resubmittal 6-4-24

DEQ
Montana Department of Environmental Quality

resubmittal

WATER PROTECTION BUREAU

Agency Use	
Permit No.:	MTG010172
Date Rec'd	4.18.24 walk-in
Amount Rec'd	0
Check No.	0
Rec'd By	SMF

FORM NOI-NMP CAFO	**Notice of Intent (NOI) and Nutrient Management Plan (NMP) Concentrated Animal Feeding Operation General Permit MTG010000**

This application form is comprised of the **NOI (Sections 1 – 5)** and the **NMP (Sections 6 – 10)**. Before completing the NOI-NMP form, Concentrated Animal Feeding Operation (CAFO) operators must read the CAFO General Permit. CAFO operators are also advised to read the attached NOI-NMP instructions before completing this form. You must print or type legibly; forms that are not legible, not complete, or unsigned will be rejected. You must maintain a copy of the completed NOI-NMP form for your records.

CAFO Status and Fee

Permit Authorization Number: M T G 0 1 0 1 7 2

Select Appropriate Fee:
- ☐ New Application: $1200
- ☑ Renewal Application: $600
- ☐ Permit Modification: $600

Sections 1 through 5 consist of the NOI. The application form is to be completed by the owner or operator of a Concentrated Animal Feeding Operation (CAFO).

Section 1 – Facility/Site Information

Facility Name	Milford Colony
Location (Physical address or Directions)	9605 Hwy 287 Wolf Creek MT
Nearest City or Town	Augusta
Zip Code, County	59648 Lewis - Clark County
Facility Latitude, Longitude	47.32939 , 112.21113
Date facility began operation	1945
Status of Applicant	☐ Federal ☐ State ☐ No ☑ Private ☐ Other
Located on Tribal Lands?	☑ No ☐ Yes *(If yes, obtain the permit through EPA, not DEQ)*

Continue to Page 2

Section 2 – Representatives

2.1 Applicant (Owner/Operator)

The owner/operator assumes all liability for site discharges and compliance with the terms and conditions of the permit. The signatory/responsible official must meet certification requirements listed in the Certification Section at this end of this form.

Owner/Operator Formal Name: Milford Colony

Mailing Address: 9605 HWY 287

City, State, Zip Code: Wolf Creek MT 59648

Signatory/Responsible Official: Name ~~John Hofer~~ Ben Wipf Title ~~Plumber~~ secretary

Contact Information: Phone 406-562-3320 ext 306 Email plumber.mc@colonymt.com

2.2 Authorized Representative

For future reports (including NetDMR) to be signed by anyone other than the signatory/responsible official, a duly authorized individual(s) or position must be identified. If one is not designated, than all reports must be signed by the signatory until such designation is made in writing [ARM 17.30.1232(2)].

Select Appropriate Box:

☐ No authorized representative for this permit is designated at this time (continue to Section 3)

☑ I designate the following duly authorized representative for this permit (provide the information below):

Authorized Representative Information:

Authorized Representative: Name John Hofer Title Plumber

Company Name: Milford Colony

Mailing Address: 9605 HWY 287

City, State, Zip Code: Wolf Creek MT 59648

Contact Information: Phone 406-562-3320 ext 306 Email plumber.mc@colonymt.com

Section 3 – Business Description

3.1 SIC Codes and NAICS Codes

Provide at least one Standard Industrial Classification (SIC) code and one North American Industry Classification System (NAICS) code which best reflects the products or services provided by the CAFO.

SIC Code		Description
(1)	213	Hogs
(2)	259	Poultry and Eggs, Ducks
(3)	251	Broiler, fryer and Roaster
(4)		

NAICS Code		Description
(1)	11221	Hog and Pig farming
(2)	11234	Chicken egg Production
(3)	11232	~~11233~~ Broilers and other Meat-type
(4)		

SIC Code Examples:

211 Beef Cattle Feedlots
212 Beef Cattle, Except Feedlots
213 Hogs
214 Sheep and Goats
241 Dairy Farms
251 Broiler, Fryer and Roaster Chickens
252 Chicken Eggs
253 Turkeys and Turkey Eggs
254 Poultry Hatcheries
259 Poultry and Eggs, not elsewhere classified (Ducks)
272 Horses and other Equines

NAICS Code Examples:

112112 Cattle Feedlots
112111 Beef Cattle Ranching and Farming
11221 Hog and Pig Farming
11240 Sheep Farming
11212 Dairy Cattle and Milk Production
11232 Broilers and other Meat-Type Chickens
11234 Chicken Egg Production
11233 Turkey Production
11234 Poultry Hatcheries
112390 Other Poultry Production
112920 Horses and other Equine Production

3.2 Facility or Operation Description

Provide a brief description of the nature of the facility (feedlot, stockyard, sale barn, etc.)

Multi-animal feeding operation.

3.3 Existing or Pending Permits, Certification, or Approvals

☐ None aplication being Worked on

☐ MPDES gravel pit in process.

☐ PSD (Air Emissions)_____

☐ 404 Permit (Dredge and Fill)_____

☐ RCRA_____

☐ Other_____

☐ Other_____

Section 4 – Outfalls

4.1 Receiving Water

For each outfall, provide the latitude and longitude (to the nearest decimal degree) and the name of the receiving water. If the receiving water/drainage is unnamed, indicate the closest named drainage it flows into (i.e., "unnamed tributary to Clear Creek"). Attach additional sheets if necessary for more outfalls. This section must not be left blank, and "N/A" is not acceptable.

Outfall	Latitude	Longitude	Name of Receiving Water
001	47.32473	112.20456	Flat Creek

Section 5 – Characteristics

5.1 Impaired Waters 303(d)

Identify whether the receiving water is impaired for nutrients. Check the Clean Water Act Information Center database at https://dcq.mt.gov/water/resources to determine if the receiving water is impaired for nutrients (total nitrogen and/or total phosphorus).

☐ The receiving water is impaired for nutrients

☑ The receiving water is NOT impaired for nutrients

Continue to Page 4

5.2 Animal Confinement

Report the maximum number of each type of animal confined at any one time in open confinement and/or housed under a roof.

Animal type	Number in Open Confinement	Number Housed Under Roof
Mature Dairy Cows		
Veal Calves		
Cattle including dairy Heifers	~~XXXX~~	~~420~~
Swine 55 lbs. or over		
Swine 55 lbs. or under Iso over 12lbs	~~30,000~~	30,000
Horses		
Sheep or Lambs		
Turkeys		2,000
Chicken broilers –includes juveniles		2,000
Chicken layers –includes juveniles		32,000
Ducks		500
Other Specify:		
Other Specify:		

5.3 Rain Gage Location

* Identify the nearest gage station or onsite rain gage. Provide either the Station ID of the gage or a latitude and longitude.

Station ID Onsite OR

Latitude, Longitude 112.17, 47.31

5.4 Containment Structures

Were the containment structures built after February 2006?

☑ Yes. Skip the following 3 questions and continue to the table below.

☐ No. Complete the questions and table below.

Do the livestock waste control facilities have 10 feet of separation between the pond bottom and any bedrock formations?

☐ Yes ☐ No

Do the waste containment structures have 4 feet of separation from the pond bottom to any ground water?

☐ Yes ☐ No

Do the livestock waste control facilities comply with the applicable well setbacks?

☑ Yes ☐ No

Continue to Page 5

Identify the type of containment/storage, the total capacity with units, and the number of days of storage in each:

Type of Containment/Storage	Total Capacity	Units (gallons or tons)	Days of Storage
Anaerobic Lagoon	5,500,000	gallons	365
Storage Pond #1 settling	~~settling~~ 300,000	gallons	365
Storage Pond #2			
Storage Pond #3			
Storage Pond #4			
Storage Pond #5			
Above Ground Storage Tank #1			
Above Ground Storage Tank #2			
Above Ground Storage Tank #3			
Underfloor Pits	176,000	Cub.c ft	30
Below Ground Storage Tank			
Roofed Storage Shed			
Concrete Pad	700	Tons	365
Impervious Soil Pad			
Other Specify: ~~Evaporation~~	~~2,500,000~~	Gal	
Other Specify:			

5.5 Sage Grouse Habitat

Visit the Montana Sage Grouse Habitat Conservation Program (Program) website at https://sagegrouse.mt.gov/ to determine if the proposed operation is located in designated sage grouse core, general, or connectivity habitat.

☐ Yes. Submit an application to the Program and **attach the required consultation letter**.
☑ No. No additional information is required.

5.6 New Source/Operation

Is this a new source and/or operation? New sources must obtain analyses from the Montana Natural Heritage Program (MTNHP) and Montana State Historic Preservation Office (SHPO) demonstrating possible impacts to wildlife and cultural resources, respectively.

☐ Yes. Attach project review analyses from MTNHP and SHPO.
☑ No. No additional information is required

Continue to Page 6

Sections 6 through 10 consist of the Nutrient Management Plan (NMP). These sections are intended to help CAFO operators develop a site-specific NMP required by the CAFO General Permit. Your NMP must be kept at the operation. Attach additional pages as necessary, indicating the corresponding section number on this NMP form.

Section 6 – NMP Minimum Elements

Facility Photos and Maps

Facilities must attach photos and maps depicting the following:

- The production area that shows the locations of all animal confinement structures described in the **Animal Type, Storage Location, and Generation Rates Table.**
- The flow direction of storm water and wastewater for all animal confinement structures described in the **Animal Type, Storage Location, and Generation Rates Table.**
- Manure and wastewater handling and storage areas
- Raw material handling and storage areas
- Storage and disposal areas of chemicals or other contaminants handled on site
- All land application areas (include topography and soil types)
- Environmentally sensitive areas (sinkholes, wells, drinking water sources, tile drain outlets, etc.) for the production area
- Illustrate the facility/activity boundaries, receiving water, and major drainage patterns
- Identify the specific location of the production area and the land application area(s)

☐ I have attached photos and maps (aerial and topographic) that meet the above requirements.

6.1 Ensure Adequate Storage Capacity

Complete the table below: Be sure to identify each type of animal confined at this facility. This could include animals of a given species, weight class, or housed for a specific purpose.

Livestock Statistics and Manure, Litter, and Process Wastewater Generation Rates					
Animal Type	Waste Storage Location	Maximum Number of Animals at Any Time	Number of Days/Year on Site	Annual manure, litter, and process wastewater production	
				Dry (tons/yr)	Liquid (gallons/yr)
1. Pigs	Anarobic lagoon + [illegible]	[illegible] (30,000)	365	216	2,000,000
2. chickens	concrete pad	32,000	365	288	
3. broilers	concrete pad	2000	365	10	
4. Ducks	concrete pad	500	365	in with broilers	
5. ~~Range Cows~~	~~backgrounded~~	~~465~~	~~365~~		
6. Turkeys	concrete pad	2000	365	in with broilers	
7.					
8.					
9.					
10.					
11.					


Settling Pond
Lagoon
Stormwater Flow Direction
Stacking Pad
Hog barn
seperator
Chickenbarn
Milford Colony
Broilers
organic Chickens
Corral
Stormwater Flow Direction
Flat Creek

Methods for estimating animal manure, litter, and process wastewater production

Describe the methods used for estimating animal manure, litter, and process wastewater production: Include all formulas, factors, references to tables, and other resources used to calculate manure, litter, and wastewater production. Be sure to account for soiled bedding materials.

Weighed by truck

Liquid is metered out

Manure handling:

Identify manure, litter, and process wastewater handling at the CAFO. Mark all that apply:

- ☐ Stored in pens
- ☑ Stored on stacking pad
- ☐ Composting on site
- ☐ Other _____
- ☑ Direct pipe to liquid impoundment
- ☑ Stored under floor pit
- ☑ Separator

Frequency of manure removal from confinement areas:

- ☐ Bi-annually
- ☐ Annually
- ☑ As needed
- ☐ Other _____

Is the manure, litter, or process wastewater temporarily stored in any location other than the production area?

- ☑ No.
- ☐ Yes. Explain how and where _____

Is dry manure and/or litter stored on an impervious surface?

- ☐ No.
- ☑ Yes. Describe the type and characteristics of this surface stacking Pad

Waste control structures:

Provide the 24-hr-25-yr storm event at your facility location. Refer to the map provided in the instructions. 3 in

Provide the annual precipitation during critical winter storage period (180 days from mid-October to mid-April) 4 in

Provide the area within clean water diversions. This is the area that is inside the BMPs used for clean water diversions and is used to calculate volume required to hold the 24-hr-25-yr storm event and the volume of your critical storage period. 25 acres

Check all the surface types within the clean water diversion area and provide the coverage in acres or ft². Be sure to circle the correct units.

- ☑ Dirt 21.7 (acres) or ft² (circle correct unit)
- ☐ Concrete _____ acres or ft² (circle correct unit)
- ☐ Paved _____ acres
- ☑ Under roof 143,555 acres or (ft²) (circle correct unit) – check if runoff is not part of clean water BMPs
- ☐ Gravel acres or ft² (circle correct unit)
- ☐ Pasture acres or ft² (circle correct unit)
- ☐ Other 41,537 corral acres or ft² (circle one)

see B to work cows twic a year.

Use the Table below to identify and describe all production area waste control structures for the production area of each animal type identified in the table "Livestock Statistics and Manure, Litter, and Process Wastewater Generation Rates" above (Section 6.1). Waste control structures may include but are not limited to: manure lagoons, manure ponds, evaporation ponds, wastewater retention ponds, contaminated runoff retention ponds, settling basins, underground storage tanks, underfloor pits, manure solids stacking pads, vegetative treatment strips, composting facilities, and dry stack facilities. Berms, dikes, concrete curbs, ditches, and waste transfer pipelines are also waste control structures and must be listed, though some of the requested measurements may not apply.

Production Area Waste Control Structures Description				
Production area Waste Control Structure (For Corresponding Animal Type Identified in Table Above)	Volume (gal if liquid) (ft³ if dry)	Number of days of storage	Winter storage depth (ft)	The 24hr-25 yr storm event depth (ft)
1. Settling	300,000gal	we empty it every fall 0	0	NA ✓
2. Lagoon	5,500,000	365	~~0~~ 7ft	NA 1ft
3. Evaporation	2,500000	—	0	0
4. Stacking Pad	28,800 ft³			
5. Pits and separator	1.3 mill gallons	30	NA	NA
6.				
7.				
8.				
9.				
10.				
11.				

6.2 Mortality Management

Check the box that describes how mortalities are disposed of at this CAFO.

☑ Burial ☐ Landfill
☑ Composted ☐ Contractor removal
☐ Incineration ☐ Other ______

Provide the location where mortalities are disposed of, if part of the production area:
Pigs in Stacking Pad & Chickens burial on hillside

6.3 Clean Water Diversion Practices

Check all that apply for how clean water is diverted from the production area.

