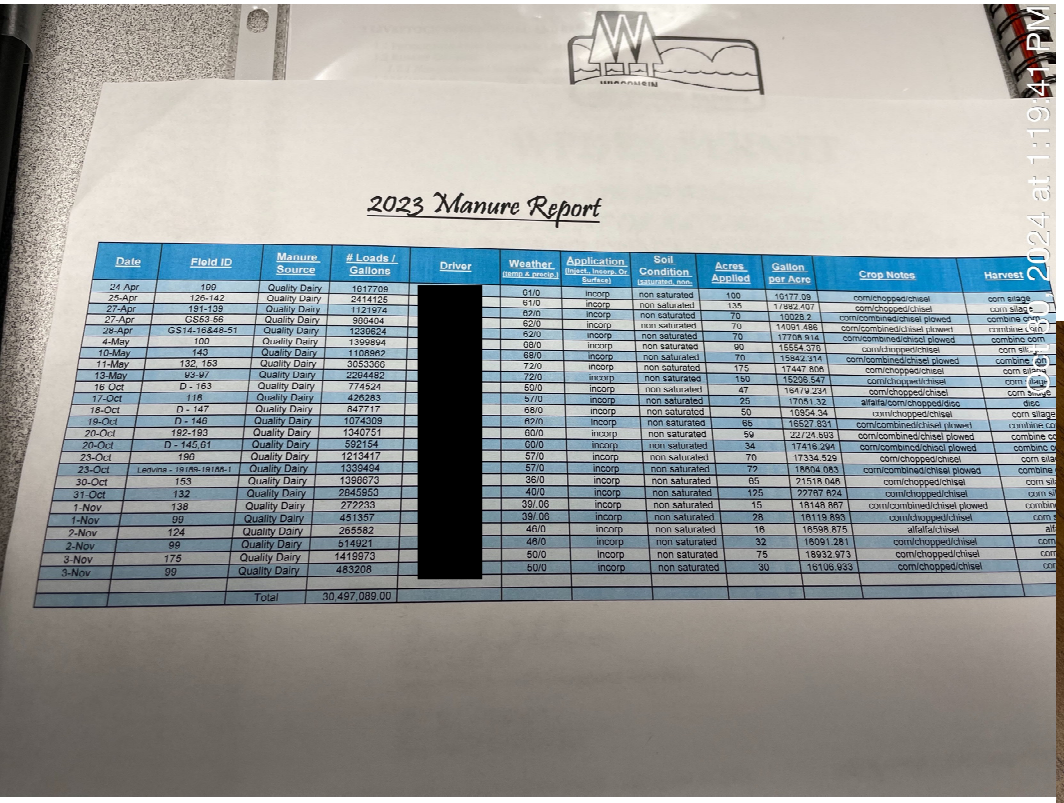
Record Keeping Requirements

- Daily Log Requirement
  - Field Identification
  - Acres applied
  - Manure Source (to match manure samples collected)
  - Spreader Volume
  - Number of loads
  - Soil conditions
  - Weather conditions
  - Application type
- Weather Log
  - 24 hours before and after

Daily Log Requirements

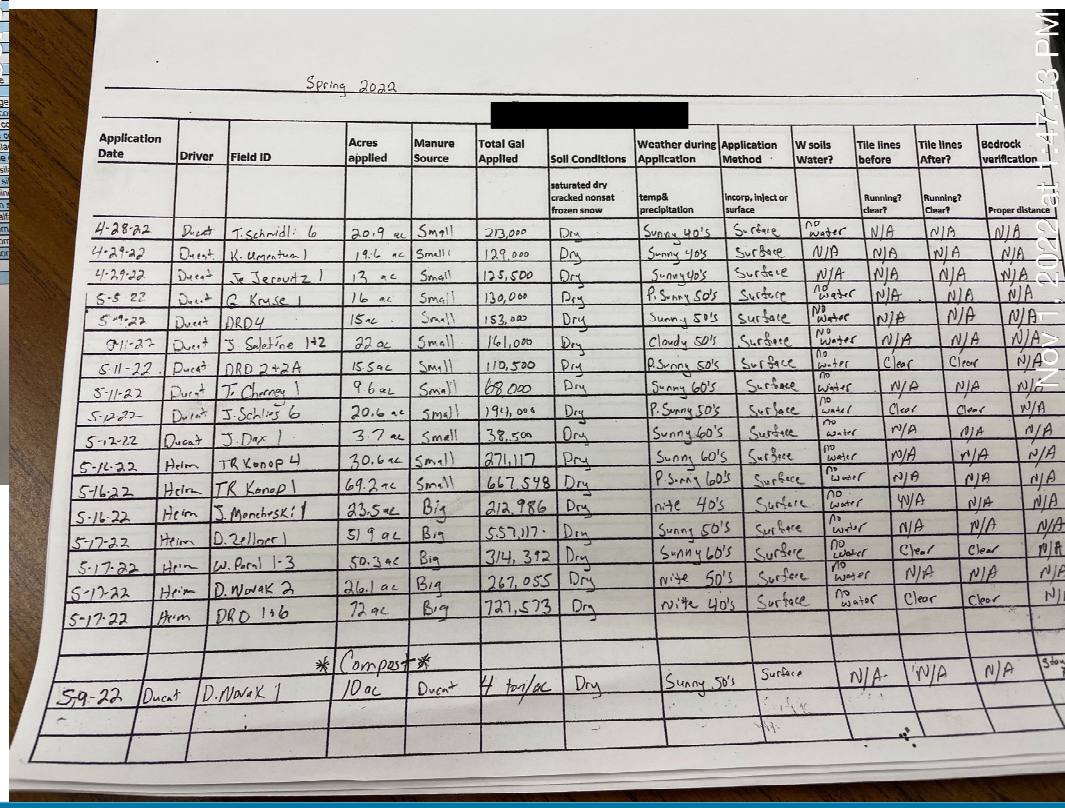
The permittee shall document all discharge and monitoring activities on daily log report form 3200-123A or a Department approved equivalent log sheet. Originals of the daily log reports shall be kept by the permittee as described under Record Keeping and Retention in the Standard Requirements section, and if requested, made available to the Department.

