December 26, 2017

TO: Engineering Supervisor of the Permits Branch of the Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

FROM: C & H Hog Farms, Inc.
HC 72 Box 2
Vendor, AR 72683

Re: AFIN: 51-00164; No-Discharge Permit No.: 5264-W
Response to Supplemental Information Request Letter

Dear Engineering Supervisor:

On September 19, 2017, Caleb Osborne, Associate Director, notified C & H Hog Farms, Inc. of the Department's request for supplemental information to the Regulation 5 Permit Application submitted by C & H Hog Farms on April 6, 2016. In his September 19, 2017 letter, Mr. Osborne informed C & H Hog Farms that it had 90 days from the date of the letter in which to provide the requested information or to submit a written request for a reasonable extension if C & H Hog Farms found it would be unable to meet the 90-day deadline.

Representatives from C & H Hog Farms met face-to-face with representatives from the Department on October 11, 2017, and again on December 6, 2017, to seek clarification from the Department regarding the documents and information requested.

On December 6, 2017, C & H Hog Farms hand delivered to the Department three (3) of the documents requested in the Department's September 19, 2017 letter. At that time, C & H Hog Farms also provided the Department with a written request for a reasonable extension that would have extended the deadline for the remainder of the documents and information to March 15, 2018.

On December 14, 2017, Michael McAlister, Managing Attorney, notified C & H Hog Farms that the deadline extension request had been denied. Mr. McAlister's letter set a revised deadline of noon on December 29, 2017.

C & H Hog Farms submits the following in response to the documents and information requested, corresponding to the numbering in the Department's September 19, 2017 letter:

1. C & H Hog Farms hand delivered this information to the Department on December 6, 2017.

2. C & H Hog Farms hand delivered this information to the Department on December 6, 2017.

3. C & H Hog Farms hand delivered this information to the Department on December 6, 2017.

4a. The requested document is included with the submission of this letter.

4b. Maps for land application sites with updated buffers are included in the Nutrient Management Plan (NMP) with the exception of the 500-foot buffer for the mischaracterized "Mount Judea sports complex". No such "complex" exists. The property that appears to have been mischaracterized as the "Mount Judea sports complex" is owned by a private landowner. An attestation to this fact is included with this submission. As per APC&EC Regulation 5.406(E), a 500-foot buffer only applies when a neighboring occupied building exists as of the date of the permit. In the case of the property mischaracterized as the "sports complex", no such building exists, and the property is not currently owned or being used by the school district. Therefore, a 500-foot buffer does not apply. If after reviewing the information I am submitting you desire to discuss this further, please let me know. I am simply trying to follow the rules as I read them, and neither I nor my attorney is aware of any authority that would change the plain meaning of Regulation 5.406(E).

4c. The requested updates are included in the Nutrient Management Plan (NMP). The updated NMP is included with this submission.

5. According to the Arkansas Department of Health, there are no public drinking water wells or surface intakes within 1,500 feet of the latitude and longitude of the lagoons. Email documentation from the Arkansas Department of Health is included with this submission. An engineer was consulted to obtain documentation on any registered private drinking water wells. There are no registered private drinking water wells within 1,500 feet of the latitude and longitude of the lagoons. Email documentation from the engineer is included with this submission. C & H Hog Farms maintains two (2) water wells onsite for agricultural use. Additionally, C & H Hog Farms is aware of one (1) abandoned water well located within 1,500 feet of the lagoons. This abandoned water well has been properly closed by a registered water well contractor. Documentation of the closure of the abandoned well is included with this submission.

6. The Operation and Maintenance Plan for the pond levees has been included in the Nutrient Management Plan (NMP). The updated NMP is included with this submission.

Respectfully,

Jason Henson

Jason Henson
C & H Hog Farms, Inc.

Land Application Field Distance to Waterbodies		
Field #	**Name of Waterbody**	**Distance (ft)**
Field 1	Unamed Tributary to Big Creek	158
Field 2	Unamed Tributary to Big Creek	158
Field 3	Big Creek	106
Field 4	Unamed Tributary to Big Creek	158
Field 5	Big Creek	158
Field 6	Unamed Tributary to Big Creek	158
Field 6A	Unamed Tributary to Big Creek	106
Field 7	Big Creek	317
Field 7A	Big Creek	211
Field 8	Unamed Tributary to Big Creek	106
Field 8A	Unamed Tributary to Big Creek	106
Field 9	Unamed Tributary to Big Creek	106
Field 9A	Unamed Tributary to Big Creek	106
Field 10	Unamed Tributary to Big Creek	158
Field 10A	Unamed Tributary to Big Creek	158
Field 11	Unamed Tributary to Big Creek	106
Field 12	Unamed Tributary to Big Creek	106
Field 13	Big Creek	1,426
Field 13A	Unamed Tributary to Big Creek	158
Field 13B	Big Creek	898
Field 14	Unamed Tributary to Big Creek	106
Field 15	Dry Creek	1,162
Field 15A	Unamed Tributary to Big Creek	106
Field 15B	Dry Creek	1,162
Field 16	Dry Creek	106
Field 17	Unamed Tributary to Big Creek	264
Field 18	Dry Creek	211
Field 19	Big Creek	317
Field 20	Unamed Tributary to Big Creek	106
Field 21	Unamed Tributary to Big Creek	100
Field 21A	Unamed Tributary to Big Creek	158
Field 21B	Unamed Tributary to Big Creek	264
Field 22	Unamed Tributary to Big Creek	528
Field 23	Left Fork Creek	158
Field 24	Big Creek	106
Field 32	Left Fork Creek	158
Field 33	Left Fork Creek	211
Field 34	Unamed Tributary to Big Creek	106
Field 35	Dry Creek	106
Field 36	Dry Creek	106

Nutrient Management Plan

for

C & H Hog Farms, Inc.

Owners/Operators: Jason Henson
Richard Campbell
Philip Campbell

Address: HC 72 Box 2

City: Vendor, AR **Zip:** 72683

Telephone: (870) 434-5004

Location(s): Section 26, Township 15 North, Range 20 West

Latitude: 35º 55’ 30.47”N **Longitude:** 93º 4’ 18.42”W

Newton County, Arkansas

Nutrient Management Plan
C & H HOG FARMS, INC.
Newton County, Arkansas

TABLE OF CONTENTS

SECTION 6 RECORD KEEPING FORMS

Example Table for Recordkeeping

Copy of ADEQ's Annual Report Form

Section 1

Farm Overview

Title Page

Signature Page

Location and Contact Information

Operation and Maintenance

Section 1

Nutrient Management Plan

For:

C & H Hog Farms, Inc.
HC 72 Box 2
Vendor, AR 72683
Phone: (870) 434-5004

Purpose of Plan – The goal of nutrient management is to effectively and efficiently use the nutrient resources to adequately supply soils and plants with the proper amount of nutrients to produce food, forage, fiber, and cover while minimizing the transport of nutrients to ground and surface water and environmental degradation. This plan will comply with Arkansas ADEQ Regulation 5.

The owners of C&H Hog Farms, Inc. are respectfully making an application for a Regulation 5 permit.

Section 1

NMP Signature Page

The following individuals have assisted in the development of this Nutrient Management Plan and certify their elements meet the nutrient management planning requirements for the State of Arkansas.

Nutrient Management Planner:

Name: Monica Hancock Certification No.: 10591004-0056

Title: Water Quality Technician- Land Resource Specialist

Signature: Monica Hancock Date: 3-2-16

Engineering Plans and Review:

Name: Pat Bass Certification No: 4185

Title: [signature]

Signature: [signature] Date: 4-3-2016

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER P. T. BASS

Name: Dennis Carman Certification No: 7670

Title: [signature] PROFESSIONAL ENGINEER

Signature: [signature] PE Date: 4-3-2016

Decision Maker:

As the decision maker for the operation associated with this Nutrient Management Plan, I certify that I have been involved in the planning process and agree with the practices herein. I understand that I am responsible for keeping all necessary records associated with this Nutrient Management Plan.

Signature: Jason Henson Date: 4-6-16

Jason Henson

Section 1

Farm Location and Contact Information

For:

C & H Hog Farms, Inc.
Owners/Managers: Jason Henson
Richard Campbell
Philip Campbell
HC 72 Box 2
Vendor, AR 72683
Phone: (870) 434-5004

Directions to Farm: Facility is located approximately 1.6 miles west of Mt. Judea, Arkansas on County Road 41.

Entrance into the Farm: Entrance is located at: Latitude 35° 55' 30.47" N; Longitude 93° 4' 18.42" W; in the center of Section 26, Township 15 North, Range 20 West, in the Mt. Judea Quad.

Field Locations: Fields contained within this plan are located in: Sections 22, 23, 25, 26, 34, 35 and 36, Township 15 North, Range 20 West and Sections 2 and 3, Township 14 North, Range 20 West.

Watershed: All fields are contained within the Headwaters Big Creek – Buffalo River Watershed (110100050302) and the Left Fork Creek Watershed (110100050301). These watersheds are not in a designated nutrient surplus area.

Operation and Maintenance

Animal Mortality

Normal animal mortality is managed daily by collection of the dead animals and disposal of the carcasses in an incinerator. Other acceptable options for disposal of mortality include composting, freezing, and hauling to a rendering plant.

In case of catastrophic loss, the Arkansas Livestock and Poultry Commission may authorize hauling the carcasses to a rendering plant unless the mortality was caused by disease. When hauling is not feasible, or if disease caused the loss, the Livestock and Poultry Commission may require burial in designated locations with specific guidelines. In such situations, C & H Hog Farms, Inc will contact the Livestock and Poultry Commission by phone **(501-907-2400)** to determine the proper disposal plan.

Land Application

C & H Hog Farms, Inc. is requesting that manure and wastewater from either storage pond (Pond 1 or Pond 2) be transported via liquid tanker trucks or an irrigation system and applied to all fields included in this plan. Regardless of conveyance method, all application rates will be the same. Recognizing that Pond 1 will have a higher fertilizer content than Pond 2, field application recommendations are given from both sources for each field.