☑ Ditches ☐ Site grading
☑ Earthen berms ☑ Gutters and spouts
☑ Culverts ☐ Other ______

6.4 Prohibiting Animals and Wastes from Direct Contact with State Waters

Check all that apply for how animals and wastes are prohibited from direct contact with sate waters.

- ☑ Fencing
- ☐ Wall
- ☑ Inside building
- ☐ Other _____

6.5 Chemicals and Contaminants

List all major chemicals or other contaminants handled on site as part of your CAFO operation, including, but not limited to: pesticides, herbicides, animal dips, disinfectants, etc. Specify the method of disposal and location stored for each contaminant. Ensure a corresponding map has been attached, as required in Section 6, Facility Photos and Maps.

Containers are composed per manufactures Label

6.6 Conservation Practices

Check all temporary, permanent, and structural BMPs which will be used to control runnoff of pollutants from the facility's **production area**. Be sure to include them on the map described above in Section 6. If BMPs are not installed, include a schedule for implementation of each of the following measures. Provide details and specifications to suplement the BMP descriptions. Attach additional sheets if necessary.

- ☑ Ditches
- ☑ Earthen berms
- ☐ Culverts and pipes
- ☐ Buffers
- ☐ Site grading
- ☑ Gutters and spouts
- ☐ Covered Pens
- ☐ Other _____

6.7 Sampling and Analysis Procedures for Manure, Litter, Process Wastewater, and Soil

Representative samples of manure, litter, and process wastewater must be analyzed a minimum of once per year for total nitrogen and total phosphorus. Results should be reported in lbs/ton for solids and lbs/1000 gal for liquids. Results will be used to determine rates for manure, litter, and process wastewater. Indicate your method for samping. Be sure to provide a description if you select "other."

- ☑ Sample collection will occur according to CAFO General Permit Section II.D.
- ☐ Other _____

Continue to Page 10

Section 7 – NMP Land Application

Identify whether manure will be land applied to land that is owned, rented, or leased by the owner or operator of the facility.

☐ No. Explain how animal waste will be managed by the operation, including protocol for transfers of manure, litter, and process wastewater. Skip to Section 10.

_____

_____

☑ Yes. Continue below.

7.1 Land Application Photos and Maps

Facilities that land apply must attach photos/maps clearly identify the following items. If an item is not applicable, check the box "None."

- Individual field boundaries for all planned land application areas
- A name, number, letter or other means of identifying each individual land application field
- The soil type(s) present and their locations within the individual land application field(s)
- The location of any downgradient surface waters
- The specific manure/waste handling or nutrient management restrictions associated with each land application field i.e. setbacks
- Buffers and setbacks around state surface waters, well heads, etc.
- Any downgradient open tile line intake structures
  - ☐ None. Not included on map
- Any downgradient sinkholes
  - ☐ None. Not included on map
- Any downgradient agricultural well heads
  - ☐ None. Not included on map
- All conduits to surface waters
- All temporary, permanent, and structural BMPs used to control runoff of pollutants from the land application area

☐ I have attached photos and maps of the site where manure is to be applied.

7.2 Protocols to Land Apply Manure, Litter, or Process Wastewater

Check all temporary, permanent, and structural BMPs which will be used to control runoff of pollutants from the CAFO's **land application area.** If not already in use, include a schedule for implementation of each of these measures. You may supplement this description by attaching details and specifications.

☑ Buffers
☐ Constructed wetlands
☑ Infiltration field
☐ Setbacks
☐ Other _____
☑ Conservation tillage
☑ Grass Filter
☑ Residue Management
☐ Terrance

7.3 Soil Phosphorus Sampling and Analysis

Representative **soil** (composite) samples from the top 6 inches layer of soil for each field where manure will be applied must be analyzed for phosphorus content at least once every three years. Analyses will be conducted by a qualified laboratory, using the Olsen P test. Results will be reported in parts per million (ppm) and will be used in determining application rates for manure, litter, and process wastewater.

☑ Sample collection will occur according to Part II.D of the CAFO General Permit.

☐ Other (describe)_____

7.4 Soil Nitrogen Sampling and Analysis

Representative composite soil samples for total nitrogen and nitrate must be collected for each field where manure will be applied. Composite samples for total nitrogen must be collected from a soil depth of 0 to 6 inches and must be analyzed at least once every 3 years. Composite samples for nitrate must be collected from a soil depth of 6 to 24 inches and must be analyzed at least once every 3 years. All samples must be analyzed according to method code 4H2a1-3 in NRCS Soil Survey Laboratory Methods Manual, Soil Survey Investigation Report No. 42. Results must be reported as mg/kg total nitrogen and pounds per acre will be used in determining application rates for manure, litter, and process wastewater.

☑ Sample collection will occur according to Part II.D of the CAFO General Permit.

☐ Other _____

Continue to Page 12

Section 8. NMP Application Rates

The applicant has 2 ways in which to report how manure or process wastewater application rates can be reported to DEQ. Select one:

☐ **Linear Approach**. Expresses rates of application as pounds of nitrogen and phosphorus. Complete Section 8.1, then continue to Section 9. See page 8 of the NOI-NMP Instructions for guidance on the Linear Approach.

☑ **Narrative Rate Approach**. Expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. Complete Section 8.2, then continue to section 9. See page 9 of the NOI-NMP Instructions for guidance on the Narrative Rate Approach.

8.1 Linear Approach

Expresses rates of application as pounds of nitrogen and phosphorus. CAFOs selecting the linear approach to address rates of application must include in the NMP submitted to the Department the following information for each crop, field, and year covered by the NMP:

1. The maximum application rate (pounds/acre/year of nitrogen and phosphorus) from manure, litter, and process wastewater.

2. The outcome of the field-specific assessment of the potential for phosphorus transport from each field. The Department does not have an N transport risk assessment, therefore the NMP must document any basis for assuming that nitrogen will be fully used by crops. The CAFO must specify any conservation practices used in calculating the risk rating.

3. The crops to be planted or any other uses of a field such as pasture or fallow fields.

4. The realistic annual yield goal for each crop or use identified for each field.

5. The nitrogen and phosphorus recommendations from Department acceptable sources for each crop or use identified for each field.

6. Credits for all residual nitrogen in each field that will be plant available.

7. Consideration of multi-year phosphorus application. For any field where nutrients are applied at a rate based on the crop phosphorus requirement, the NMP must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement.

8. All other additions of plant available nitrogen and phosphorus (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen).

9. The form and source of manure, litter, and process wastewater to be land-applied.

10. The timing and method of land application. The NMP also must include storage capacities needed to ensure adequate storage that accommodates the timing indicated.

11. The methodology that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, and wastewater to be applied.

12. The maximum application rate (pounds/acre/year of nitrogen and phosphorus) from manure, litter, and process wastewater.

13. The outcome of the field-specific assessment of the potential for phosphorus transport from each field. The Department does not have an N transport risk assessment, therefore the NMP must document any basis for assuming that nitrogen will be fully used by crops. The CAFO must specify any conservation practices used in calculating the risk rating.

14. The crops to be planted or any other uses of a field such as pasture or fallow fields.

15. The realistic annual yield goal for each crop or use identified for each field.

16. The nitrogen and phosphorus recommendations from Department acceptable sources for each crop or use identified for each field.

17. Credits for all residual nitrogen in each field that will be plant available.

18. Consideration of multi-year phosphorus application. For any field where nutrients are applied at a rate based on the crop phosphorus requirement, the NMP must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement.

19. All other additions of plant available nitrogen and phosphorus (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen)

20. The form and source of manure, litter, and process wastewater to be land-applied.

21. The timing and method of land application. The NMP also must include storage capacities needed to ensure adequate storage that accommodates the timing indicated.

22. The methodology that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, and wastewater to be applied.

23. Any other factors necessary to determine the maximum application rate identified in accordance with this Linear Approach.

Section 9 – NMP Phosphorus

Phosphorus Risk Assessment: The permittee shall assess the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or may be applied. If a new field is added in the future, then the permittee must submit a revised (modified) NMP. The permittee has the option of using Method A or Method B (below) to complete the assessment, unless the receiving water is impaired for nutrients, then you must use method B below for phosphorus risk assessment. Copies of all tables and calculations used to complete the assessments, as well as the results of the assessments, shall be submitted to the Department and copies shall be maintained onsite at the facility and available for Departmental review. The results of the assessments shall be used to determine the appropriate basis for land application of wastes from the facility.

Indicate which method will be used to determine phosphorus application:

☑ **Method A** – Representative Soil Sample. Complete Section 9.1, then continue to Section 10.

☐ **Method B** – Phosphorus Index. Complete Section 9.2, then continue to Section 10.

9.1 Method A – Representative Soil Sample

Obtain one or more representative soil sample(s) from the field per ARM 17.30.1334
Have the sample analyzed for phosphorus by a qualified lab. The "Olsen P test" must be used for the analysis, and the result must be reported in parts per million (ppm). Using the results of the Olsen P test, determine application basis according to the Table below.

Olsen P Soil Test Results (ppm)	Application Basis
<25.0	Nitrogen Needs of Crop
25.1 - 100.0	Phosphorus Needs of Crop
100.0 – 150.0	Phosphorus Needs up to Crop Removal Rate
>150.0	No Application allowed

Olsen P Test Result: __XX__ ppm **See attached soil analysis**

End of Method A. Continue to Section 10

Using the calculated Total Phosphorus Index Value, assign the overall site/field vulnerability to phosphorus loss according to the table below.

Total Phosphorus Index Value	Site Vulnerability to Phosphorus Loss
<11	Low
11-21	Medium
22-43	High
>43	Very High

Using the calculated Site Vulnerability to Phosphorus Loss, determine the appropriate application basis according to the table below.

Site Vulnerability to Phosphorus Loss	Application Basis
Low	Nitrogen Needs
Medium	Nitrogen Needs
High	Phosphorus Need Up to Crop Removal
Very High	Phosphorus Crop Removal or No Application

Phosphorus Index Value: _____

Section 10 – NMP Guidance

Land Application Equipment Calibration

Describe the type of equipment used to land apply wastes and the calibration procedures:

Licenced manure spreader, calibrations are done by Company

Implementation, Operation, Maintenance and Recordkeeping

The permittee is required to develop protocols for implementation of the NMP, proper operation and maintenance of the livestock waste control facilities, and recordkeeping as described in Part 2 of the permit.

Have protocols been developed for the operation? ☐ Yes ☐ No

The documents below are maintained:

Implementation of the NMP:	☑ Yes ☐ No
Facility operation and maintenance:	☑ Yes ☐ No
Recordkeeping and reporting	☑ Yes ☐ No
Sample collection and analysis	☑ Yes ☐ No
Manure transfer	☐ Yes ☑ No

If your answer to any of the above question is no, provide explanation:

No Manure transfer

Provide date and location of most recent documentation:

Date: Jan 23, 2024

Location: Office

NOI-NMP Certification

The NOI Form certification must be completed by the applicant (owner/operator) responsible for the authorization as identified in Section C. Certification of this NOI is certification that the applicant will comply with the applicable terms of the CAFO General Permit.

Permittee Information: This form must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA].

Certification of this form indicates conformance with the CAFO General Permit.

Name (Type or Print) Joseph E Hofer	
Title (Type or Print) President	Phone Number 406 562 3429 EXT 227
Signature Joseph E Hofer	Date Signed 6-4-24

DEQ will not process this form until all the requested information is supplied, and the appropriate fees are paid.

Return this NOI-NMP-CAFO Form and the applicable fee payment to:

Department of Environmental Quality
Water Protection Bureau
PO Box 200901
Helena, MT 59620-0901
(406) 444-5546

24. Complete the Nutrient Budget Worksheet, below, for the crop grown on each field for each year to which manure or process wastewater is, or may be, applied. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

Nutrient Budget Worksheet

Field identification: Year: Crop:					
Expected Crop Yield:					
Phosphorus index results or Phosphorus application from soil test:					
Method of Land Application:					
When will application occur:					
Nutrient Budget			Nitrogen-based Application	Phosphorus-based Application	Source of information
1		Crop Nutrient Needs, lbs/acre			
2	(-)	Credits from previous legume crops, or soil test lbs/acre			
3	(-)	Residuals from past manure production lbs/acre-only if no new soil test			
4	(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre			
5	(-)	Nutrients supplied in irrigation water, lbs/acre			
6		**= Additional Nutrients Needed, lbs/acre**			
7		Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1000 gal (from manure test)			
8	(×)	Nutrient Availability factor, for Phosphorus based application use 1.0			
9		**= Available Nutrients in Manure, lbs/ton or lbs/1000 gal**			
10		Additional Nutrients needed, lbs/acre (calculated above)			
11	(÷)	Available Nutrients in Manure, lbs/ton or lbs/1000 gal (calculated above)			
12		**= Manure Application Rate, tons/acre or 1000 gal/acre**			

End of Linear Approach. Continue to Section 9

8.2 Narrative Approach

Expresses a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied. CAFOs selecting the narrative rate approach to address rates of application must include in the NMP submitted to the Department the following information for each crop, field, and year covered by the NMP:

1. The maximum amounts of nitrogen and phosphorus that will be derived from all sources of nutrients (pounds/acre for each crop and field).

2. The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field. The Department does not have an N transport risk assessment, therefore the NMP must document any basis for assuming that nitrogen will be fully used by crops. The CAFO must specify any conservation practices used in calculating the risk rating.

3. The crops to be planted in each field or any other uses of a field such as pasture or fallow fields, including alternative crops if applicable. Any alternative crops included in the NMP must be listed by field, in addition to the crops identified in the planned crop rotation for that field.