Parameters	Units
Date of Application	Date
Field ID	Number/Name
Acres Applied	Number of Acres
Manure/Process Wastewater Source	Specify Storage Facility or Barn
Spreader Volume	Tons or Gallons
Number of Loads	Number
Soil Conditions	Dry, Wet, Frozen, Snow Covered
Temperature During Application	°F
Precipitation During Application	Describe Precipitation
Application Method	Surface Applied, Injected, Incorporated



2023 Manure Report

Date	Field ID	Manure Source	# Loads / Gallons	Driver	Weather (temp & precip.)	Application (Inject, Incorp, Or Surface)	Soil Condition (saturated, non-	Acres Applied	Gallon per Acre	Crop Notes	Harvest
24 Apr	100	Quality Dairy	1617706	[redacted]	01/0	incorp	non saturated	100	10177.09	corn/chopped/chisel	corn silage
25-Apr	126-142	Quality Dairy	2414125		61/0	incorp	non saturated	135	17882.407	corn/chopped/chisel	corn silage
27-Apr	191-139	Quality Dairy	1121974		62/0	incorp	non saturated	70	10028.2	corn/combined/chisel plowed	combine grain
27-Apr	GS53.56	Quality Dairy	980404		62/0	incorp	non saturated	70	14091.486	corn/combined/chisel plowed	combines (grain)
28-Apr	GS14-16&48-51	Quality Dairy	1230624		62/0	incorp	non saturated	70	17708.914	corn/combined/chisel plowed	combine corn
4-May	100	Quality Dairy	1399894		68/0	incorp	non saturated	90	15554.378	corn/chopped/chisel	corn silage
10-May	143	Quality Dairy	1108962		68/0	incorp	non saturated	70	15842.314	corn/combined/chisel plowed	combine grain
11-May	132, 153	Quality Dairy	3053366		72/0	incorp	non saturated	175	17447.806	corn/chopped/chisel	corn silage
13-May	93-97	Quality Dairy	2284482		72/0	incorp	non saturated	150	15208.547	corn/chopped/chisel	corn silage
16 Oct	D - 163	Quality Dairy	774524		50/0	incorp	non saturated	47	16479.234	corn/chopped/chisel	corn silage
17-Oct	118	Quality Dairy	426283		57/0	incorp	non saturated	25	17051.32	alfalfa/corn/chopped/disc	disc
18-Oct	D - 147	Quality Dairy	847717		68/0	incorp	non saturated	50	16954.34	corn/chopped/chisel	corn silage
19-Oct	D - 146	Quality Dairy	1074309		62/0	incorp	non saturated	65	16527.831	corn/combined/chisel plowed	combine corn
20-Oct	192-193	Quality Dairy	1340751		60/0	incorp	non saturated	59	22724.593	corn/combined/chisel plowed	combine corn
20-Oct	D - 145,61	Quality Dairy	592154		00/0	incorp	non saturated	34	17418.294	corn/combined/chisel plowed	combine corn
23-Oct	190	Quality Dairy	1213417		57/0	incorp	non saturated	70	17334.529	corn/chopped/chisel	corn silage
23-Oct	Leavins - 181&181M-1	Quality Dairy	1339404		57/0	incorp	non saturated	77	18804.083	corn/combined/chisel plowed	combine corn
30-Oct	153	Quality Dairy	1286673		36/0	incorp	non saturated	65	21518.048	corn/chopped/chisel	corn silage
31-Oct	132	Quality Dairy	2845850		40/0	incorp	non saturated	125	22767.604	corn/chopped/chisel	corn silage
1-Nov	138	Quality Dairy	272233		39/.06	incorp	non saturated	15	18148.867	corn/combined/chisel plowed	combine corn
1-Nov	99	Quality Dairy	451357		39/.06	incorp	non saturated	28	16119.893	corn/chopped/chisel	corn silage
2-Nov	124	Quality Dairy	265582		46/0	incorp	non saturated	16	16598.875	alfalfa/chisel	alfalfa
2-Nov	99	Quality Dairy	514921		46/0	incorp	non saturated	32	16091.281	corn/chopped/chisel	corn silage
3-Nov	175	Quality Dairy	1419973		50/0	incorp	non saturated	75	18932.973	corn/chopped/chisel	corn silage
3-Nov	99	Quality Dairy	483208		50/0	incorp	non saturated	30	16106.933	corn/chopped/chisel	corn silage
		Total	30,497,089.00								