Spreader Calibration

Proper calibration of spreader equipment is essential to ensure the amount of swine fertilizer applied is within the required guidelines to protect water quality. The two methods of calibration that are generally used are 1) calibration based on equipment settings and operational conditions and 2) calibration based on gallons per load and number of loads applied.

Soil and Swine Fertilizer Sampling

Several soil cores have been taken from each field and composited into one sub-sample for each individual field. Soils samples are to be taken once every five years or when the nutrient management plan is revised. It is required that a manure sample be analyzed each year and the results sent to ADEQ with the farm's annual report.

Operation and Maintenance

Nutrient Utilization

- Swine fertilizer/wash water shall be evenly distributed over application sites at the rates specified in this nutrient management plan by means of liquid tanker trucks and/or irrigation system. Application rates will be the same, regardless of conveyance method.
- Land application of swine fertilizer/wash water shall not be undertaken when soil is saturated, frozen, covered with ice or snow, or when significant precipitation is reasonably anticipated in the next twenty-four hours (greater than 50% chance).
- Swine fertilizer/wash water shall not be applied on slopes with a grade of more than fifteen percent (15%) or in any manner that will allow nutrients to enter the waters of the state. These non-application buffer areas are marked on the field maps.
- Application of swine fertilizer/wash water shall not be made within 100 feet of streams including intermittent streams, ponds, lakes, springs, sinkholes, rock outcrops, wells and water supplies; or 300 feet of extraordinary resource waters as defined by the Arkansas Pollution Control and Ecology Commission Regulation No. 2. Buffer distances from streams, ponds and lakes shall be measured from the ordinary high water mark. These non-application buffer areas are marked on the field maps.
- Application of swine fertilizer/wash water shall not be made within 50 feet of property lines or 500 feet of neighboring occupied buildings existing as of the date of the permit. The restrictions regarding property lines or neighboring occupied buildings shall not apply if the adjoining property is also approved as a land application site under a permit issued by the department or if the adjoining property owner consents in writing (see setback waivers in Section 3). These non-application buffer areas are marked on the field maps.
- Application of swine fertilizer/wash water shall not be made in areas where the land application of swine fertilizer/wash water is prohibited by Arkansas Department of Health regulations for the protection of public water supplies.
- ADEQ has developed a standard form entitled “Animal Waste Application Records” for use in logging nutrient applications. This form is located in Section 7 under “Recordkeeping”.

Odor Management

Although it may not be practical or feasible to eliminate all odor emissions from the operation, it is possible to manage or mitigate the odor. The odor reduction practices listed below may be utilized by the operation in an effort to reduce odor emissions:

- Animal Cleanliness – Clean, dry, and healthy animals are less odorous.
- Minimize Dust – Dust particles may absorb and concentrate odorous compounds. Proper cleaning techniques within the facility can minimize dust and, therefore, reduce odor.
- Waste Storage Facility Maintenance – Proper maintenance of pits and waste storage ponds can reduce odor. Frequently flushing manure is an effective method to reduce odor emissions from the pits.

- Proper Disposal of Mortality – Normal mortality for the animal feeding operation must be properly handled for both odor control and biological security purposes. Composting, freezing, incineration, and rendering are acceptable methods for mortality disposal.
- Natural Barriers – Trees and shrubs planted around the facility can act as biofilters for odorous compounds.
- Land Application Practices – To the extent possible, consider weather conditions when making land applications. Sunny, low humidity days reduce odors; turbulent breezes will dilute and dissipate odors.

Pond Levees

- Pond levees will be inspected weekly and after major storm events.
- Pond levees will be inspected for signs of seepage, rodent damage, and erosion and repaired as needed.

Section 2

C & H Hog Farms, Inc.

Application for Regulation 5 Permit

Engineering Plans and Review

September 1, 2015

Prepared by: T. P. Bass, P.E.

Reviewed by: Dennis K. Carman, P.E.

Manure Storage Volume Availability and Minimal Requirements

Table of Contents

BACKGROUND

The C & H HOG Farm is located near Mount Judea in Newton County, Arkansas. This facility has an existing Permit for operation issued by the Arkansas Department of Environmental Quality and Ecology and approved August 03, 2012. Details of this permit can be viewed at adeq.state.ar.us for Permit Number ARG590001.

Facility Location: Near Mount Judea, Newton County, Arkansas

Latitude Deg/Min/Sec:	35° 55' 30.47"
Longitude Deg/Min/Sec:	-93° 4' 18.42"

Permitting History

Original Permitting - ADEQ Letter dated August 03, 2012. Re: Concentrated Animal Feeding Operations General Permit (Tracking Number ARG590001 - AFIN 51-00164)

"The Notice of Intent (NOI) package for coverage under the General Permit No. ARG590000, for a concentrated animal feeding operation, was received on 6/25/2012. In accordance with Department policy, the NOI has been reviewed and has been determined to be complete. Coverage under this

general permit will be effective the date of this letter. A copy of the General Permit ARG590000 is available from the Department".

Permit Modification to allow Tanker Methods for field application. ADEQ Letter dated June 5, 2014. Re: Concentrated Animal Feeding Operations General Permit (Tracking Number ARG590001- AFIN 51-00164)

"The Notice of Intent (NOI) package for a substantial change of coverage under the General Permit No. ARG590000, for a concentrated animal feeding operation, was received on 2/11/2014. In accordance with Department policy, the NOI has been reviewed and has been determined to be complete. The substantial change will be effective the date of this letter. A copy of the General Permit ARG590000 is available from the Department".

Engineering Plans and Reports: Engineering plans and reports dated June 1, 2012 have been prepared, submitted and approved by ADEQ. Engineering plans were prepared by DeHaan, Grabs & Associates LLC, consulting engineers in accordance with ADEQ rules and regulations and can be viewed at the website listed below.

Engineering Plan Sheets
http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/ARG590001_Maps_20120613.pdf

As Built Engineering Plan Sheets
http://www.adeq.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/ARG590001_As%20Built%20Engineering%20Plan%20Sheets_20130412.pdf

Existing Facility Field Review

Field Applications Areas: Areas viewed were pasture and hayland that were either not subject to flooding or only subject to occasional flooding. Slopes, after buffering, are within specified limits of 15% or less. The Owner clearly understood buffers and was following those buffer limitations to the letter. Vegetative cover was excellent with superior vegetative cover in those areas receiving nutrients from manure application.

Permit Application – Liner Addition: A permit change application is currently being processed with the intent to permit the owner to add a liner to the bottom of ponds 1 and 2 and a cover on pond 1 to flame the methane generated. Although this addition is not required, the owner continues to demonstrate willingness to add features above and beyond the regulatory requirements for operating this facility in an environmentally safe and acceptable manner.

Existing Facility Design Review

This facility has been previously reviewed by and approved by ADEQ and a permit for operation has been issued. The facility has been in operation since 2012. Several follow-up visits have been made, by

ADEQ, EPA, Big Creek Research & Extension Team (BCRET) and others, as the facility operations and permit application changes have been challenged by groups and individuals with environmental concerns. The Design and As-Built plans, prepared by DeHaan, Grabs & Associates LLC, were reviewed as a part of this permit application.

Key components of this review are as follows:

The facility was constructed as planned and designed. No exceptions, issues or concerns were identified. This facility was clearly well designed and constructed and continues to be operated and maintained in a safe manner. Specific key details are noted as follows:

Side slopes: All side slopes for pond 1 and 2 meet or exceed the Regulation 5 referenced requirements as shown on the Engineering Plans.

Top width: Top widths of pond 1 and 2 meet or exceed the Regulation 5 referenced requirements as shown on the Engineering Plans. The levees have a gravelly top for stability and accessibility during wet periods as required by the reference standards and normal operation procedures. The referenced standard requires that the facility be acces**s**ible under all climatic conditions for inspections and normal operations.

Liner: This facility has an 18" constructed clay liner that exceeds the Regulation 5 referenced requirements and shown in the Engineering Plans, checked during construction and certified for operation by the department. As previously noted, the owner is proposing to add a synthetic liner to the ponds 1 and 2, that while not technically required, will further reduce potential seepage. In my professional opinion, this liner is not necessary but will provide added security that concerns others. (*Dennis K. Carman, P.E. AR, P.E. 7670*)

Vegetative cover: The vegetative cover on the back slopes of pond 1 and 2 were in excellent condition and has been well maintained. No signs of erosion or other embankment issues were observed. A specific review of the back slopes of the embankment was made during the field visit to identify any signs of seepage that could be coming from the facility. None were present as would be expected from a facility designed with this level of environmental protection by the embankment construction methods and liner requirements.

Manure transfer appurtenances: Adequate and operating properly

Staff Gage: In place and functioning

Sizing of the Facility and Manure Volume Calculations

Animal Population Description

The farm is a farrowing farm. Currently pigs are weaned each day with the weaned pigs being placed and maintained in nursery pens. On a weekly basis the weaned pigs are shipped off farm. While the

number and size of the shipped pigs vary, the weekly shipment should average 1500 pigs or less with an average weight of about 14 lbs. As the population of the nursery pens will vary from zero after shipment to 1500 or less prior to shipment the average nursery pig population is estimated as 750 animals.

Due to pen space and herd movement constrains the maximum number adult breeding and replacement animals are classified into the following groups: 6, 450 lb. Boars; 2252, 425 lb. Gestating Sows; and 420, 400 lb. Lactating Sows and 750, 14 lb. nursery pigs. In practice the normal operation populations will vary below these maximums resulting in actual manure production and volume requirements likely to be less than calculated.

Barn and Water Information

The animals are maintained in pens within the barns. The pen's slatted floors allow manure to be deposited in the pull plug pits located below the pens. The pits are pre-charged with water from an exterior manure storage pond. Periodically the pits are drained to transfer the pre-charged water with additional accumulated manure to the external manure storage ponds.