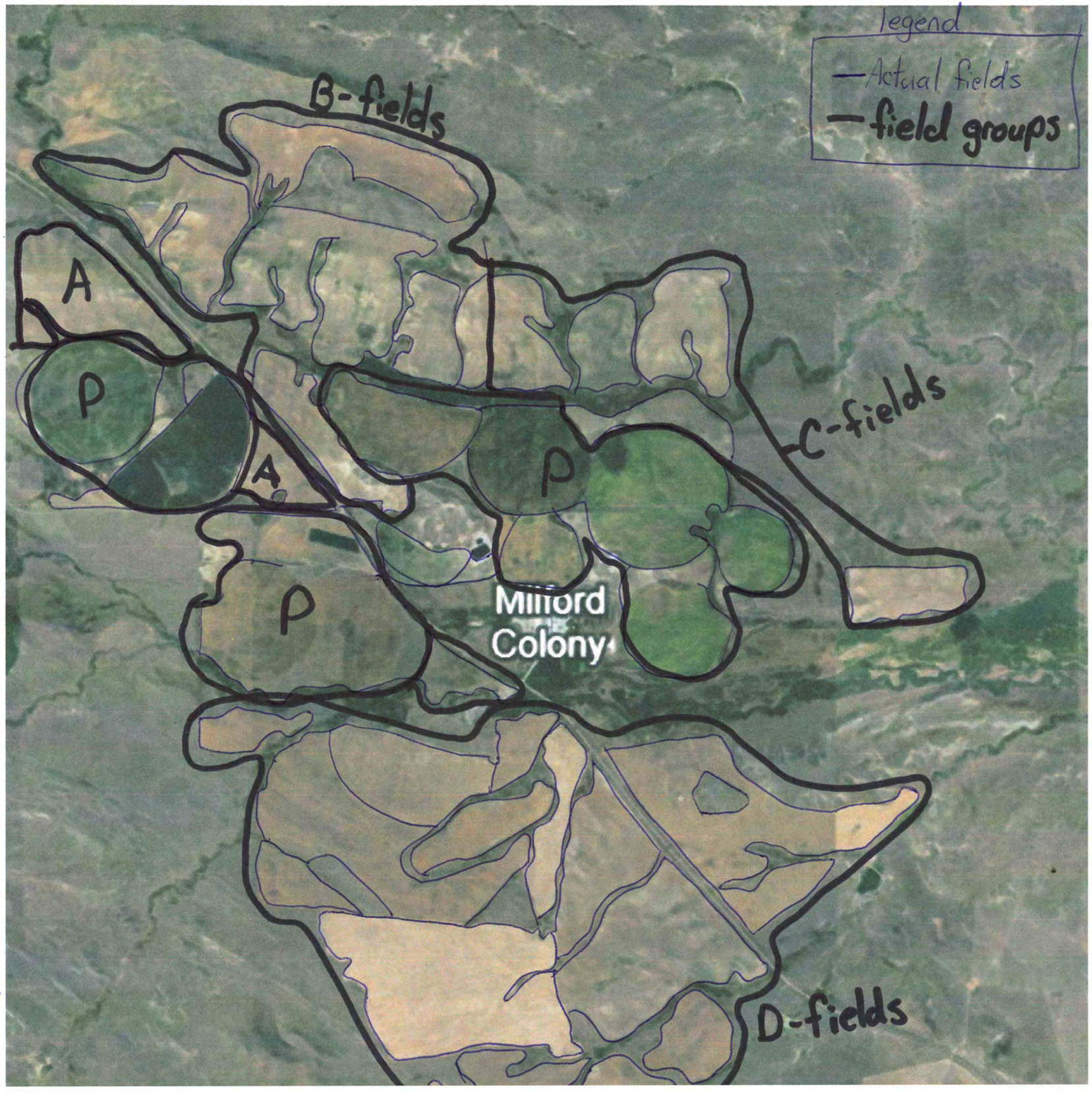
4. The realistic annual yield goal for each crop or use identified for each field for each year, including any alternative crops identified.

5. The nitrogen and phosphorus recommendations from Department acceptable sources for each crop or use identified for each field, including any alternative crops identified.

6. The methodology (including formulas, sources of data, protocols for making determination, etc.) and actual data that will be used to account for: (1) the results of soil tests, (2) credits for all nitrogen in the field that will be plant-available, (3) the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied, (4) consideration of multi-year phosphorus application (for any field where nutrients are applied at a rate based on the crop phosphorus requirement, the methodology must account for single-year nutrient applications that supply more than the crop's annual phosphorus requirement), (5) all other additions of plant available nitrogen and phosphorus to the field (i.e., from sources other than manure, litter, or process wastewater or credits for residual nitrogen), (6) timing and method of land application, and (7) volatilization of nitrogen and mineralization of organic nitrogen.

7. Any other factors necessary to determine the amounts of nitrogen and phosphorus to be applied in accordance with the Narrative Rate Approach.

8. NMPs using the Narrative Rate Approach must also include the following projections, which will not be used by the permitting authority in establishing site-specific permit terms:
   - Planned crop rotations for each field for the period of permit coverage.
   - Projected amount of manure, litter, or process wastewater to be applied.
   - Projected credits for all nitrogen in the field that will be plant available.
   - Consideration of multi-year phosphorus application.
   - Accounting for other additions of plant available nitrogen and phosphorus to the field.
   - The predicted form, source, and method of application of manure, litter, and process wastewater for each crop.



A-fields
230.1

B-fields
941.1ac

C fields

A - fields
230.1

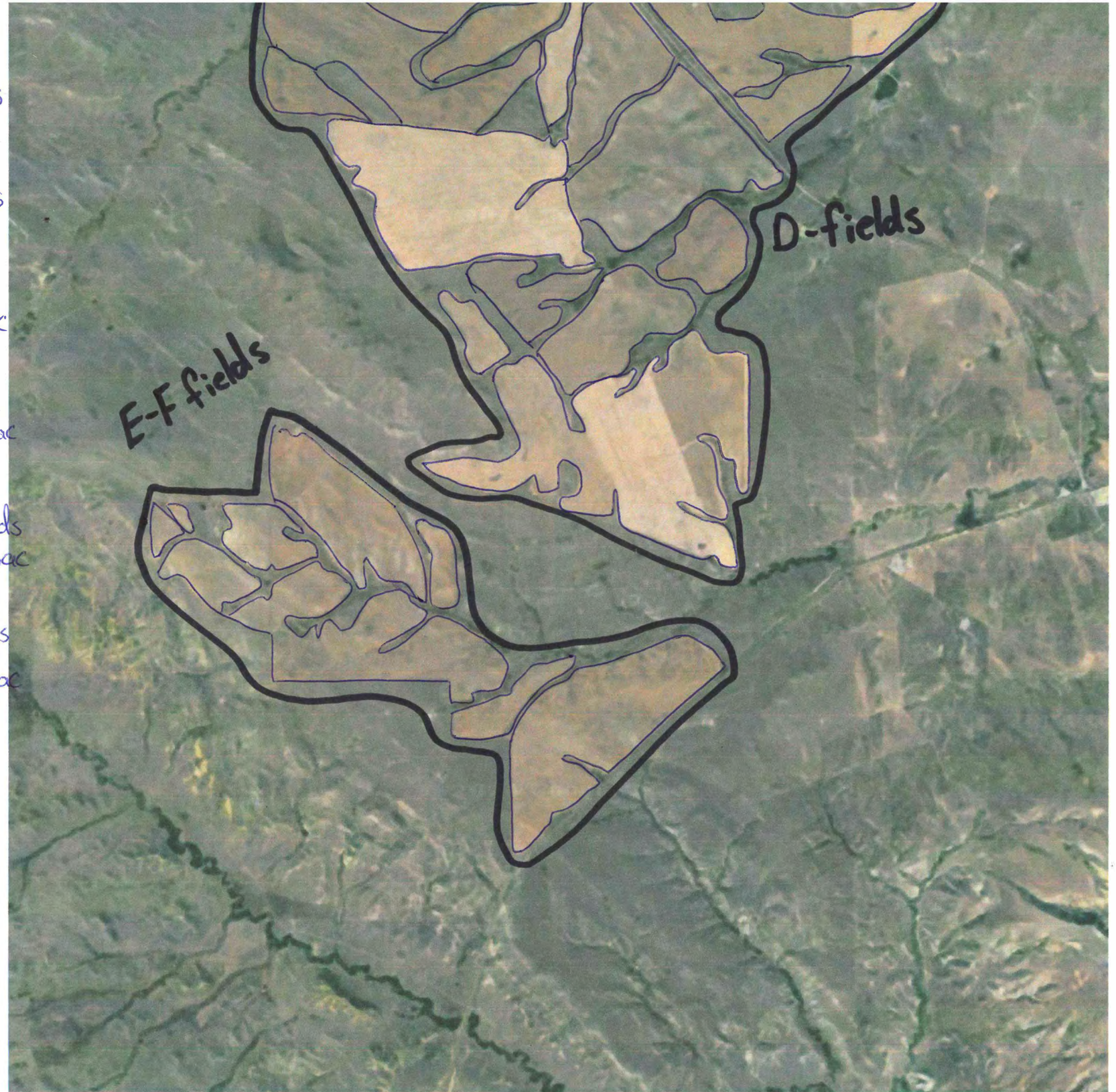
B - fields
941.1ac

C fields
374.6ac

D fields
2208.2ac

E-f)fields
749.76ac

P - fields
1088.62ac




B4
B1
B3
A1
B4'
B6
B5
C1
C2
C3
B8
A2
B7
P10
P8
P1
C4
B
7
A4
A5
P2
P11
Milford Colony
P4
P9
B9
C9
P6
P3
Hay Meadow
MCA12B
D1
D11
D2
D10
D4
D3
D5
D6
D7
D9
D8
F4
F3
F1
E1
E5
E4
E6
E7
E8

Fields Available for Land Application

Field ID	Total Acres
A fields	230.1
B fields	941.1
C fields	374.6
D fields	2208.2
E-F fields	749.76
P fields	1088.62

Outcome of the Field-Specific Assessment of the Potential for N and P Transport from Each Field and Maximum Amount of Nitrogen and Phosphorus Derived from All Sources

Field ID	Year	Crop	Olson P results (ppm)	Recommended Rate Basis	Max N Derived from all sources	Max P_2O_5 Derived from all sources
					(lbs/acre)	
A	2024	Winter Wheat	67	Phosphorus Needs of Crop	130	31
	2025	Barley	67	Phosphorus Needs of Crop	96	21.6
	2026	Winter Wheat				
	2027	Barley				
	2028	Winter Wheat				
B	2024	Winter Wheat	51.5	Phosphorus Needs of Crop	130	31
	2025	Barley	51.5	Phosphorus Needs of Crop	96	21.6
	2026	Winter Wheat				
	2027	Barley				
	2028	Winter Wheat				
C	2024	Winter Wheat	73	Phosphorus Needs of Crop	130	31
	2025	Barley	73	Phosphorus Needs of Crop	96	21.6
	2026	Winter Wheat				
	2027	Barley				
	2028	Winter Wheat				
D	2024	Winter Wheat	30.5	Phosphorus Needs of Crop	130	31
	2025	Barley	30.5	Phosphorus Needs of Crop	96	21.6
	2026	Winter Wheat				
	2027	Barley				
	2028	Winter Wheat				
E-F	2024	Winter Wheat	78.5	Phosphorus Needs of Crop	130	31
	2025	Barley	78.5	Phosphorus Needs of Crop	96	21.6
	2026	Winter Wheat				
	2027	Barley				
	2028	Winter Wheat				

Field ID	Year	Crop	Olsen P Soil Test Results (ppm)	Recommended Rate Basis	Max N Derived from all sources	Max P_2O_5 Derived from all sources
					(lbs/acre)	
P	2024	winter Wheat	59.5	Phosphorus Needs of Crop	234	55.8
	2025	Barley	59.5	Phosphorus Needs of Crop	224	50.4
	2026	winter Wheat				
	2027	Barley				
	2028	winter Wheat				

Alternative Crops

Field	Potential Alternative Crop(s)	Yield Goal (unit/acres)	N rec.	P_2O_5 rec.
			(lbs/acre)	
	alfalfa	3.5 ton	168	38.5
	Barley	55bushels	47.85	19.8
	Wheat	60 bushels	75	37.2
	chick pea	45bushels	98.1	30.15
	lentils	35 bushels	76.3	23.45
	canola	50 bushels	97	58.5
pivots	canola	75bushels	145.5	87.75
	wheat	120bushels	150	74.4
	Barley	135bushels	117.45	48.6
	alfalfa	4 ton	192	44

Methodology

Rates of application that are expressed using the narrative rate approach must include the *methodology* for calculating the amount of manure to be land applied.

In the text box below, provide the methodology that will be used to account for:
- Soil test results
- Credits for plant available nitrogen in the field
- Amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied
- Consideration of multi-year phosphorus application
- Accounting for all other additions of plant available nitrogen and phosphorus to the field
- Form and source of manure, litter, and process wastewater
- Timing and method of land application
- Volatilization of nitrogen and mineralization of organic nitrogen

Attach additional sheets as necessary.

chicken barn Has 660 ton dry manure each year , Which is spread at a ton per acre , which should cover 660 acres.
Hog Barn has 300 tons of dry manure ,Which is spread at 1 ton to the acre, Which comes to 300 acres
Hogbarn has 1500000 gallons of liquid manure , which is aplied at 1500 gallons to the acre, which comes out to 1000 acres
The Hog liquid is applied through pivot , during growing season when crops need nitrigen ,and phosphorus, acording to soil samples.
The dry manure , hog, and chicken, is applied with spreader trucks to get accurate,coverage,and is applied in a rotation manner over 4000 acres on dry land. Using GPS.

Method: Line going to pivot line, some fresh water going with it, some manure mixed in with it. Checked valve, injection pivot.

Chicken/Hog - 1 ton per acre: manure smapling to see how much N is available. Whatever is still needed after manure sampling, commercial fertilizer applied.

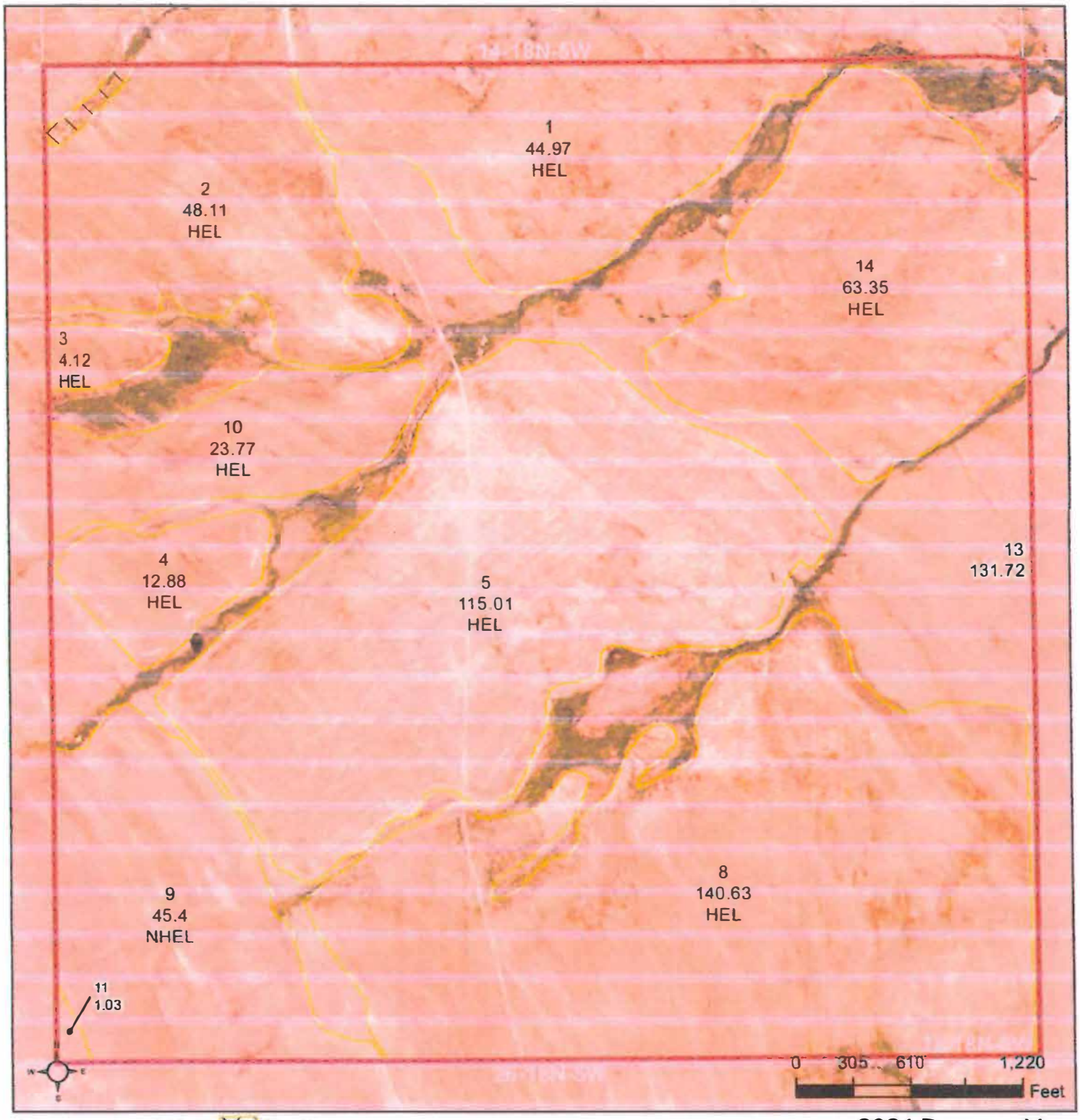
Timing: Usually in fall. that's when all the other work is done and the fields are empty. In springtime, apply commercial fertilizer (whatever is left).