Spring 2022

[redacted]

Application Date	Driver	Field ID	Acres applied	Manure Source	Total Gal Applied	Soil Conditions saturated dry cracked nonset frozen snow	Weather during Application temp& precipitation	Application Method incorp, inject or surface	W soils Water?	Tile lines before Running? clear?	Tile lines After? Running? Clear?	Bedrock verification Proper distance
4-28-22	Ducat	T. Schmidt 6	20.9 ac	Small	213,000	Dry	Sunny 40's	Surface	No water	N/A	N/A	N/A
4-29-22	Ducat	K. Umentum 1	19.6 ac	Small	129,000	Dry	Sunny 40s	Surface	N/A	N/A	N/A	N/A
4-29-22	Ducat	J. Jerowitz 1	13 ac	Small	125,500	Dry	Sunny 40's	Surface	N/A	N/A	N/A	N/A
5-5 22	Ducat	G. Kruse 1	16 ac	Small	130,000	Dry	P. Sunny 50's	Surface	No water	N/A	N/A	N/A
5-9-22	Ducat	DRD 4	15ac	Small	153,000	Dry	Sunny 50's	Surface	No water	N/A	N/A	N/A
5-11-22	Ducat	J. Seletine 142	22 ac	Small	161,000	Dry	Cloudy 50's	Surface	No water	N/A	N/A	N/A
5-11-22	Ducat	DRD 2+2A	15 sac	Small	110,500	Dry	P. Sunny 50's	Surface	No water	Clear	Clear	N/A
5-11-22	Ducat	T. Chorney 1	9.6 ac	Small	68,000	Dry	Sunny 60's	Surface	No water	N/A	N/A	N/A
5-12-22	Ducat	J. Schlies 6	20.6 ac	Small	191,000	Dry	P. Sunny 50's	Surface	No water	Clear	Clear	N/A
5-12-22	Ducat	J. Dax 1	3.7 ac	Small	38,500	Dry	Sunny 60's	Surface	No water	N/A	N/A	N/A
5-16-22	Heim	TR Konop 4	30.6 ac	Small	271,117	Dry	Sunny 60's	Surface	No water	N/A	N/A	N/A
5-16-22	Heim	TR Konop 1	69.2 ac	Small	667,548	Dry	P. Sunny 60's	Surface	No water	N/A	N/A	N/A
5-16-22	Heim	J. Manchoski 1	23.5 ac	Big	212,986	Dry	nite 40's	Surface	No water	N/A	N/A	N/A
5-17-22	Heim	D. Zellner 1	51.9 ac	Big	557,117	Dry	Sunny 50's	Surface	No water	N/A	N/A	N/A
5-17-22	Heim	W. Perl 1-3	50.3 ac	Big	314,372	Dry	Sunny 60's	Surface	No water	Clear	Clear	N/A
5-17-22	Heim	D. Novak 2	26.1 ac	Big	267,055	Dry	nite 50's	Surface	No water	N/A	N/A	N/A
5-17-22	Heim	DRD 1&6	72 ac	Big	727,573	Dry	nite 40's	Surface	No water	Clear	Clear	N/A
			* Compost *									
5-9-22	Ducat	D. Novak 1	10 ac	Ducat	4 ton/ac	Dry	Sunny 50's	Surface	N/A	N/A	N/A	N/A

Things to Consider

- Verify that restriction maps are accurate
- Seasonal training opportunities for staff
- Pre-application setback measurements and post application inspections
- Meet with the applicator to ensure that they understand the restriction maps and have the appropriate application rates
- Follow up meetings to get all information necessary for reporting requirements
- Develop your own application checklists

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