The farm uses "wet/dry" feeders extensively so that any animal drinking water spillage will fall into the feed troughs and be consumed with the feed. As a result, there will be effectively little spilled drinking water adding to the manure volume in the pits.

In addition to the manure deposited directly into the pits, the pressure washer system used to clean the pens, add approximately 929 gallons of wash water to the pits on a daily basis. See the Appendix Section *Barn Wash-Water Volume Determination* for details.

Precipitation Additions to Manure

The Barn pits drain into Pond 1, the first (southernmost) holding pond. There is an open concrete spillway that allows manure to flow from the first holding pond 1 into the second holding pond. Normally the barn pits are recharged from the second pond. However, at times water management needs may necessitate recharging the barn pits from the first pond.

As the ponds are exposed to the weather, precipitation will be added to the manure in the ponds. The amount of precipitation is determined by the area that drains into the ponds and the amount of precipitation minus evaporation. A topographic survey confirms that the top inside of the ponds and spillway embankments serve as the boundary for precipitation drainage into the ponds. Precipitation outside this boundary drains away from the ponds and does not become added to the manure. To simplify calculations, it is assumed that all the precipitation that falls within this 59,457 ft^2 area is added to the manure. This likely provides a slight over estimate of added volume since a portion of the precipitation will fall on soil and be absorbed and or evaporated without being added to the manure volume in the ponds.

Figure 1. Yellow outer boundary denotes the drainage area (59,457 ft^2) into the holding ponds. The red inner boundary denotes area of the top of the free board for holding Pond 1 (16,999 ft^2) and Pond 2 (34,618 ft^2).

Storage Volume Availability

In-Barn Pull Plug Pit Volumes

The pits provide a maximum of 768,145 gallons of in barn manure storage. Of this total, the Gestation Barn Pits have a maximum capacity of 563,710 gallons. The remaining capacity of 204,436 gallons is in the Farrowing Barn Pits. Refer to the Appendix Section *Barn Pull Plug Pit Volume Calculation* for determination of these volumes. Normally this maximum capacity is not fully utilized as the pits function primarily for manure collection and short term storage.

Topographic Elevation Survey of Existing Holding Ponds

To quantify potential precipitation additions to the manure volume, a topographic elevation survey of the catchments for the holding ponds was conducted utilizing total station survey equipment. This survey measured the elevation at various locations around the holding ponds, as well as points on the interior slopes and bottoms of the ponds. The survey was followed by a second survey utilizing a traditional transit and "Philadelphia Rod," which measured elevation at various points on the outside of the ponds to document drainage patterns away from the ponds. In addition, visual inspections and photographs were made to provide additional inputs. All this information was provided by BCRET and utilized to build a Graphical Information System (GIS) surface model that provides both precipitation

capture area of the holding ponds and storage volumes of holding ponds (Table 1 and Figures 1&2). This pond information and historical rainfall information are being used to estimate potential precipitation additions to manure slurry volume.

Table 1. Summary information for the topographic survey surface modeling area and volume.

Pond	Area	Total volume [3]	Available storage [4]
	ft^2	gallon	gallon
Pond 1	16,999 [1]	743,352	615,946
Pond 2	34,618 [1]	1,978,743	1,721,128
Sum of Pond 1 & 2	51,617[1]	2,722,095	2,337,074
Drainage area into ponds [4]	59,457[2]	Not applicable	Not applicable

[1] Area of the top of the pond's 1 ft. deep freeboard zone.

[2] Area in which water would drain into the ponds during a precipitation event.

[3] Total volume from the bottom of the pond to the top of the freeboard.

[4] Available storage is the total volume minus a 6 inch bottom layer, assumed as unpumpable, and the top 1 ft. freeboard layer.

Figure2. Holding Pond Contours (Survey by Big Creek Research & Extension Team)

Storage Volume Required

Design Requirements for 180 days of storage during wettest consecutive months which for Arkansas tend to be October to March. (Average precipitation less evaporation)

Manure Production

NRCS AWFH Production Estimates

Animal type		Boar	Gestating Sow	Lactating Sow	Nursery Pig	Grow-Finish (Replacement Gilts)
Weight range	lb				10 to 50	50 to 265
Design Weight	lb	440	440	423	27.5	154
Cycle Length	d	365	365	365	36	120
Weight	lb/d/au	19	25	59	88	65
Volume	ft^3/d/au	0.30	0.41	0.97	1.40	1.10
Moisture	%	90%	90%	90%	90%	90%
N	lb/d/au	0.14	0.16	0.45	0.92	0.54
P	lb/d/au	0.05	0.05	0.13	0.15	0.09
P205	lb/d/au	0.11	0.11	0.30	0.34	0.21
K	lb/d/au	0.09	0.11	0.28	0.35	0.24
K2O	lb/d/au	0.11	0.13	0.34	0.42	0.29

Farm Animal Population Information

Animal type		Boar	Gestating Sow	Lactating Sow	Nursery Pig	Grow-Finish (Replacement Gilts)	Totals
Number Animals		6	2252	420	750		3,428
Animal weight	lb	450	425	400	14		1,289
AU	1000 lb	2.70	957.10	168.00	10.50		1,138
Time Period	days	180	180	180	180		180

As Excreted Farm Totals Prior to Losses and Water Additions

Weight	lb	9,234	4,306,950	1,784,160	166,320		6,266,664
	ft^3	146	70,634	29,333	2,646		102,759
Volume	gal	1,091	528,342	219,409	19,792		768,634
Moisture	%	0.90	0.90	0.90	0.90		0.90
N	lb	68	27,564	13,608	1,739		42,979
P	lb	24	8,614	3,931	284		12,853
P2O5	lb	56	19,726	9,002	649		29,433
K	lb	44	18,951	8,467	662		28,123
K2O	lb	52	22,741	10,161	794		33,748

Wash Water

Additional Non-Precipitation Water to Manure

Type of Addition	Daily (gal)	Total for time (gal)	Per Animal gal/hd/day	% of Manure Vol %
Add'l Flush Water	0	0	0.00	0.0%
Wash Water	929	167,220	0.27	21.8%
Total from barn	929	167,220	0.27	21.8%

Climatic Data for Newton County Arkansas

Precipitation Information (in)

Month	Precipitation	Evaporation	P-E	P-E >=0	P-E used	
Jan	2.06	0.72	1.34	1.34	1.34	
Feb	2.75	1.08	1.67	1.67	1.67	
Mar	4.58	2.52	2.06	2.06	2.06	
Apr	3.97	3.60	0.37	0.37		
May	5.06	4.68	0.38	0.38		
Jun	3.27	4.68	-1.41	0.00		
Jul	2.94	5.40	-2.46	0.00		
Aug	2.74	5.04	-2.30	0.00		
Sep	4.15	3.24	0.91	0.91		
Oct	3.47	2.88	0.59	0.59	0.59	
Nov	3.88	1.44	2.44	2.44	2.44	
Dec	3.55	0.72	2.83	2.83	2.83	
Totals	42.42	36.00	6.42	12.59	10.93	in
					0.91	ft

25-yr, 24-Hr Storm	7	in
	0.58	ft
Rain Catch Area	59,457	ft^2
	1.36	ac

Precipitation Accumulation for Time Period
Accumulation (in/12) X Rain Catch Area (ft^2)

	ft^3	gal
Precipitation	54,155	405,083
25-yr, 24-Hr Storm	34,683	259,431
Total	88,839	664,513

Summary of Required Storage for 180 day cycle (wet months)

Storm Storage = 259,431 gals. (To remain empty and available at all times for Storm Events)
Manure Production = 768,634 gals. (4,270 gals/day)
Wash Water = 167,220 gals. (929 gals/day)
Precipitation= 405,083 gals. (2,250 gals/day)
Total Required Storage = 1,600,368 gals.

Sum of Pond 1 and 2 available storage = 2,337,074 gals.

Conclusion: Total available storage in ponds 1 and 2 exceeds requirements by 736,706 gals.

System Evaluation of Ponds 1 & 2

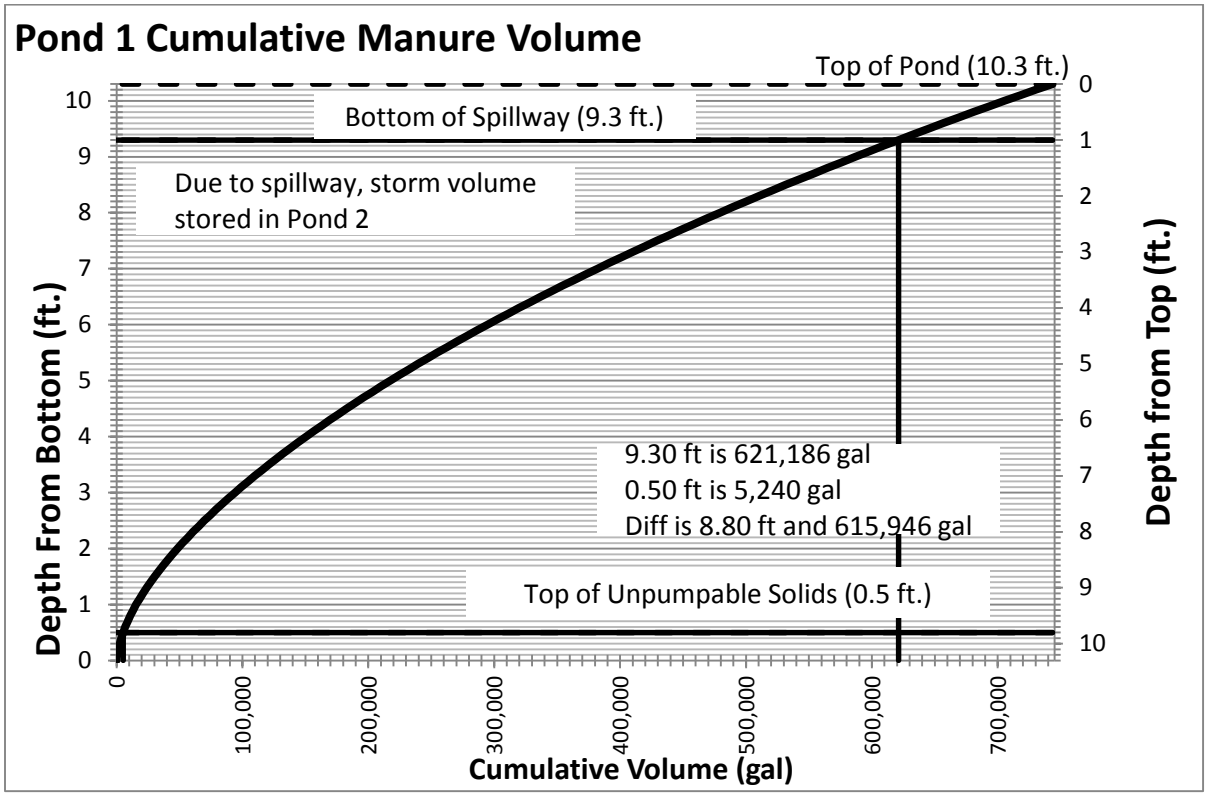
The manure and wash water collection operation consist of an intermittent flow through system from the housing structures to pond 1 then into pond 2. Each pond will maintain a 1.0 foot freeboard. All outside runoff from the surrounding area plus direct rainfall into the ponds along with a volume equal to a 24 hour 25 year storm event will be stored in pond 2. Staff gage located in pond 2 will be used to indicate the maximum accumulation of effluent before removal by pumping is required. The under house collection pits are periodically recharged by recycling water from pond 2. Occasionally due to pond 2 water management needs pond 1 may supply recycle water to the pits.