Multi-year P approach depending on phosphorus levels of soil sample.

Pivot, liquid. Everything else, spreader trucks.

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

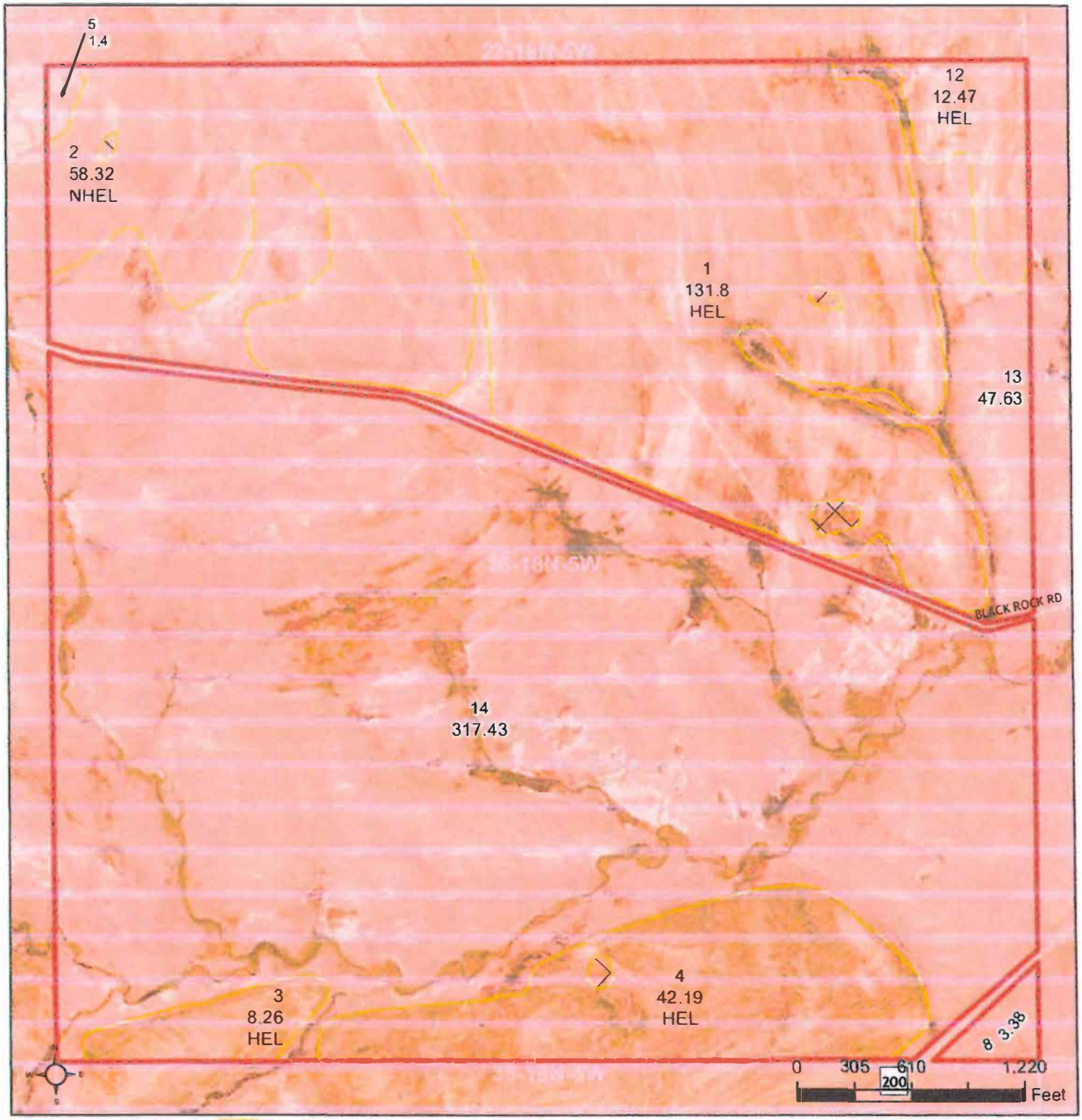
Farm **3446**

Tract **1064**

Tract Cropland Total: 498.24 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

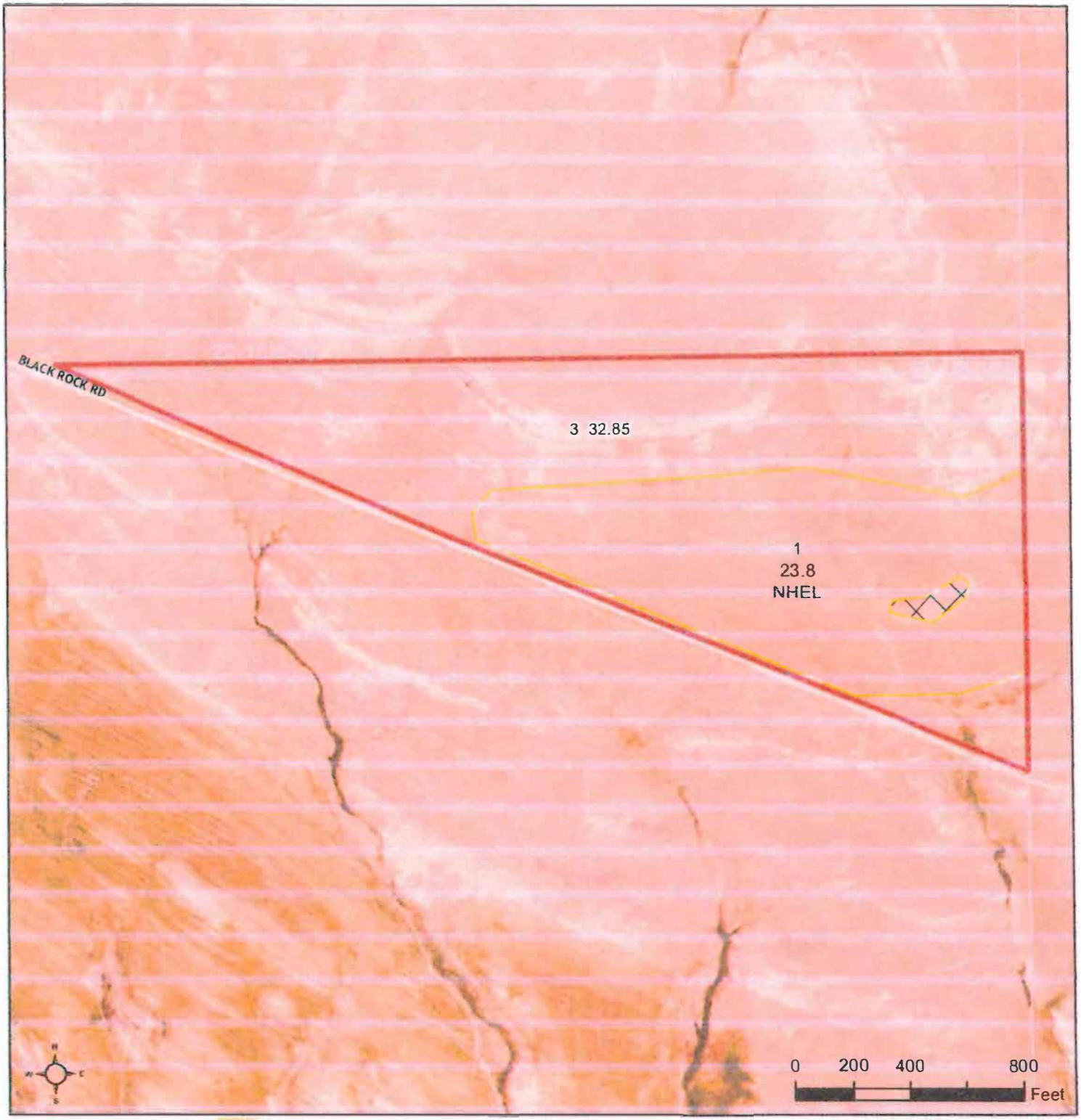
Farm **3446**

Tract **1069**

Tract Cropland Total: 253.04 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

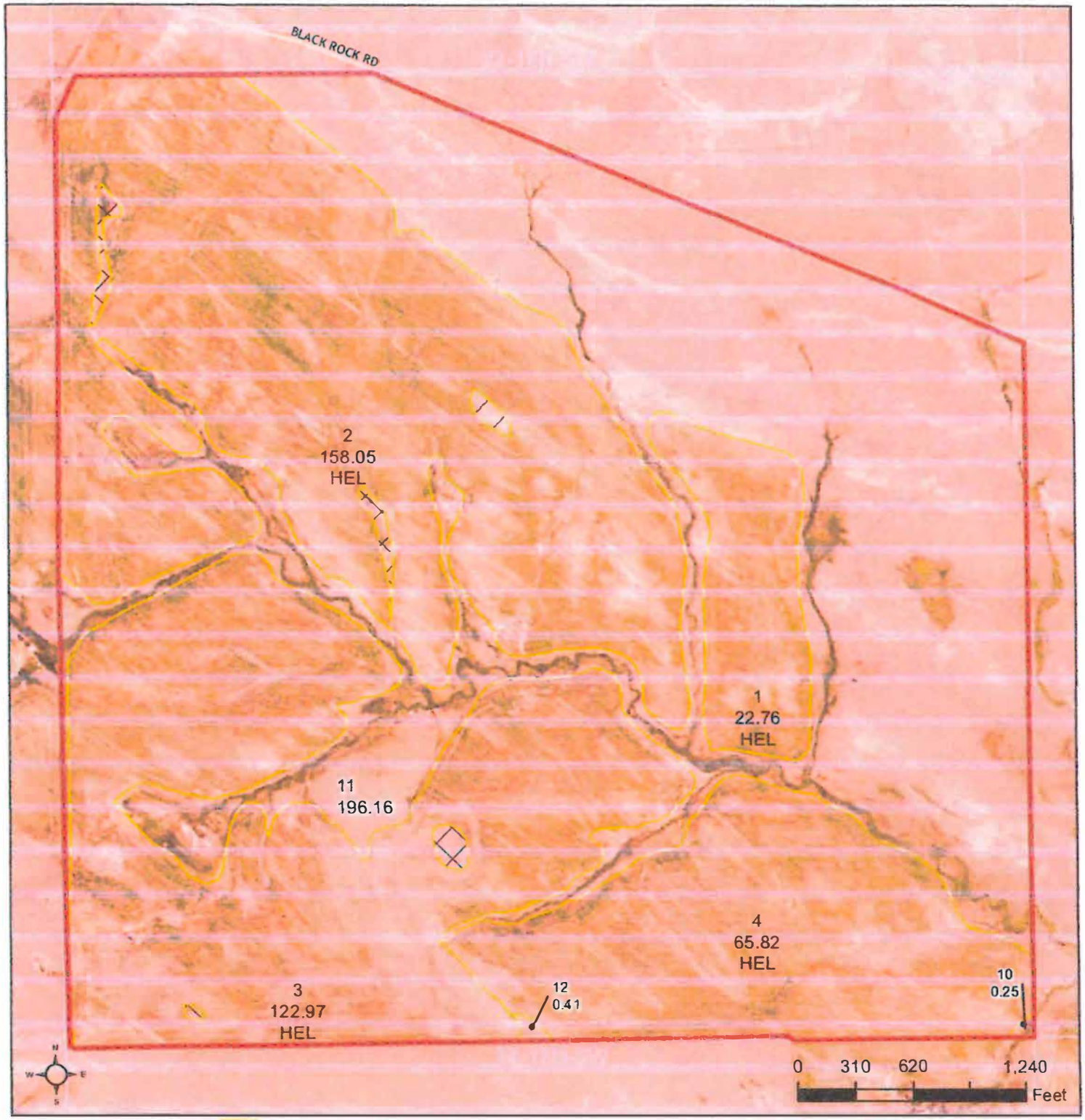
Farm **3446**

Tract **1070**

Tract Cropland Total: 23.80 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