Water level management and nutrient application pumping may occur from either Pond 1 or Pond 2 to manage water levels and properly utilize available nutrients and maximize environmental protection provided by matching available storage with the Nutrient Management Plan. Both ponds will be pumped directly into land application equipment such as tankers, irrigation equipment, or other commonly accepted manure transfer and application equipment. As needed, to maintain available volumes, both ponds will be agitated during pumping to remove settled solids.

As built drawings and final designs of both ponds were completed in April 2013 by DeHaan; Grabs & Associates. The only change since the initial construction has been the addition of a junction box at the intersection of the discharge pipes from each of the housing facilities for cleanout purposes. An additional well has also been added to furnish potable water for the showers and is not a part of the swine production and manure management facility.

Pond 1

Based on the pond configuration shown in Figure 1 the stage-storage curve for Pond 1 is as follows



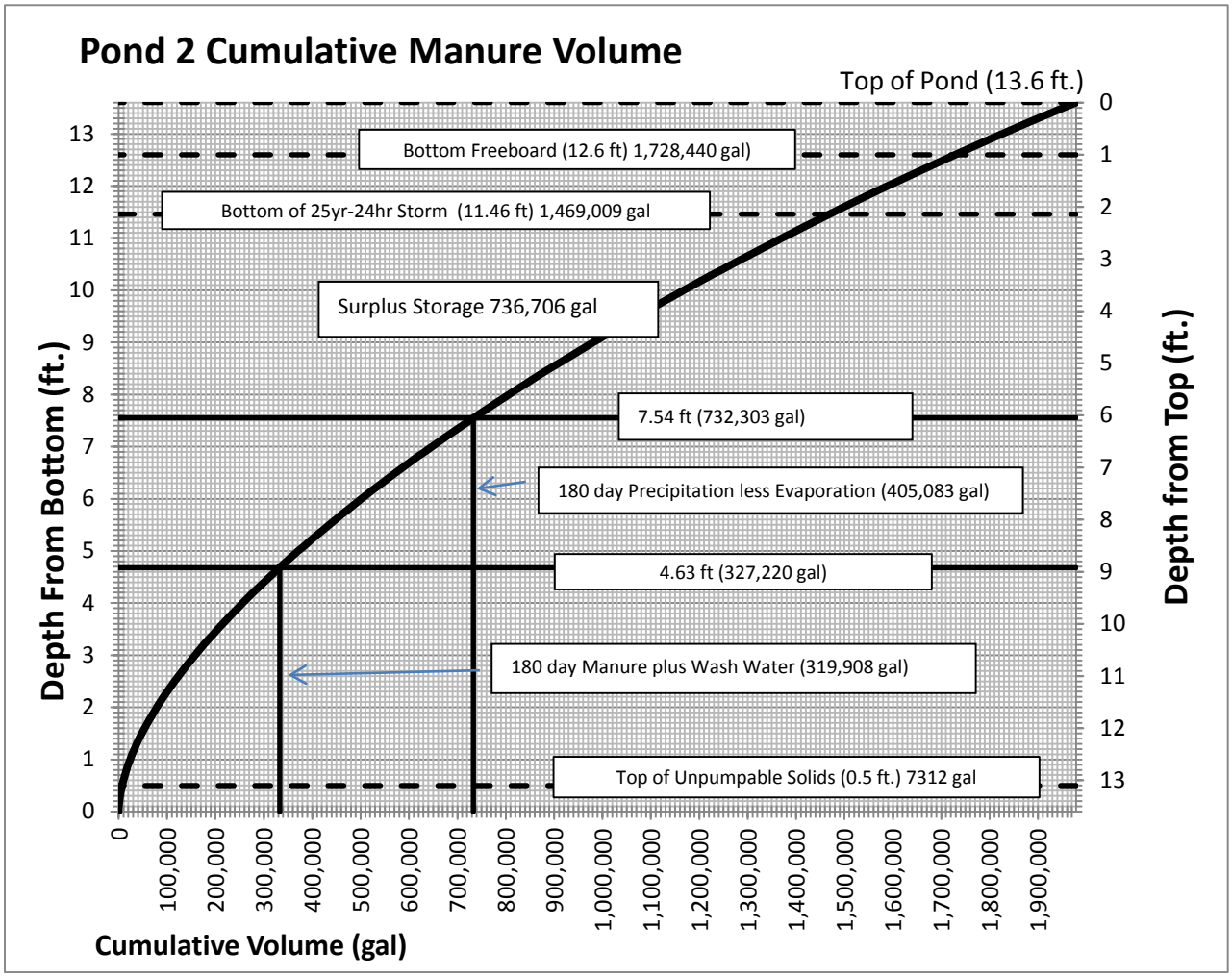
Pond 1 serves as the primary receiving area for all discharges of manure slurry which will allow most of the solids to settle before effluent flows into Pond 2. The concrete spillway from Pond 1 to Pond 2 ensures the 1 foot freeboard of Pond 1 will be maintained.

Pond 2

Pond 2 will store the remaining manure slurry produced plus all of the runoff volume that can be expected for the wettest 180 day period. The one foot freeboard and one half foot of unpumpable liquid will be deducted as unavailable from the pond's available storage. Calculations are as follows:

Manure = 768,634 gals (180 days) = 4,270 gal/day.
Wash water = 167,220 gals (180 days) = 929 gal/day
Subtotal Manure Slurry = 935,854 gals (180 days) = 5,199 gal/day
Manure Slurry flow into pond 2 = Total Manure Slurry - Pond 1 Available Storage = 935,854 - 615,946 = 319,908 gals (180 days) = 1,777 gal/day
Total Runoff for 180 wet months precipitation less evaporation = 405,083 gals = 2,250 gal/day
Storm Storage = 259,431 gals. (To maintain empty and available at all times for storm events)
Total Available Volume Required for Pond 2= 319,908 + 405,083 + 259,431 = 984,422 gals
Total Available in Pond 2 as modeled = 1,721,128 gals
Conclusion: Available Storage Volume in ponds 2 exceeds requirements by 736,706 gals.

Based on the pond configuration shown in Figure 1 the stage-storage curve for Pond 2 is as follows:



A staff gage will be used as a management tool as well as a means to indicate the maximum liquid level permissible before pumping.

The level of liquid accumulation in pond 2 should be monitored and maintained so that the storm volume is only encroached during a 25 year 24 hour storm event. The freeboard volume should never be encroached. The additional storage capacity will facilitate proper water level management. In addition it also helps with providing flexibility in matching nutrients and nutrient application timing more easily with the nutrient management plan. It also provides house pit recycle water reserve to help manage in house and ventilation discharge odors.

Number of Days Storage

The actual maximum days of storage of manure slurry is based on pond storage capacity and normal runoff and storm water accumulations.

Total Pond Storage Available = 2,337,074 gals (Total Volume in both ponds less the volumes occupied by freeboard, 25 yr. storm runoff and an unpumpable 0.5 ft bottom layer)

Average manure production= 4,270 gals/day

Wash water = 929 gals/day

Runoff of 9 months (270 days) precipitation less evaporation (where rainfall exceeds evaporation [September through May]) = 12.59 ins. = 1.05 ft.

Drainage Area = 59,457 ft^2

The 270 day daily runoff= 59,457 ft^2 x 1.05 ft. x7.48 gal/ft^3. / 270 days = 1728 gal/day

Volume Accumulation for Sept through May = (4270+929+1728) x 270 = 1,870,290 gals.

Remaining Volume in Ponds 1 & 2 after 9 months accumulation (September - May) = 2,337,074 gals available storage – 1,870,290 gals accumulation – 259,431 gals storm water = 207,353 gals.

Remaining 3 months (June – August) where evaporation exceeds rainfall, the only accumulation is manure slurry = 4,270 + 929 = 5,199 gals/day.

Additional days of storage above the 270 days = 207,353 gals / 5199 gals / day = 40 days

Maximum Days of Storage = 270 + 40 = 310 days

Appendix

Barn Wash-Water Volume Determination

Discussions with C&H management revealed that the farm used "wet/dry" feeders so that any animal drinking water spillage would fall into the feed troughs and consumed with the feed. As a result, there will be effectively no spilled drinking water adding to manure slurry volume. Estimates for pen wash down water were provided in the form of the number of pressure washers, the flow rates in gallons per minute, and the average time spent washing each day. As a more direct determination of pen wash water additions to the manure was desired, two standard water meters were purchased and installed to measure all the water used by two pressure washers used in the barns (Figure 9).

Figure 1. Standard water meter with hose adapters and mounting base installed to measure water use during pressure washing to clean animal pens.

Periodically, pictures of the meters were submitted providing readings and the date of the readings to document cumulative and daily wash-water volumes added to the manure slurry volume. From March 20, 2014 to September 9, 2014 a total of 161,722 gallons of water was used to wash the pens with the water then draining into the manure pits. The average daily water use over these 174 days was 929 gallons/day. (Table 8 and Figures 10 and 11).

Table 1. Pen wash-water meter readings and water volumes in gallons.

Date	Days	Meter 1			Meter 2			Total	
		Reading	Cumulative	Daily average	Reading	Cumulative	Daily average	Cumulative	Daily average
		---------- Gallons ----------							
3/20/2014		126.5			80.2				
9/10/2014	174	96,610	96,483	554	65,319	65,239	375	161,722	929

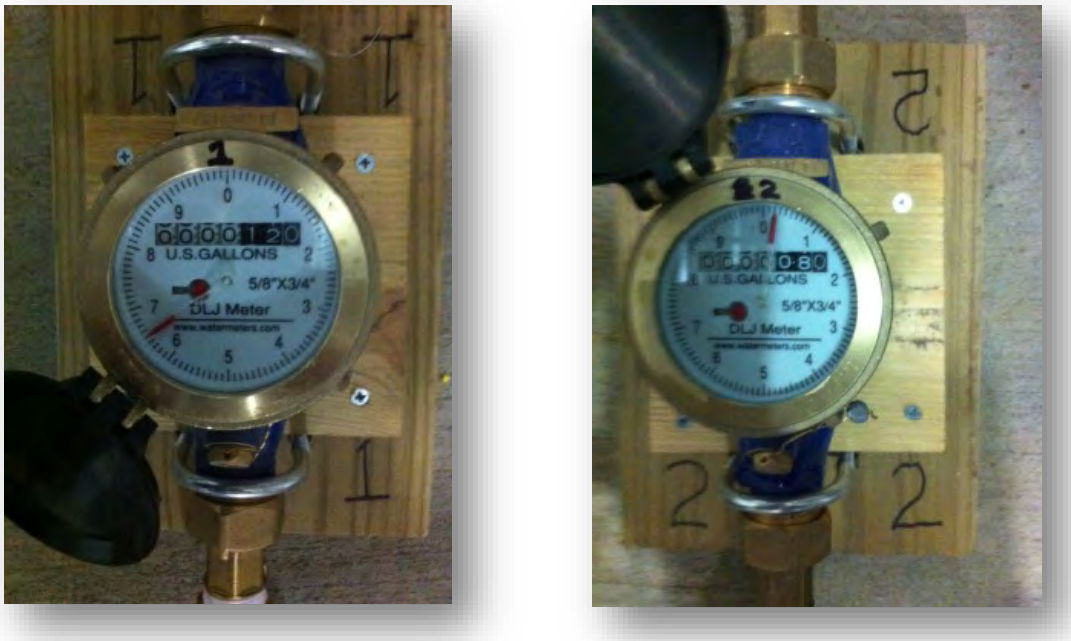


Figure 2. Two water meters purchased and installed on March 20th, 2014 to measure pen wash down water additions to manure volume. Initial meters readings were 126.6 and 80.2 gallons for meter 1 and 2.

Figure 3. Two water meters purchased and installed on March 20th, 2014 to measure pen wash down water additions to manure volume. Meters readings were 96,609.6 and 65,319.3 gallons for meter 1 and 2 on September 10th, 2014.

Miscellaneous

Barn Pull Plug Pit Volume Calculations
Based on Spread Sheet File Pull Pit Volumes 5_28_15.xlsx (Separate Document) by: Big Creek Research & Extension Team (BCRET)

Pond Volume Calculations
Based on Spread Sheet File Calc Chart Ponds Elev Model As built Volumes 5-19-2015.xlsx (Separate Document) by: Big Creek Research & Extension Team (BCRET)

Section 3

Land Application Site Information

Land Application Site Table including Latitude and Longitude for each field

Setback Distance Table (BMP Buffers)

Land Use Contracts

Letters of Consent with Neighboring Landowners

Land Application Sites								
Field	Landowner	New/Existing	Section	Township	Range	Spreadable Acreage	Longitude	Latitude
1	Jason Henson	Existing	25	15N	20W	8.2	93°3'32.372"W	35°55'1.349"N
2	Jason Henson	Existing	25	15N	20W	6.0	93°3'43.637"W	35°54'55.793"N
3	Charles Campbell	Existing	25/26	15N	20W	15.2	93°3'53.07"W	35°54'59.383"N
4	Jason Henson	Existing	36	15N	20W	7.2	93°3'39.78"W	35°54'49.65"N
*5	Louetta/Glen Ricketts	New	23	15N	20W	9.7	93°4'30.114"W	35°55'53.941"N
*6	Louetta/Glen Ricketts	New	26	15N	20W	5.6	93°4'49.381"W	35°55'48.19"N
*6A	Shawn Ricketts	New	26	15N	20W	7.3	93°4'27.597"W	35°55'42.631"N
7	E.G. Campbell	Existing	26	15N	20W	64.3	93°4'12.854"W	35°55'24.9"N
*7A	E.G. Campbell	New	26	15N	20W	28.3	93°4'14.499"W	35°55'27.002"N
8	Charles Campbell	Existing	26/35	15N	20W	7.2	93°4'7.519"W	35°54'56.821"N
8A	Charles Campbell	Existing	35	15N	20W	1.4	93°4'17.42"W	35°54'45.295"N
9	Charles Campbell	Existing	35	15N	20W	24.6	93°4'18.724"W	35°54'43.111"N
9A	Charles Campbell	Existing	26/35	15N	20W	10.3	93°4'2.05"W	35°54'56.223"N
10	Fayma Dickey	Existing	35	15N	20W	13.6	93°4'18.767"W	35°54'42.431"N
10A	Billy F. Cheatham	Existing	35	15N	20W	16.4	93°4'10.843"W	35°54'30.331"N
11	Fayma Dickey	Existing	35	15N	20W	13.3	93°4'22.582"W	35°54'33.004"N
12	Robert Flud	Existing	35	15N	20W	11.2	93°4'15.143"W	35°54'13.541"N
13	Charles Campbell	Existing	2	14N	20W	11.6	93°4'21.856"W	35°53'56.972"N
13A	Charles Campbell	Existing	35/2	15N/14N	20W	29.8	93°4'35.599"W	35°53'59.62"N
13B	Charles Campbell	Existing	35	15N	20W	8.1	93°4'20.307"W	35°54'3.407"N
14	Charles Campbell	Existing	35	15N	20W	7.6	93°4'38.516"W	35°54'22.791"N
15	Clayel Criner	Existing	2	14N	20W	21.5	93°4'46.334"W	35°53'47.015"N
*15A	Clayel Criner	New	2	14N	20W	10.4	93°4'54.416"W	35°53'52.182"N
15B	Clayel Criner	Existing	2	14N	20W	13.7	93°5'2.42"W	35°53'43.458"N
16	Barbara Hefley	Existing	2	14N	20W	15.2	93°4'38.587"W	35°53'35.201"N

Land Application Sites (Continued)								
Field	Landowner	New/Existing	Section	Township	Range	Spreadable Acreage	Longitude	Latitude
17	Jason Criner	Existing	34/35 2/3	15N 14N	20W 20W	30.9	93°5'3.665"W	35°53'55.374"N
*18	Murl Bryant	New	25	15N	20W	21.7	93°3'27.778"W	35°55'32.715"N
*19	Murl Bryant	New	25	15N	20W	10.1	93°3'34.212"W	35°55'37.349"N
*20	Rondal Campbell	New	35	15N	20W	20.7	93°4'17.971"W	35°54'45.772"N
*21	Rondal Campbell	New	35	15N	20W	18.6	93°4'59.439"W	35°54'35.005"N
*21A	Rondal Campbell	New	34	15N	20W	15.6	93°5'10.85"W	35°54'44.478"N
*21B	Rondal Campbell	New	35	15N	20W	6.0	93°4'54.343"W	35°54'48.234"N
*22	Kelis Campbell	New	26	15N	20W	35.5	93°4'50.239"W	35°55'9.687"N
*23	Greg Grice	New	22	15N	20W	28.1	93°5'43.327"W	35°56'27.709"N
*24	Donald Haddock	New	23	15N	20W	8.0	93°4'35.322"W	35°55'59.004"N
*32	Howard Criner	New	22	15N	20W	10.0	93°5'22.606"W	35°56'26.454"N
*33	Howard Criner	New	22	15N	20W	3.4	93°5'16.715"W	35°56'32.636"N
*34	Rondal Campbell	New	26	15N	20W	12.8	93°4'42.775"W	35°55'2.033"N
*35	C & H Hog Farms, Inc.	New	25	15N	20W	18.4	93°3'14.369"W	35°55'10.6"N
*36	C & H Hog Farms, Inc.	New	25	15N	20W	8.4	93°3'1.819"W	35°55'19.23"N

***Indicates new land that has not been previously permitted.** All other land was included in the original NPDES permit. To better reflect land management, some fields were further divided into subsets (A or A & B) due to cross fencing or natural field barriers. ArcGIS software utilized to calculate longitude, latitude, PLSS and acreage.