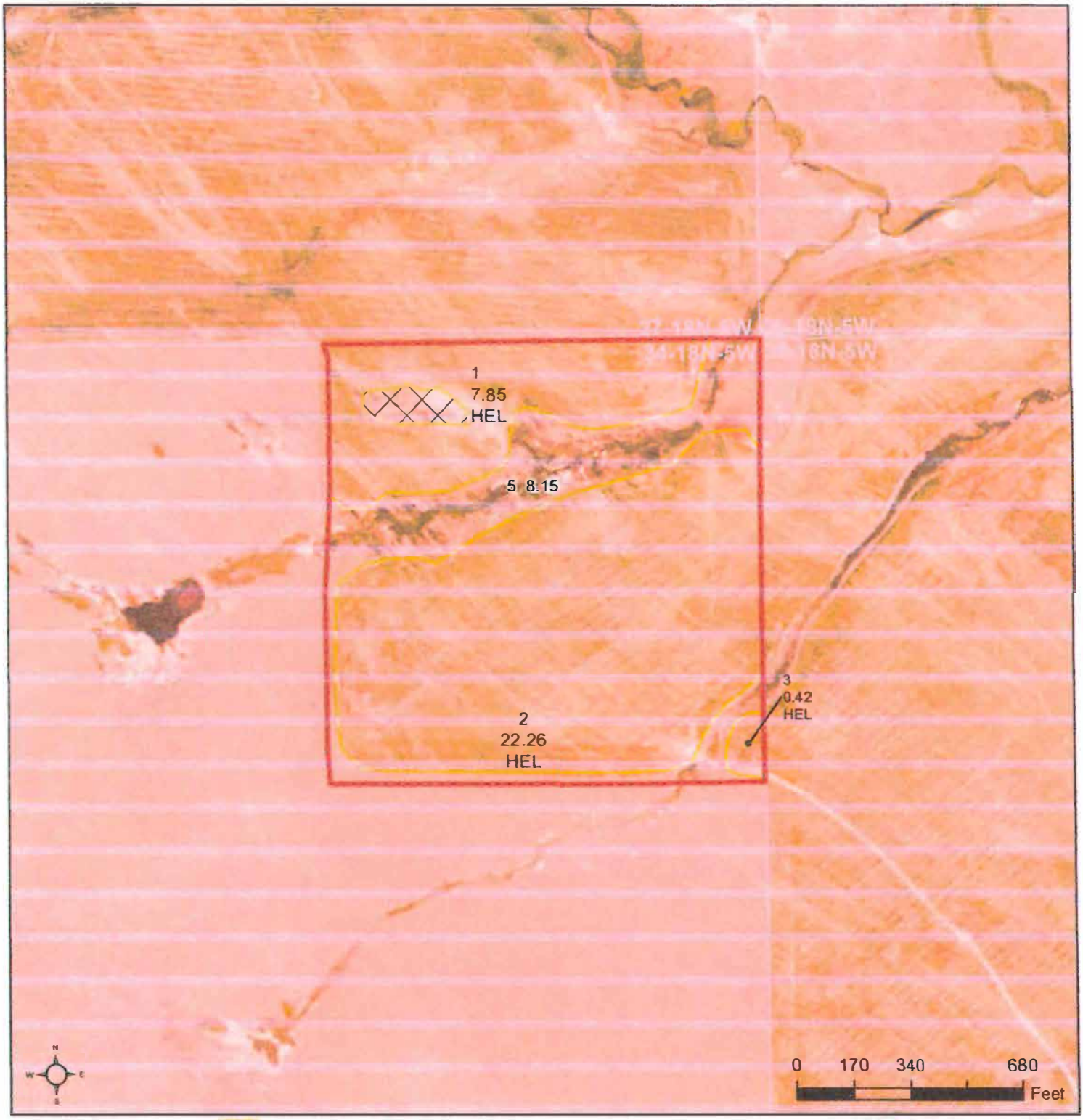
2024 Program Year
Map Created September 12, 2023
2021 NAIP

Farm **3446**
Tract **1071**

Tract Cropland Total: 369.60 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

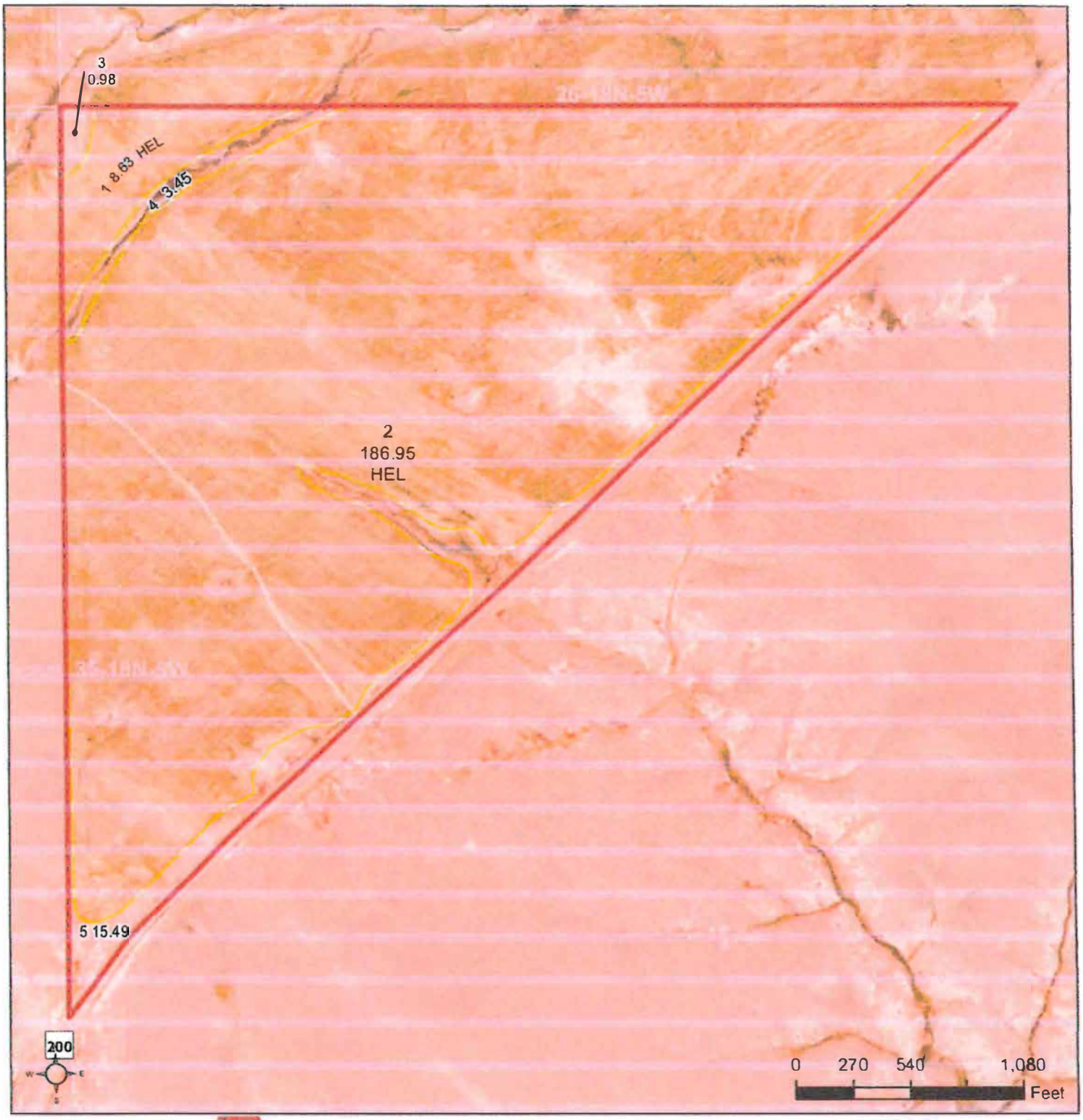
Farm **3446**

Tract **1080**

Tract Cropland Total: 30.53 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit Tract Boundary

Cropland

Rangeland

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

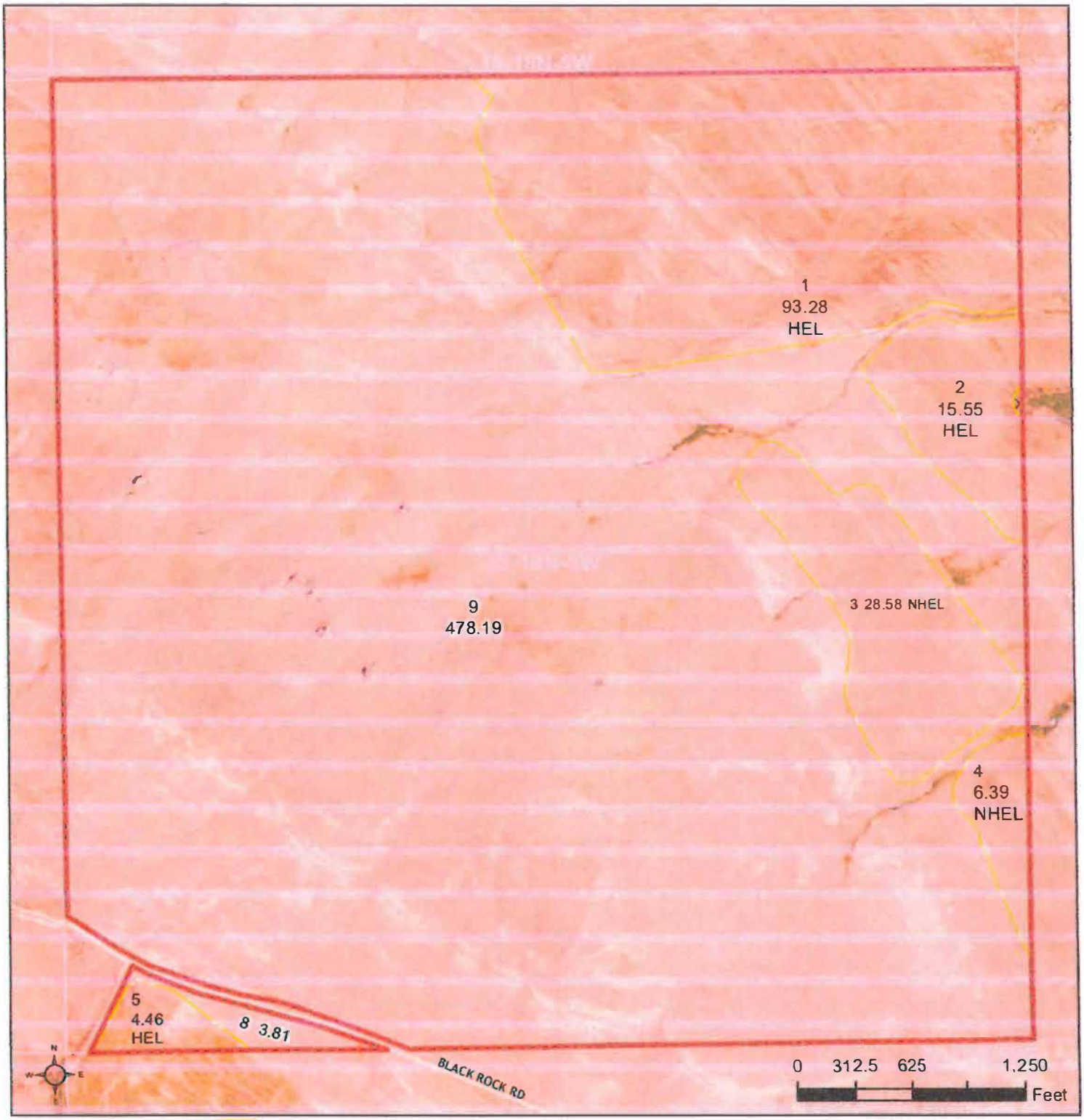
Farm **3446**

Tract **1082**

Tract Cropland Total: 195.58 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

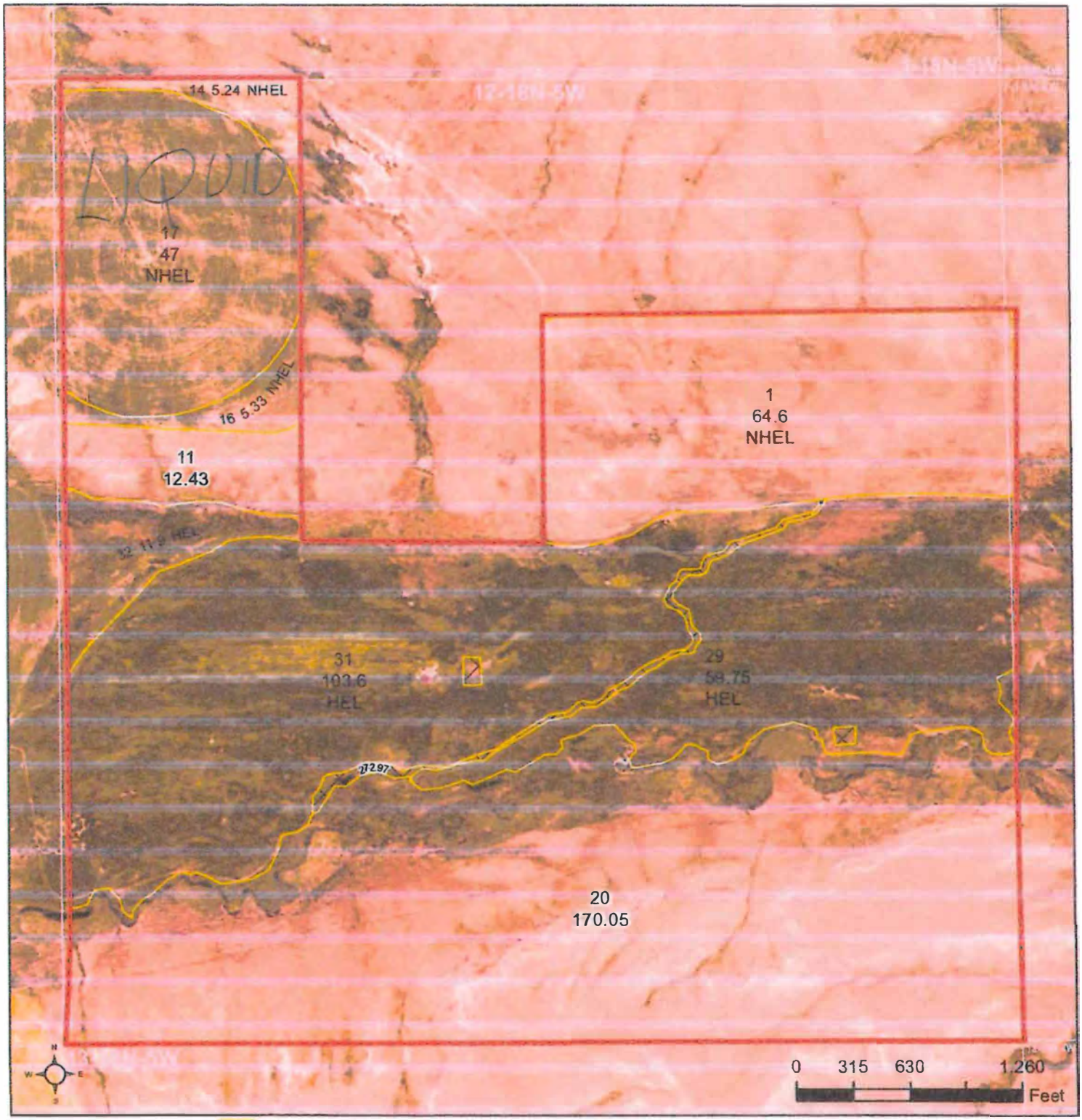
Farm **3446**

Tract **12084**

Tract Cropland Total: 148.26 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