Manure Application Setback Distance Table (BMP's)

Field	Land Owner	Open Acres	50 ft. Buffer	100 ft. Buffer	500 ft. Buffer	Steep Slope Buffer	Spreadable Acres	Land Use	Grass Type
1	Jason Henson	17.7	0	0.7+0.1	6.5	2.2	8.2	Rotational	Mixed
2	Jason Henson	8.8	0	0	0	0.3+1.7+0.1+0.7	6.0	Rotational	Mixed
3	Charles Campbell	16.7	0.9	0.6	0	0	15.2	Rotational	Mixed
4	Jason Henson	10.9	0	0.6+0.3+0.6+0.7	0	1.5	7.2	Rotational	Mixed
5*	Louetta/Glen Ricketts	13.3	0.6	2.3+0.7	0	0	9.7	Rotational	Mixed
6*	Louetta/Glen Ricketts	9.1	0	0	0	1.4+0.6+1.5	5.6	Rotational	Mixed
6A*	Shawn Ricketts	17.5	0.8	0.2+1.0	0	8.2	7.3	Rotational	Mixed
7	E.G. Campbell	72.9	2.2	0.1+0.5+0.7+3.9+0.5+0.7	0	0	64.3	Rotational	Mixed
7A*	E.G. Campbell	35.1	2.7	3.8+0.1+0.2	0	0	28.3	Rotational	Mixed
8	Charles Campbell	10.7	0.4+0.7+0.1	1.5+0.8	0	0	7.2	Rotational	Mixed
8A	Charles Campbell	2.9	0.5	0.5+0.5	0	0	1.4	Rotational	Mixed
9	Charles Campbell	29.6	0.1	1.8+0.4+2.1+0.6	0	0	24.6	Rotational	Mixed
9A	Charles Campbell	11.6	0	0.9+0.3+0.1	0	0	10.3	Rotational	Mixed
10	Fayma Dickey	14.7	0.1	0.1+0.9	0	0	13.6	Rotational	Mixed
10A	Billy F. Cheatham	17.7	0	0.6+0.4+0.3	0	0	16.4	Rotational	Mixed
11	Fayma Dickey	19.2	0.3	1.3	0	1.1+2.3+0.7+0.1+0.1	13.3	Rotational	Mixed
12	Robert Flud	13.1	0.6 + 0.4	0.5 + 0.4	0	0	11.2	Rotational	Mixed
13	Charles Campbell	13.0	0.3	0.3	0	0.8	11.6	Rotational	Mixed
13A	Charles Campbell	36.9	1.0	1.4	0	1.7+2.4+0.6	29.8	Rotational	Mixed
13B	Charles Campbell	15.5	0.9	0.4+0.9	0	2.0+3.2	8.1	Rotational	Mixed
14	Charles Campbell	15.1	1.3	0.9	0	5.3	7.6	Rotational	Mixed
15	Clayel Criner	28.2	0.1+0.4	1.3	0	4.7+0.2	21.5	Rotational	Mixed
15A	Clayel Criner	14.2	0.7	0	0	3.1	10.4	Rotational	Mixed
15B	Clayel Criner	21.0	0	1.2+0.4	0	4.1+1.6	13.7	Rotational	Mixed
16	Barbara Hefley	21.3	0.5	2.0+0.8+2.8	0	0	15.2	Rotational	Mixed
17	Jason Criner	36.1	0.9+1.3	1.6+1.4	0	0	30.9	Rotational	Mixed
18*	Murl Bryant	29.6	1.3+0.1+0.7	1.4	4.4	0	21.7	Rotational	Mixed
19*	Murl Bryant	13.3	1.0	2.2	0	0	10.1	Rotational	Mixed

Manure Application Setback Distance Table (BMP's) continued

Field	Land Owner	Open Acres	50 ft. Buffer	100 ft. Buffer	500 ft. Buffer	Steep Slope Buffer	Spreadable Acres	Land Use	Grass Type
20*	Rondal Campbell	24.8	0.1	2.1+1.1+1.7	0	0.2	20.7	Rotational	Mixed
21*	Rondal Campbell	49.8	0	2.9+1.7+1.4+0.5+1.1+1.8	0	10.1+11.4+0.3	18.6	Rotational	Mixed
21A*	Rondal Campbell	19.8	0	0.2	0	4.0	15.6	Rotational	Mixed
21B*	Rondal Campbell	7.1	0	0	0	0.7+0.4	6.0	Rotational	Mixed
22*	Kelis Campbell	46.4	0	0.4		1.6+0.2+8.7	35.5	Rotational	Mixed
23*	Greg Grice	33.8	1.0+2.0	0.6+0.4+0.5+0.4+0.6+0.2	0	0	28.1	Rotational	Mixed
24*	Donald Haddock	11.6	0	3.1+0.5	0	0	8.0	Rotational	Mixed
32*	Howard Criner	11.9	0.8	1.1	0	0	10.0	Rotational	Mixed
33*	Howard Criner	5.9	0.4	1.3+0.8	0	0	3.4	Rotational	Mixed
34*	Rondal Campbell	16.5	0.4	1.2	0	1.1+0.1+0.6+0.3	12.8	Rotational	Mixed
35*	C & H Hog Farms Inc	26.3	1.7+0.5	0.5	0	5.2	18.4	Rotational	Mixed
36*	C & H Hog Farms Inc	12.1	0	1.4+0.3	0	0.8+0.5+0.7	8.4	Rotational	Mixed
	Total Open Acres:	**831.2**				**Total Spreadable Acres:**	**615.9**		

***Indicates new land that has not been previously permitted.** All other land was included in the original NPDES permit. To better reflect land management, some fields were further divided into subsets (A or A & B) due to cross fencing or natural field barriers. ArcGIS software utilized to calculate all acreage and buffers.

LAND USE CONTRACT

I, Jason Henson (Name of Landowner), agree to allow C&H Hog Farms, Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 21.4 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
1	SW	25	15N	20W	8.2
2	SW	25	15N	20W	6.0
4	NW	36	15N	20W	7.2

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Philip Campbell — Permittee's Signature
2-19-16 — Date

Jason Henson — Landowner Signature
2-19-16 — Date

LAND USE CONTRACT

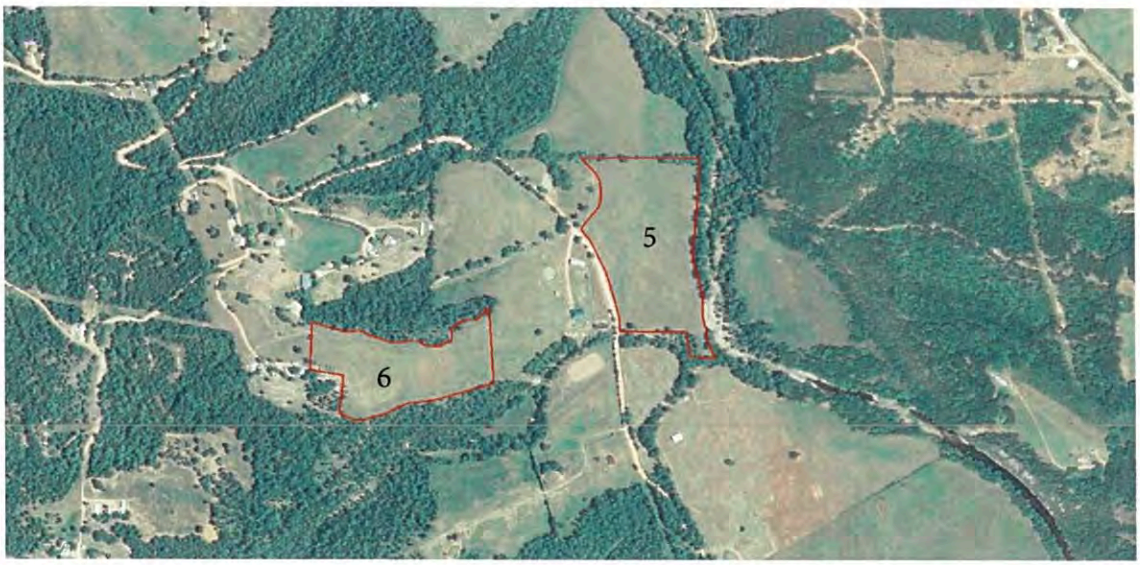
I, Lovetta Ricketts (Name of Landowner), agree to allow C+H Hog farms Inc. (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 15.3 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
5	SW/SE	23	15N	20W	9.7
6	NW	26	15N	20W	5.6

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.



Jason Henson — Permittee's Signature — 11-18-15 — Date

Lovetta Ricketts — Landowner Signature — 10-25-15 — Date

LAND USE CONTRACT

I, Shawn Ricketts (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 7.3 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
6A	NW	26	15N	20W	7.3

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Hixson — Permittee's Signature — 11-16-15 — Date

Shawn Ricketts — Landowner Signature — 10-25-15 — Date

LAND USE CONTRACT

I, E.G. Campbell (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 92.6 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
7	NE/SE	26	15 N	20 W	64.3
7A	NE	26	15N	20 W	28.3

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-10-15 — Date

E.G. Campbell — Landowner Signature — 11-10-15 — Date

LAND USE CONTRACT

I, Charles Campbell (Name of Landowner), agree to allow C+H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 58.9 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
3	SW SE	25 26	15N	20W	15.2
8+8A	SE NE	26 35	15N	20W	8.6
9+9A	NE	26 35	15N	20W	34.9

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-11-15 — Date

Charles Campbell — Landowner Signature — 10-23-15 — Date

LAND USE CONTRACT

I, Fayma Dickey (Name of Landowner), agree to allow C & H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 26.9 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
10	NE	35	15N	20W	13.6
11	NW/NE	35	15N	20W	13.3

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-10-15 — Date

Fayma Dickey — Landowner Signature — 10-28-15 — Date

LAND USE CONTRACT

I, Billy F. Cheatham (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 16.4 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
10A	NE/SE	35	15N	20W	16.4

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-10-15 — Date

Billy F. Cheatham — Landowner Signature — 10-27-15 — Date

LAND USE CONTRACT

I, Robert Flud (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 11.2 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
12	SE	35	15N	20W	11.2

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature
11-10-15 — Date
Robert Flud — Landowner Signature
10-27-15 — Date

LAND USE CONTRACT

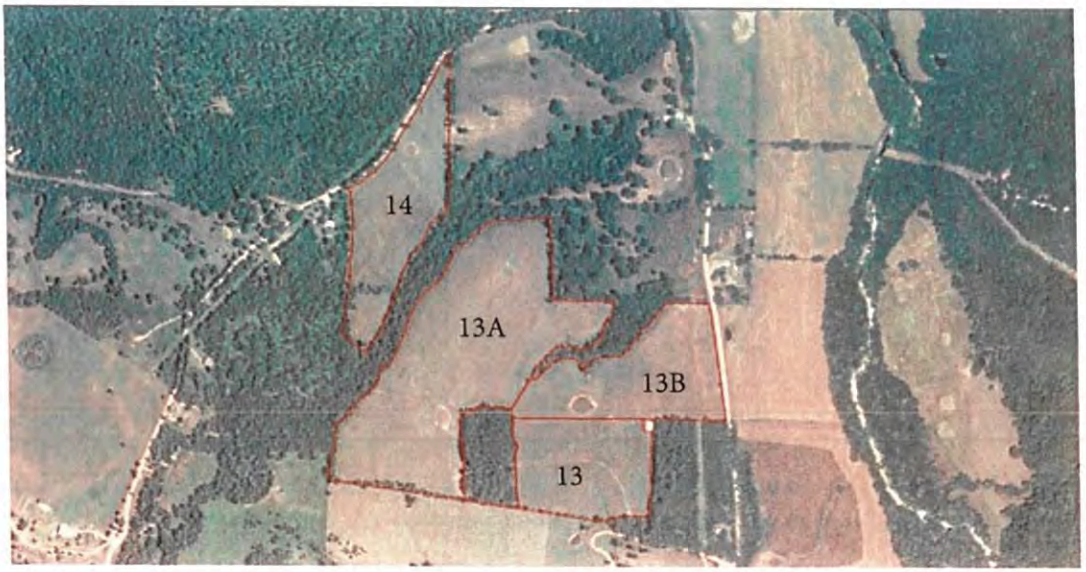
I, Charles Campbell (Name of Landowner), agree to allow C + H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 57.1 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
13	NE	2	14N	20W	11.6
13A	SW NW	35 2	15N 14N	20W	29.8
13B	SE	35	15N	20W	8.1
14	SW	35	15N	20W	7.6

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.



Jason Henson — Permittee's Signature — 11-10-15 — Date

Charles Campbell — Landowner Signature — 10-23-15 — Date

LAND USE CONTRACT

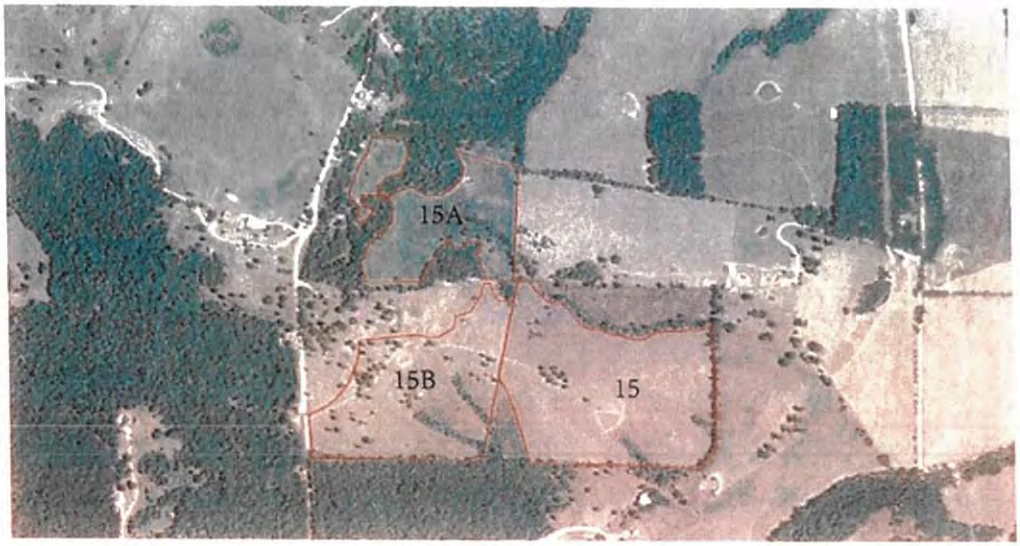
I, Clayel Criner (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 45.6 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
15	NW	2	14N	20W	21.5
15A	NW	2	14N	20W	10.4
15B	NW	2	14N	20W	13.7

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.



Jason Hemjer — Permittee's Signature
11-10-15 — Date
C Clayel Criner — Landowner Signature
11-10-15 — Date

LAND USE CONTRACT

I, Barbara Hefley (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 15.2 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
16	SW	2	14N	20W	15.2

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature
11-10-15 — Date
Barbara Hefley — Landowner Signature
11/9/15 — Date

LAND USE CONTRACT

I, Jason Criner (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 30.9 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
17	SE/SW	34/35	15N	20W	30.9
	NW/NE	2/3	14N	20W	

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature
11-10-15 — Date
Jason Criner — Landowner Signature
11-10-15 — Date

LAND USE CONTRACT

I, Murl Bryant (Name of Landowner), agree to allow C+H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 31.8 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
18	NW/NE	25	15N	20W	21.7
19	NW	25	15N	20W	10.1

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature
11-10-15 — Date
Murl Bryant — Landowner Signature
10-23-15 — Date

LAND USE CONTRACT

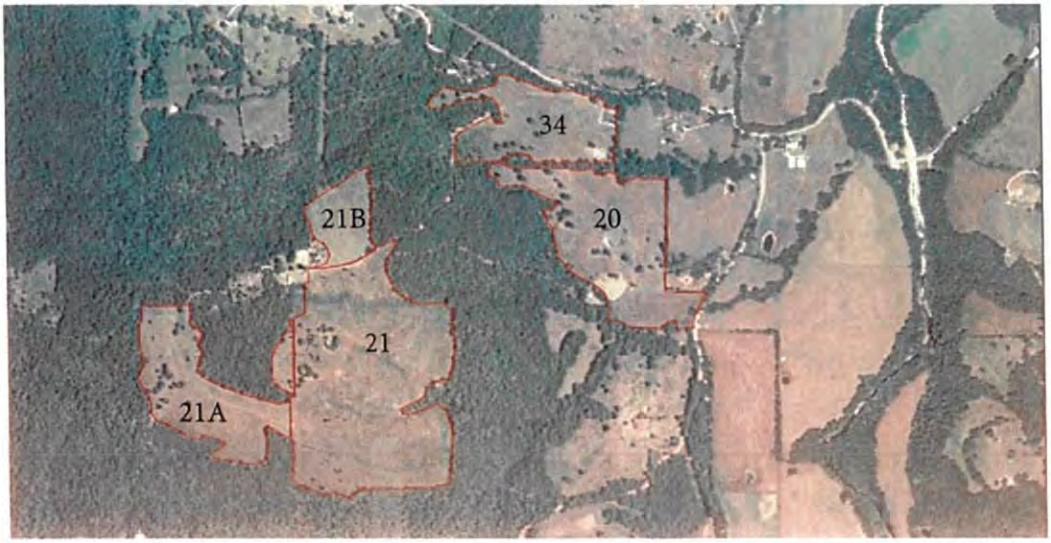
I, Rondal Campbell (Name of Landowner), agree to allow C+H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 73.7 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
20	NW/NE	35	15N	20W	20.7
21	NW	35	15N	20W	18.6
21A+B	NE NW	34 35	15N	20W	21.6
34	SW	26	15N	20W	12.8

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.



Jason Henson — Permittee's Signature
11/10/15 — Date
Rondal Campbell — Landowner Signature
11-12-15 — Date

LAND USE CONTRACT

I, Kelis Campbell (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 35.5 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
22	NW/SW	26	15N	20W	35.5

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-10-15 — Date

Kelis Campbell — Landowner Signature — 11-10-15 — Date

LAND USE CONTRACT

I, Greg Grice (Name of Landowner), agree to allow C+H Hog farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 28.1 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
23	NW	22	15N	20W	28.1

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 10-10-15 — Date

Landowner Signature — 11-10-15 — Date

LAND USE CONTRACT

I, Donald Haddock (Name of Landowner), agree to allow C+H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 8.0 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
24	SW	23	15N	20W	8.0

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 10-10-15 — Date

Donald G Haddock — Landowner Signature — 11-10-15 — Date

LAND USE CONTRACT

I, Howard Criner (Name of Landowner), agree to allow C & H Hog Farms Inc (Name of Permittee) to land apply Swine (Type of Waste) waste from his/her operation located in the Newton (County of Operation) County to 13.4 (Total Acreage Available) acres of my property located in Newton (County of Application Site) County.

A description of the areas to be used as waste application sites are as follows:

Site No.	¼ Section	Section	Township	Range	Available Acreage*
32	NE	22	15N	20W	10.0
33	NE	22	15N	20W	3.4

*Available acreage is the total acreage minus buffer zone areas.

I am also aware that the land applicator or the owner of the operation is to apply waste according to the management plan developed and submitted by the Natural Resource Conservation Service or a registered professional engineer or an Arkansas Natural Resources District Water Quality Technician and as per guidelines and conditions set forth by the Arkansas Department of Environmental Quality.

Jason Henson — Permittee's Signature — 11-10-15 — Date

Howard Criner — Landowner Signature — 10-23-15 — Date

Setback Requirement Waiver

I, Zelmer Campbell, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

Zelmer Campbell — 2-18-16

Landowner Signature — Date

Jason Henson — 2-18-16

C & H Hog Farms, Inc. Representative — Date

Setback Requirement Waiver

I, Darlene Kent, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

Darlene Kent — 2/18/16

Landowner Signature — Date

Jason Henson — 2-18-16

C & H Hog Farms, Inc. Representative — Date

Setback Requirement Waiver

I, James C. Campbell, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater next to my property line.