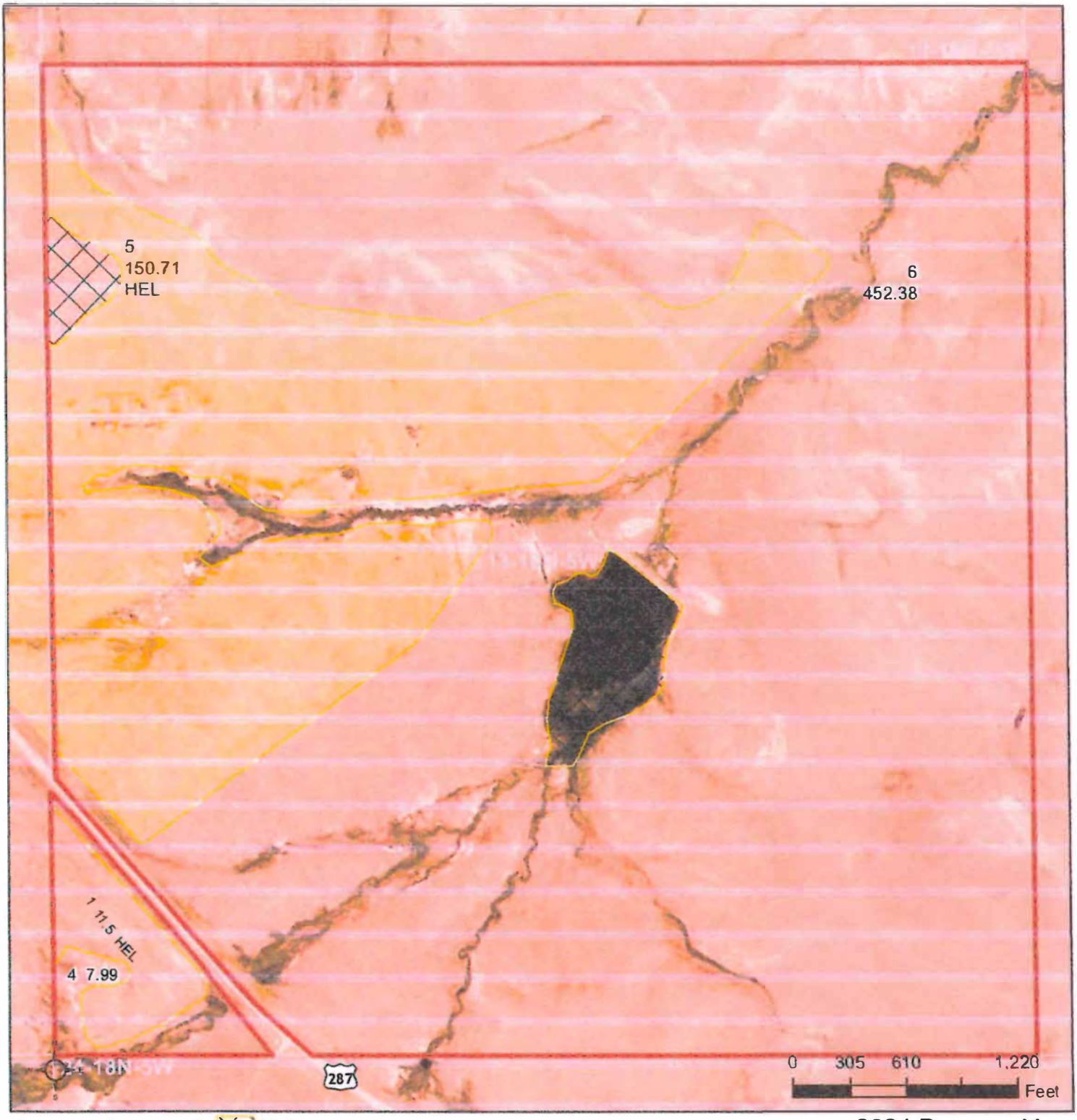
Farm **3798**

Tract **1050**

Tract Cropland Total: 297.42 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

Farm **3798**

Tract **1051**

Tract Cropland Total: 162.21 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana

Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

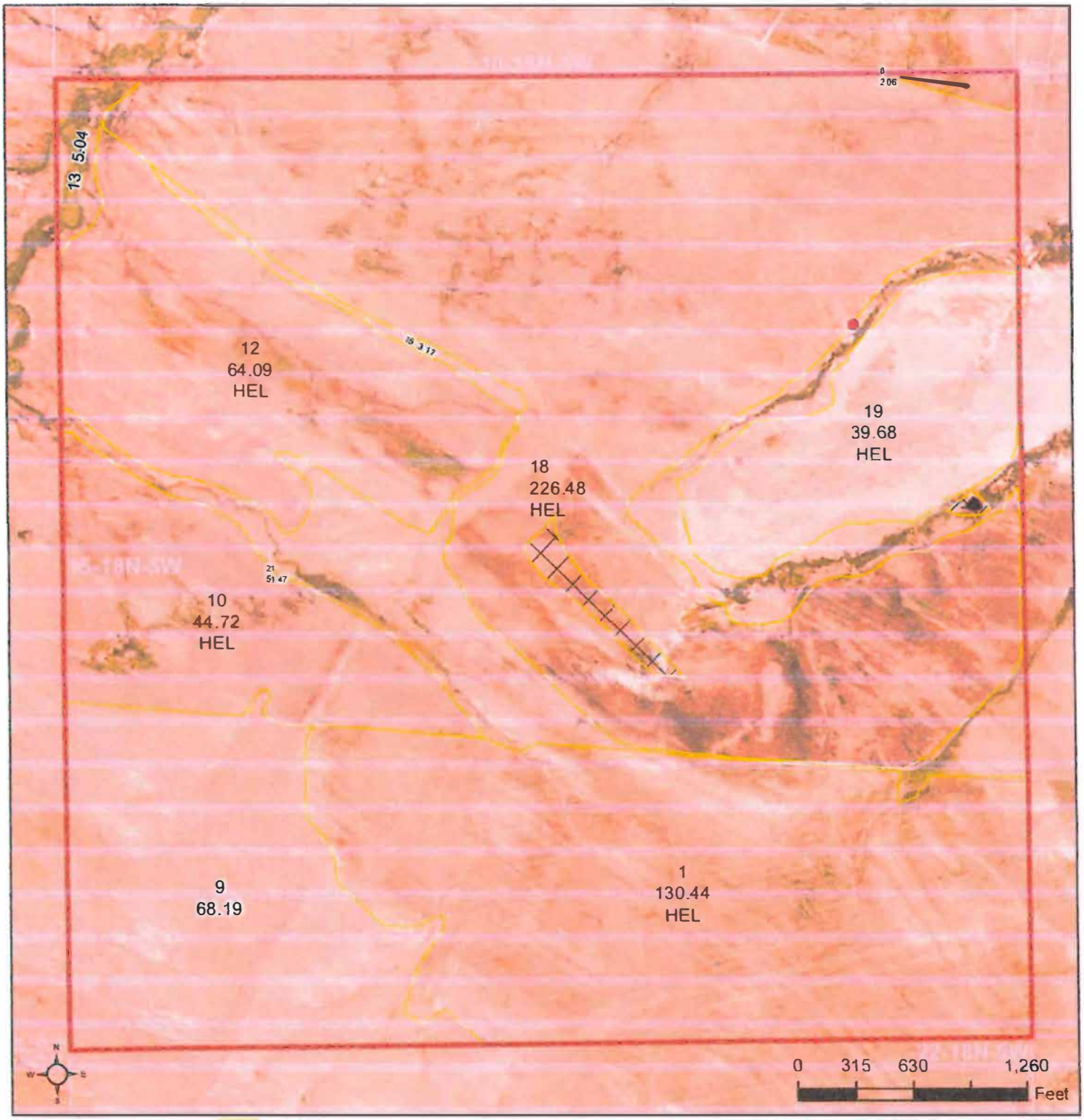
Farm **3798**

Tract **1052**

Tract Cropland Total: 517.93 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

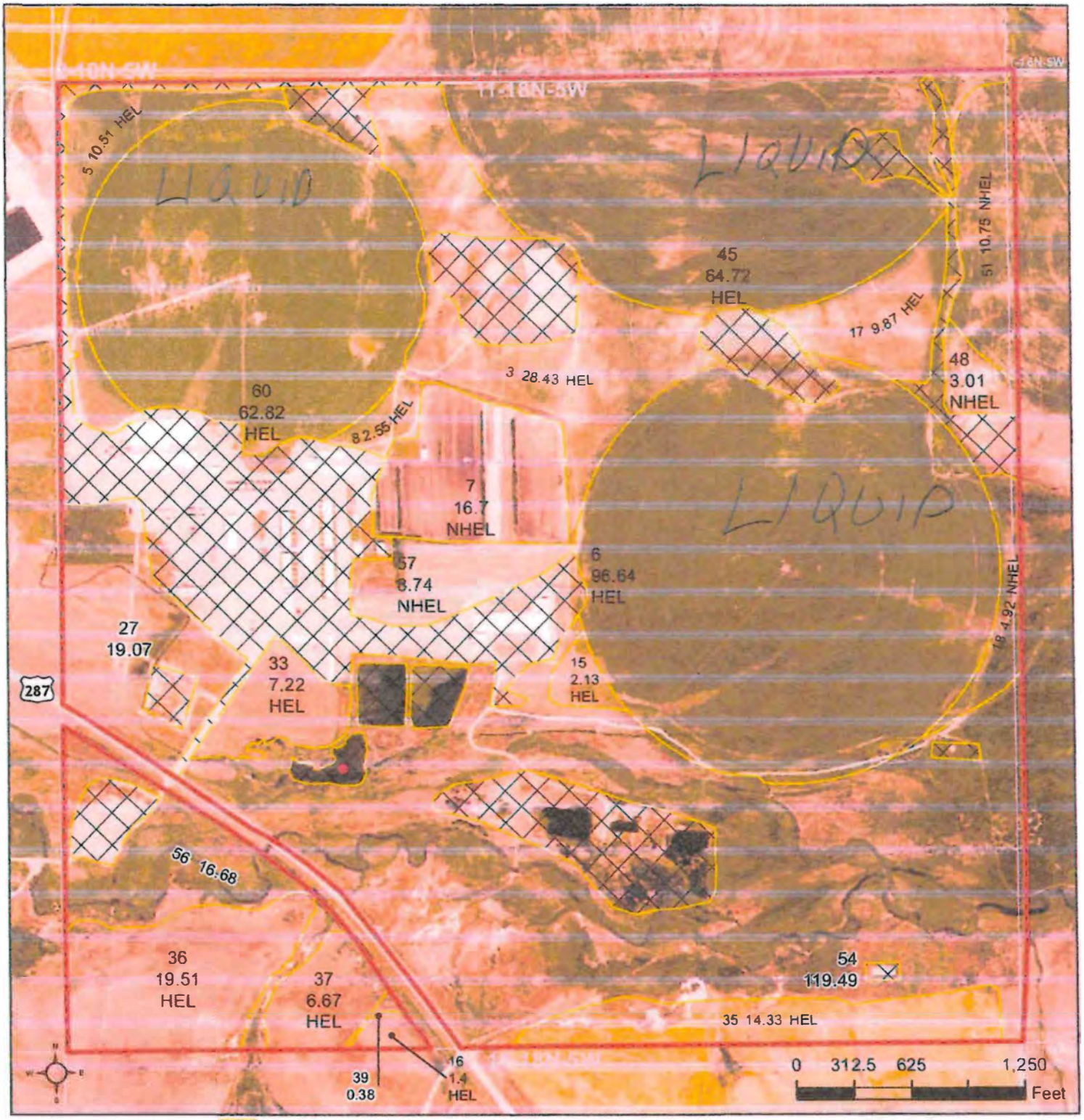
Farm **3798**

Tract **1053**

Tract Cropland Total: 505.41 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit

- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers

- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

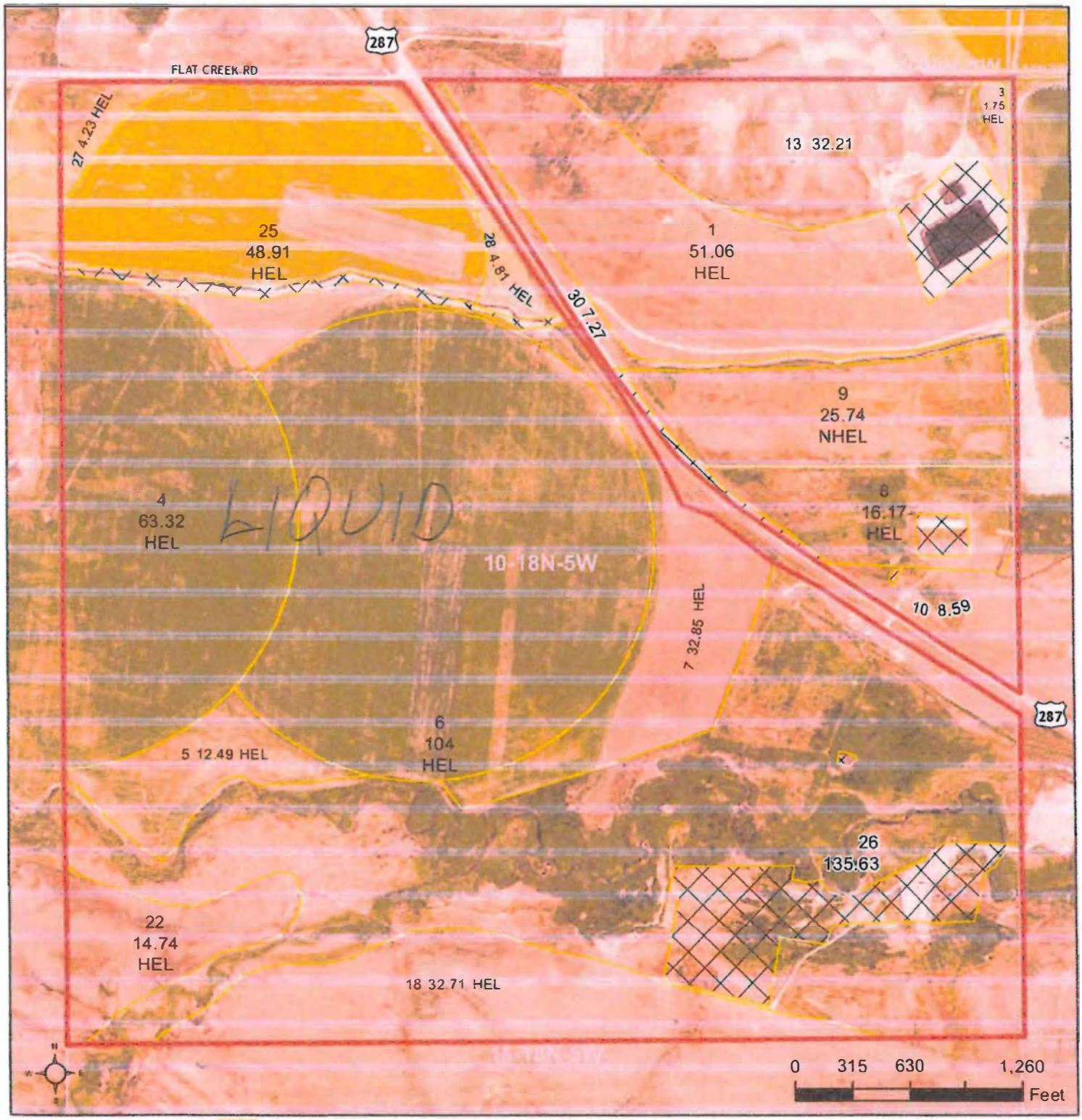
Farm **3798**

Tract **1048**

Tract Cropland Total: 370.92 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

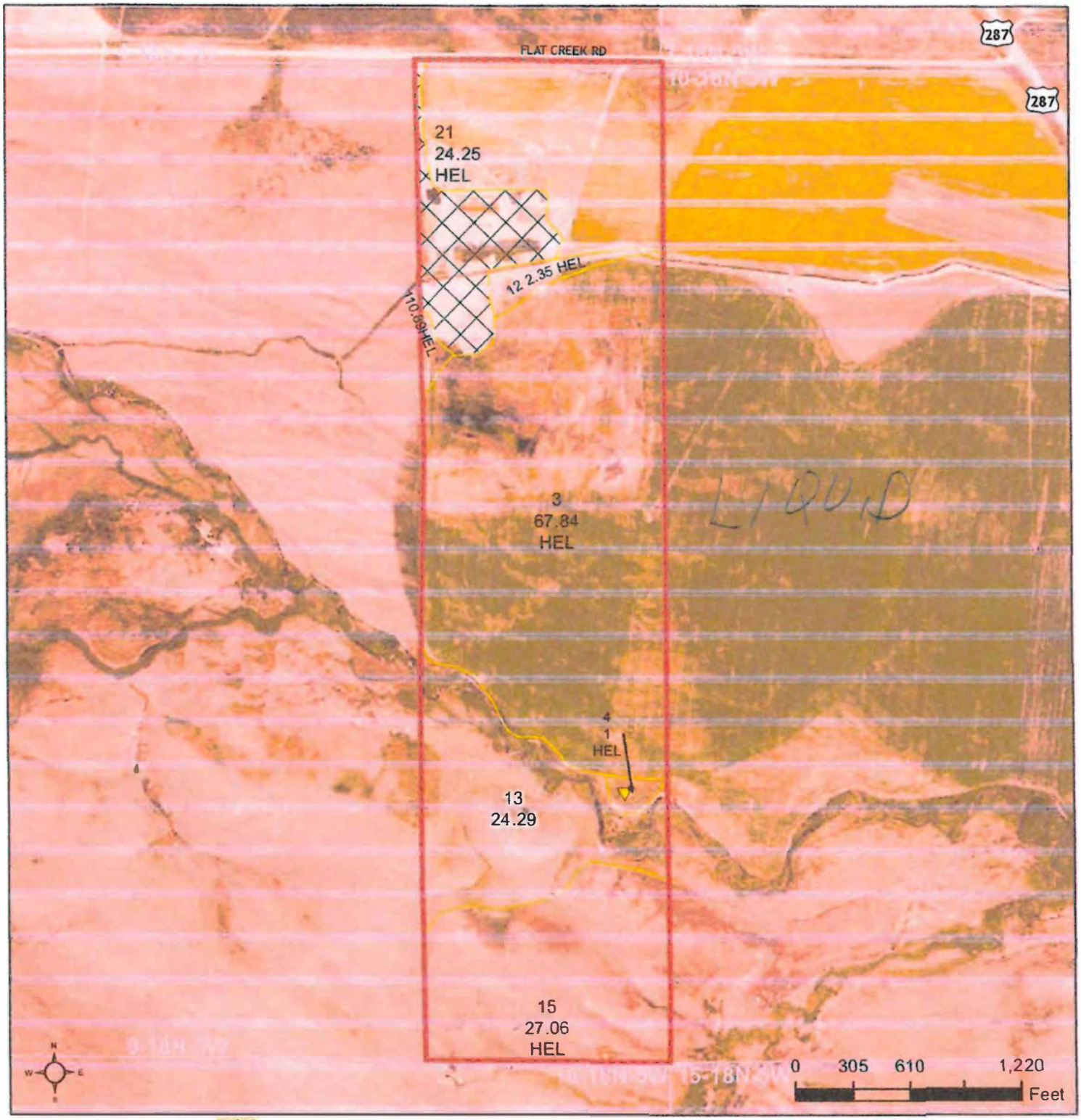
Farm **3798**

Tract **1047**

Tract Cropland Total: 412.78 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

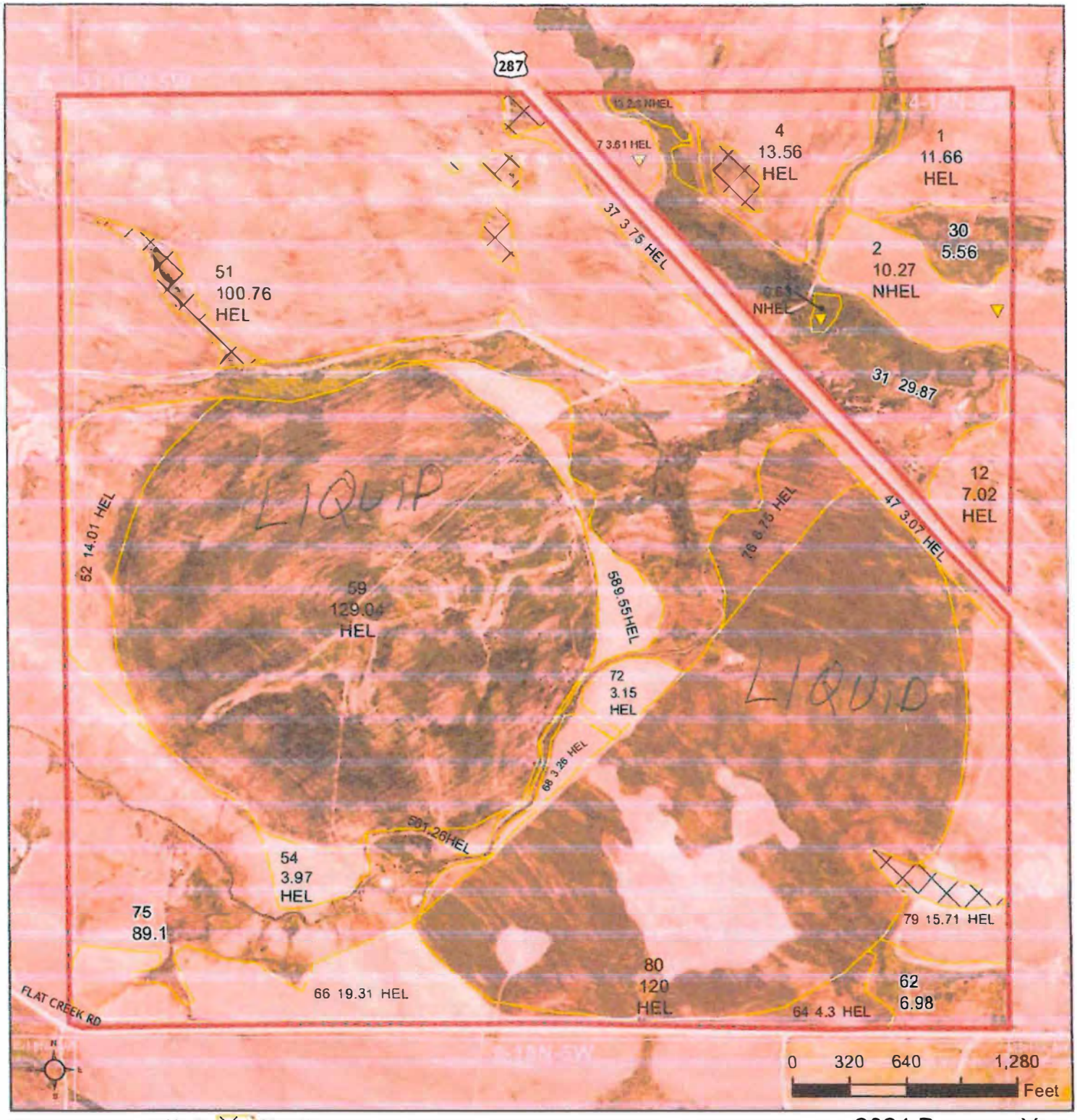
Farm **3798**

Tract **1045**

Tract Cropland Total: 123.39 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

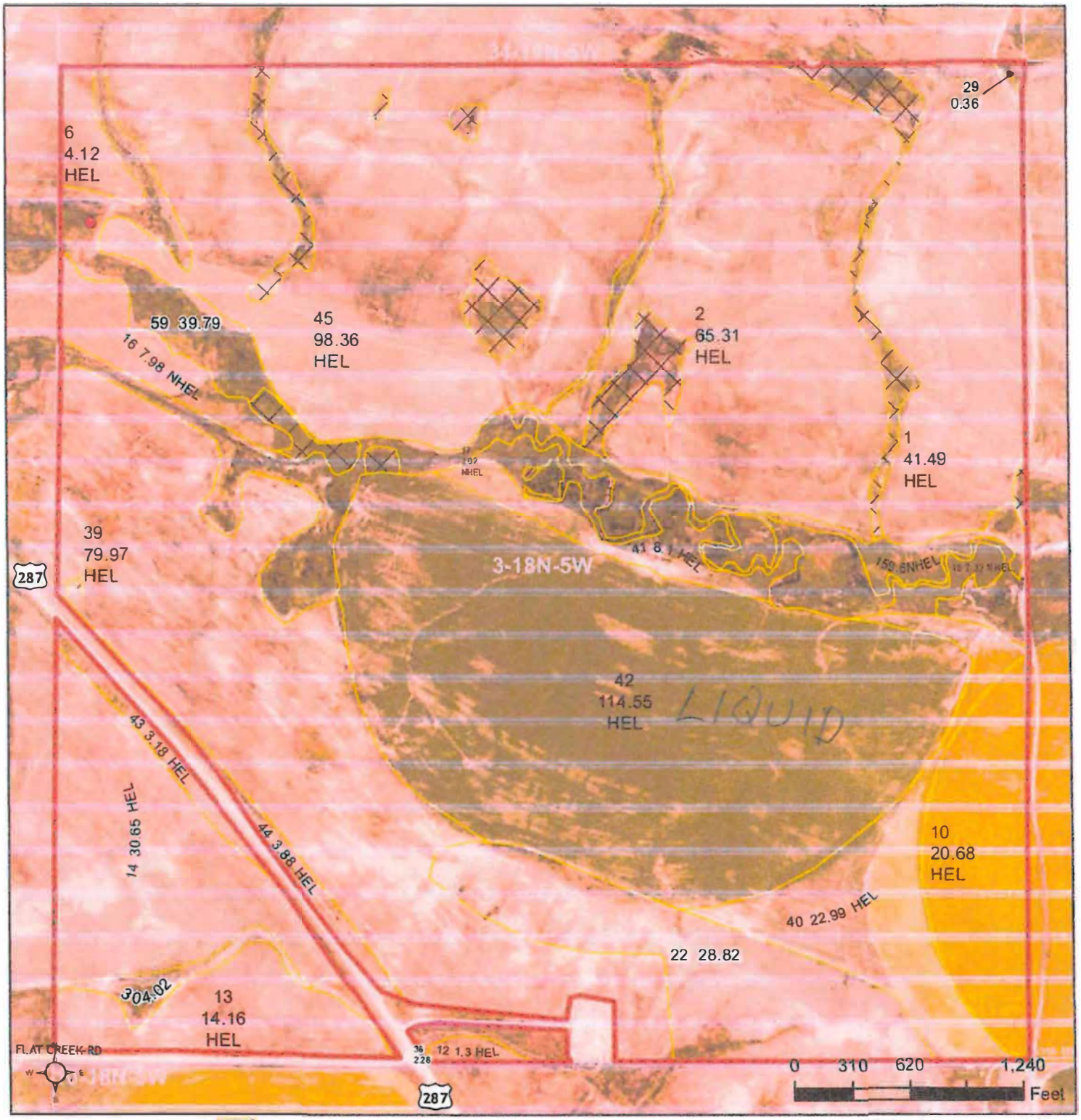
Farm **3798**

Tract **1034**

Tract Cropland Total: 488.94 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year
Map Created September 12, 2023
2021 NAIP

Farm **3798**
Tract **1033**

Tract Cropland Total: 530.66 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana

Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

Farm **3798**

Tract **1032**

Tract Cropland Total: 521.42 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana

Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

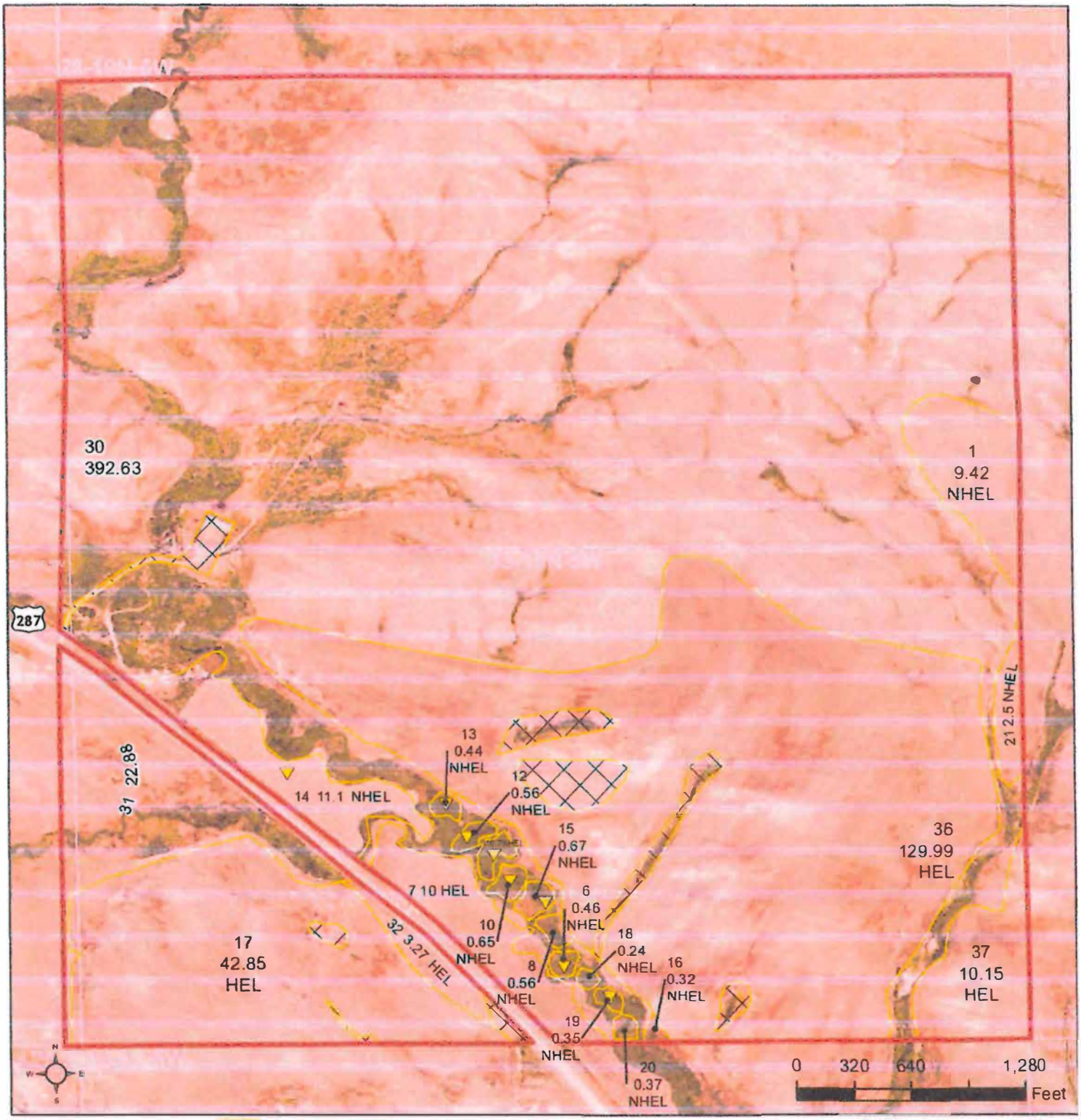
Farm **3798**

Tract **763**

Tract Cropland Total: 235.33 acres

USDA United States Department of Agriculture

Lewis and Clark County, Montana



Common Land Unit
- Cropland
- Rangeland
- Other Use
- Tract Boundary

Wetland Determination Identifiers
- Restricted Use
- Limited Restrictions
- Exempt from Conservation Compliance Provisions

2024 Program Year

Map Created September 12, 2023

2021 NAIP

Farm **3798**

Tract **762**

Tract Cropland Total: 224.60 acres

2024 to 2029

chicket Barn

660 Ton of Manure Dry
at 1Ton Per acer 660 acer

Hog Barns

300 Ton of Dry Manure

LIQUID Hog Barn

1500 000 Gal LIQUID manure
1500 Gal Per acer

REPORT NUMBER
23-129-0119
COMPLETED DATE
May 11, 2023
ACCOUNT
68839
RECEIVED DATE
May 9, 2023

Midwest Laboratories®
13611 B Street · Omaha, Nebraska 68144-3693 · (402) 334-7770
www.midwestlabs.com

TODAY'S DATE
May 11, 2023

AgCall
Laura Nielsen
123149 463rd Ave
Sisseton SD 57262

IDENTIFICATION
RICK BANDY
ED HOFER
MOSAIC

SOIL ANALYSIS REPORT

LAB NUMBER *414*	SAMPLE IDENTIFICATION	ORGANIC MATTER LOI percent RATE	PHOSPHORUS P_1 (WEAK BRAY) 1:7 ppm RATE	PHOSPHORUS P (STRONG BRAY) 1:7 ppm RATE	OLSEN (BICARBONATE P) ppm RATE	NEUTRAL AMMONIUM ACETATE (EXCHANGEABLE) POTASSIUM K ppm RATE	MAGNESIUM Mg ppm RATE	CALCIUM Ca ppm RATE	SODIUM Na ppm RATE	pH SOIL pH 1:1	pH BUFFER INDEX	CATION EXCHANGE CAPACITY CEC meq/100g	PERCENT BASE SATURATION (COMPUTED) % K	% Mg	% Ca	% H	% Na
84042	CONTROL	3.3 M	15 M	59 VH	12 M	484 VH	450 VH	3771 H		7.5		23.8	5.2	15.8	79.0	0.0	
84043	TREATED	2.6 M	14 L	41 H		578 VH	483 VH	3817 H		7.0		24.6	6.0	16.4	77.6	0.0	

LAB NUMBER *414*	NITRATE-N (FIA) SURFACE ppm	SURFACE lbs/A	SURFACE depth in	SUBSOIL 1 ppm	SUBSOIL 1 lbs/A	SUBSOIL 1 depth in	SUBSOIL 2 ppm	SUBSOIL 2 lbs/A	SUBSOIL 2 depth in	Total lbs/A	SULFUR S ppm RATE	ZINC Zn DTPA ppm RATE	MANGANESE Mn DTPA ppm RATE	IRON Fe DTPA ppm RATE	COPPER Cu DTPA ppm RATE	BORON B HOT H2O DTPA ppm RATE	INDEX LIME RATE	SOLUBLE SALTS 1:1 mmhos/cm RATE
84042	20	36	0-6							36								
84043	31	56	0-6							56								

REV.10/17

The above analytical results apply only to the sample(s) submitted. Samples are retained a maximum of 30 days.

Manure Analysis

AgSource LABORATORIES

Submitted By GREYN FERTILIZER SUPPLY INC PO Box 1020 CHOTEAU, MT 59422-1020	**Submitted For** MILFORD COLONY	**Date Sampled** 10/29/2018 **Date Received** 31-Oct-2018	 **Laboratory Sample #** BJ18904
Account Number EW59422301	**Test Package** N Management	**Date Reported** 06-Nov-2018	**Information Sheet No.** M1031-23

Location 9605 HWY 287 **Sample ID** 2018 LIQUID **Livestock Type** Other **Handling Type** Liquid

Analysis	Results (as Received)
Total N, (TKN)	0.07 %
Ammonium, NH_4-N	0.06 %
Organic Nitrogen, %N	0.01 %
Phosphorus, P_2O_5	0.01 %
Potassium, K_2O	0.08 %
Sulfur, S	< 0.01 %
Dry Matter	0.40 %
Moisture	99.60 %

LIQUID

Nutrients as lbs/1000 gal	In 1st Year			In 2nd Year	In 3rd Year
	Injected	Incorporated*	Broadcast**		
5.6	2.2 - 2.2	2.1 - 2.2	1.7 - 2.0	0.6	0.3
4.83	1.9 - 1.9	1.8 - 1.9	1.4 - 1.7		
0.7	0.3 - 0.3	0.3 - 0.3	0.2 - 0.3		
0.7	0.6 - 0.6	0.6 - 0.6	0.6 - 0.6	Residual after uptake	
7.1	6.4 - 6.4	6.4 - 6.4	6.4 - 6.4	Residual after uptake	
0.2	0.1 - 0.2	0.1 - 0.2	0.1 - 0.2		

DRY

Nutrients as lbs/ton		In 1st Year		In 2nd Year	In 3rd Year
		Incorporated*	Broadcast**		
TKN	1.3	0.5 - 0.5	0.4 - 0.5	0.1	0.1
NH_4-N	1.16	0.4 - 0.5	0.3 - 0.4		
Org N	0.2	0.1 - 0.1	0.0 - 0.1		
P_2O_5	0.2	0.1 - 0.1	0.1 - 0.1	Residual after uptake	
K_2O	1.7	1.5 - 1.5	1.5 - 1.5	Residual after uptake	
S	0.0	0.0 - 0.0	0.0 - 0.0		

*Surface applied liquid or solid [illegible].

**Liquid or solid manure left on the [illegible] temperature will result in greater loss of available nitrogen.

The Total N (TKN) values [illegible] for ammonia volatilization loss due to each application method.

[illegible] states.

Liquid manure applied as [illegible] of the Liquid TKN value should be subtracted off the Liquid Broadcast TKN Range.

DISCLAIMER: Data and information [illegible]. Reproduction of this report must be in its entirety. Levels listed are guidelines only. Data was reported based on standard laboratory procedures [illegible]

1701 Detroit Street, PO Box 247 • Ellsworth, IA 50075 • P: 515.836.4444 • ellsworth@agsource.com

Manure Analysis

AgSource LABORATORIES

Submitted By
GREYN FERTILIZER SUPPLY INC
154 US HWY 221
PO Box 1020
CHOTEAU, MT 59422-1020

Submitted For
MILFORD COLONY

Date Sampled
3/7/2024

Date Received
07-Mar-2024

Laboratory Sample #
CU89667

Account Number
EW59422301

Test Package
N Management

Date Reported
08-Mar-2024

Information Sheet No.
MD0307-3

Location 9605 HWY 287 | Sample ID DRY MANURE | Livestock Type Other | Handling Type Dry

Analysis	Results as Received
Dry Matter	44.46 %
Moisture	55.54 %
Total N, (TKN)	1.54 %
Ammonium, NH_4-N	0.45 %
Organic Nitrogen, %N	1.09 %
Phosphorus, P_2O_5	2.16 %
Potassium, K_2O	1.31 %
Sulfur, S	0.23 %

LIQUID Application Methods

Est. Available Nutrient Credits (as received) lbs / 1000 gal

Nutrients as lbs/1000 gal	In 1st Year			In 2nd Year	In 3rd Year
	Incorporated*		Broadcast**		
	Injected	1 - 4 Hours			
TKN	128.2	50.3 - 51.3	48.7 - 50.8	38.5 - 46.2	12.8	6.4
NH_4-N	37.32	14.6 - 14.9	14.2 - 14.8	11.2 - 13.4		
Org N	90.9	35.6 - 36.4	34.5 - 36.0	27.3 - 32.7		
P_2O_5	180.1	162.1 - 162.1	162.1 - 162.1	162.1 - 162.1	Residual after uptake	
K_2O	109.5	98.5 - 98.5	98.5 - 98.5	98.5 - 98.5	Residual after uptake	
S	19.1	10.5 - 19.1	10.5 - 19.1	10.5 - 19.1	<0.1	

DRY Application Methods

Est. Available Nutrient Credits (as received) lbs / ton

Nutrients as lbs/ton		In 1st Year			In 2nd Year	In 3rd Year
		Incorporated*		Broadcast**		
		<1 Hour	1 - 4 Hours			
TKN	30.8	12.1 - 12.3	11.7 - 12.2	8.6 - 10.5	3.1	1.5
NH_4-N	8.96	3.5 - 3.6	3.4 - 3.5	2.5 - 3.0		
Org N	21.8	8.6 - 8.7	8.3 - 8.6	6.1 - 7.4		
P_2O_5	43.2	38.9 - 38.9	38.9 - 38.9	38.9 - 38.9	Residual after uptake	
K_2O	26.3	23.7 - 23.7	23.7 - 23.7	23.7 - 23.7	Residual after uptake	
S	4.6	2.5 - 4.6	2.5 - 4.6	2.5 - 4.6	<0.1	

*Surface applied liquid or solid manure incorporated within 1- 4 hours after application.

**Liquid or solid manure left on the surface 4 or more days without incorporation. Wind and high temperature will result in greater loss of available nitrogen.

The Total N (TKN) values are the sum of Ammonium and Organic N. Availability estimates are corrected for ammonia volatilization loss due to each application method.

Available Nutrient Credit ranges are shown for soil and climate conditions prevalent in the Upper Midwest states.

Liquid manure applied as irrigation will lose more nitrogen from volatilization. An additional 15% of the Liquid TKN value should be subtracted off the Liquid Broadcast TKN Range.

1701 Detroit Streeet, PO Box 247 • Ellsworth, IA 50075 • P: 515.297.8103 • ellsworth@agsource.com

Manure Analysis

AgSource LABORATORIES

Submitted By	Submitted For	Date Sampled	
GREYN FERTILIZER SUPPLY INC 154 US HWY 221 PO Box 1020 CHOTEAU, MT 59422-1020	MILFORD COLONY	6/1/2024	
		Date Received 07-Mar-2024	Laboratory Sample # CU89659
Account Number EW59422301	Test Package Basic	Date Reported 08-Mar-2024	Information Sheet No. ML03117-3

Location MILFORD COLONY Sample ID LIQUID MANURE Livestock Type Hog Handling Type Liquid

Analysis	Results as Received	LIQUID Application Methods (Est. Available Nutrient Credits (as Received) lbs / 1000 gal)					
		Nutrients as lbs/1000 gal	In 1st Year			In 2nd Year	In 3rd Year
			Incorporated*		Broadcast**		
			Injector	1 - 4 Hours			
Dry Matter	0.55 %						
Moisture	99.45 %						
Total N, (TKN)	0.17 %	13.8	12.2 - 13.8	11.8 - 13.7	9.3 - 12.4	0.0	0.0
Phosphorus, P_2O_5	0.02 %	1.6	1.4 - 1.5	1.4 - 1.6	1.4 - 1.6	Residual after uptake	
Potassium, K_2O	0.11 %	9.2	8.3 - 9.2	8.3 - 9.2	8.3 - 9.2	Residual after uptake	
Sulfur, S	< 0.01 %	0.4	0.2 - 0.4	0.2 - 0.4	0.2 - 0.4	<0.1	

DRY Application Methods (Est. Available Nutrient Credits (as Received) lbs / ton)						
Nutrients as lbs/ton		In 1st Year			In 2nd Year	In 3rd Year
		Incorporated*		Broadcast**		
		<1 Hour	1 - 4 Hours			
TKN	3.3	2.9 - 3.3	2.6 - 3.3	2.1 - 2.8	0.0	0.0
P_2O_5	0.4	0.3 - 0.4	0.3 - 0.4	0.3 - 0.4	Residual after uptake	
K_2O	2.2	2.0 - 2.2	2.0 - 2.2	2.0 - 2.2	Residual after uptake	
S	0.1	0.0 - 0.1	0.0 - 0.1	0.0 - 0.1	<0.1	

*Surface applied liquid or solid manure incorporated within 1- 4 hours after application.

**Liquid or solid manure left on the surface 4 or more days without incorporation. Wind and high temperature will result in greater loss of available nitrogen.

The Total N (TKN) values are the sum of Ammonium and Organic N. Availability estimates are corrected for ammonia volatilization loss due to each application method.

Available Nutrient Credit ranges are shown for soil and climate conditions prevalent in the Upper Midwest states.

Liquid manure applied as irrigation will lose more nitrogen from volatilization. An additional 15% of the Liquid TKN value should be subtracted off the Liquid Broadcast TKN Range.

1701 Detroit Streeet, PO Box 247 • Ellsworth, IA 50075 • P: 515.297.8103 • ellsworth@agsource.com