James C. Campbell
Landowner Signature

7-21-14
Date

Jason Henson
C & H Hog Farms, Inc. Representative

7-21-14
Date

012261

Field 14

Setback Requirement Waiver

I, Bob Freeman, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

Bob Freeman
Landowner Signature

3-22-14
Date

Jason Henson
C & H Hog Farms, Inc. Representative

3-22-14
Date

Setback Requirement Waiver

I, Jason Baethke, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

Landowner Signature — Date: 5-4-15

Jason Henson — Date: 5-4-15

C & H Hog Farms, Inc. Representative

Setback Requirement Waiver

I, Don T. Rockwell, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

Landowner Signature

3-26-14
Date

Jason Henson
C & H Hog Farms, Inc. Representative

3-26-14
Date

Setback Requirement Waiver

I, Brad Anderson, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater next to my property line.

Brad Anderson
Landowner Signature

1-24-15
Date

Richard Tenpenny
C & H Hog Farms, Inc. Representative

1-24-15
Date

Setback Requirement Waiver

I, J.C. Freeman, do hereby give consent to C & H Hog Farms, Inc. to apply wastewater and manure adjacent to my property line and neighboring occupied buildings. I understand this allows C & H Hog Farms to apply wastewater and manure within 50 feet of my property line and within 500 feet of neighboring occupied buildings.

J.C. Freeman — 2-18-16

Landowner Signature — Date

Jason Henson — 2-18-16

C & H Hog Farms, Inc. Representative — Date

Section 4

Collected Information:

County Road Map Overview

Aerial Overview Map of Land Application Sites

Aerial Maps of Individual Fields with BMP Buffers

Soils Maps

Topographical Map

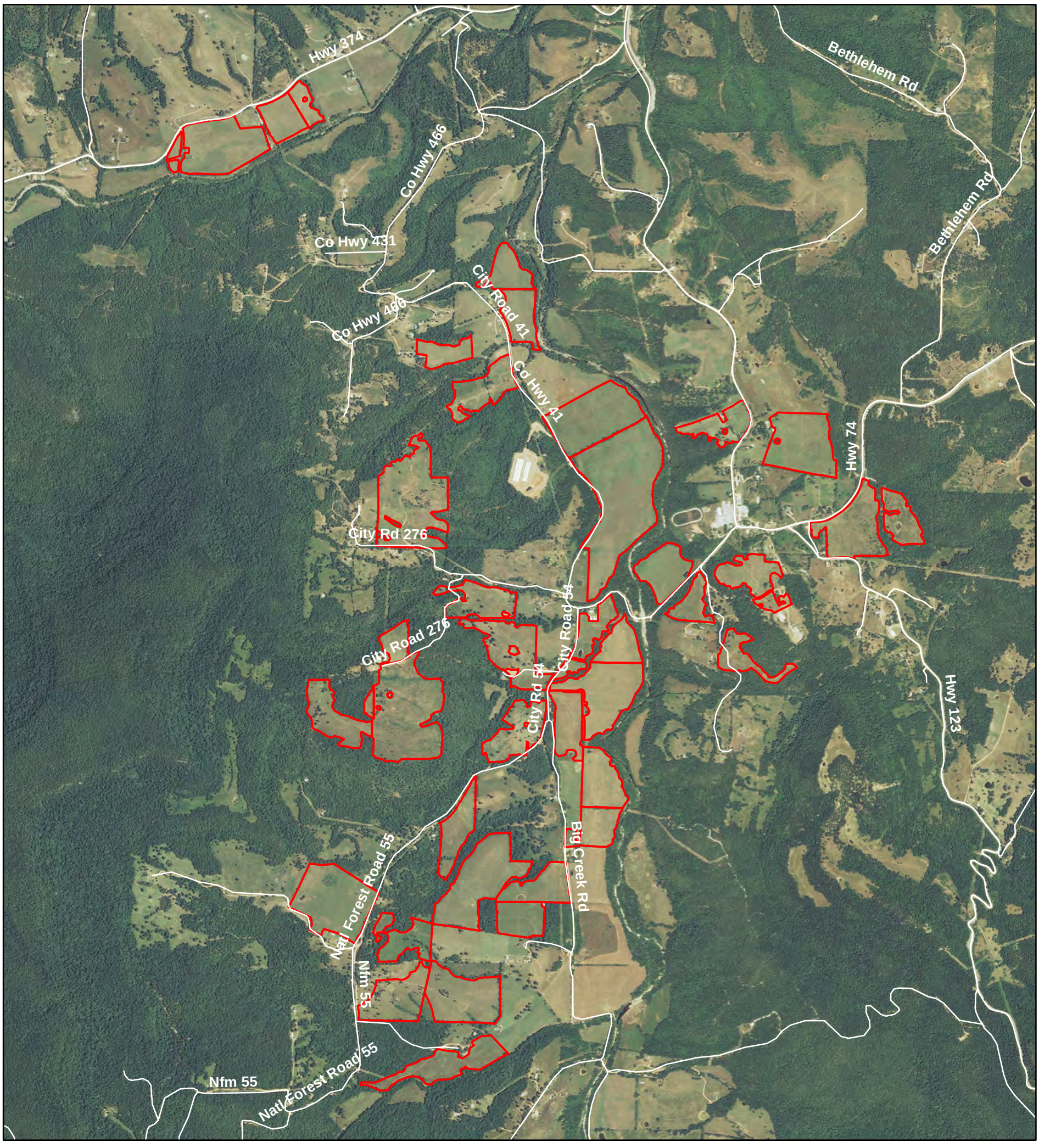
Section, Township, Range Overview Map

Watershed Overview Map (12 digit HUC)

Soil Test Results

Manure Analysis

County Road Map Overview



Legend

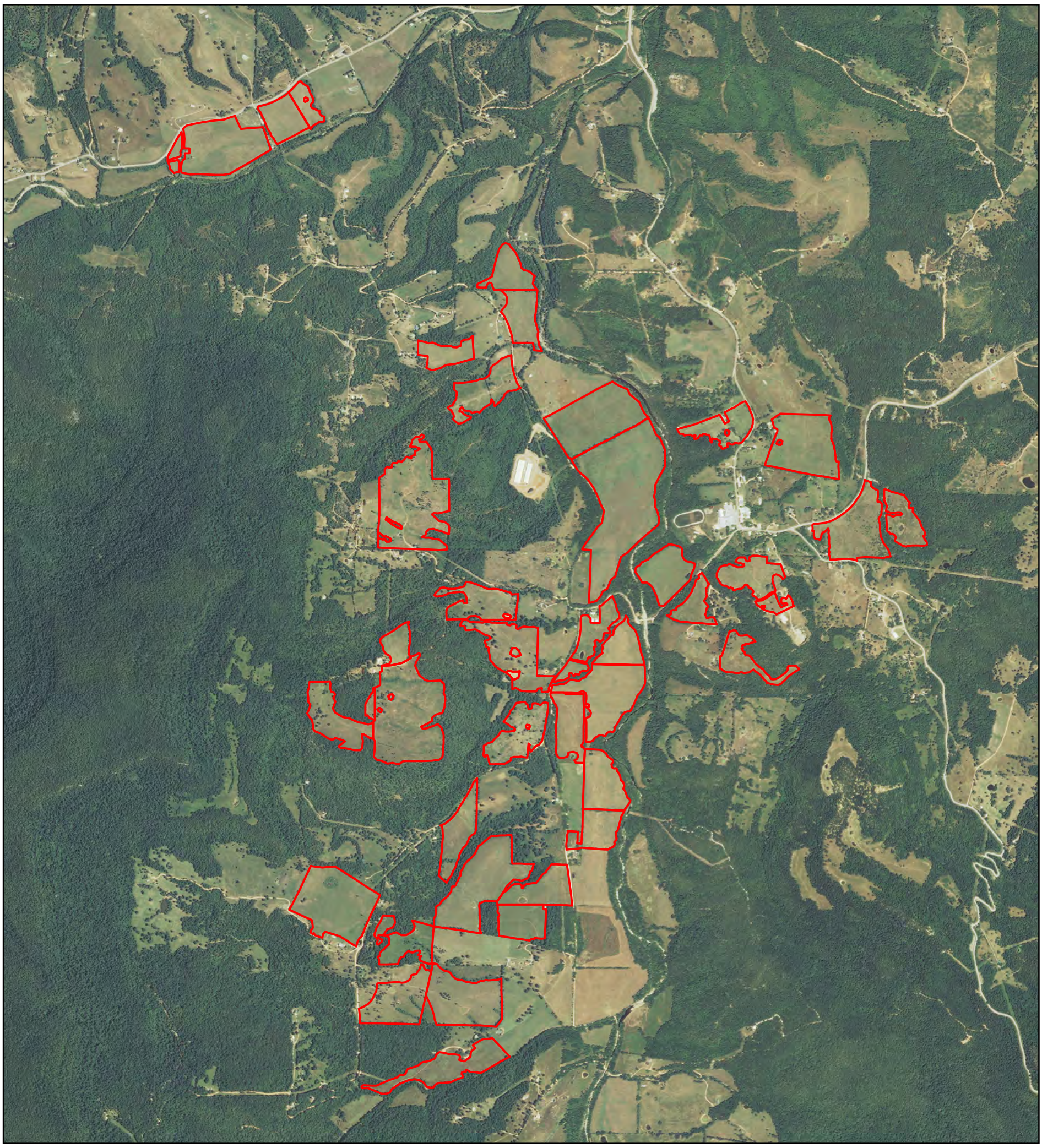
road_tanw_l_ar101

Correct Field Boundaries

1,800 0 1,800 3,600 5,400 7,200 Feet

N

Correct Field Boundaries



Legend

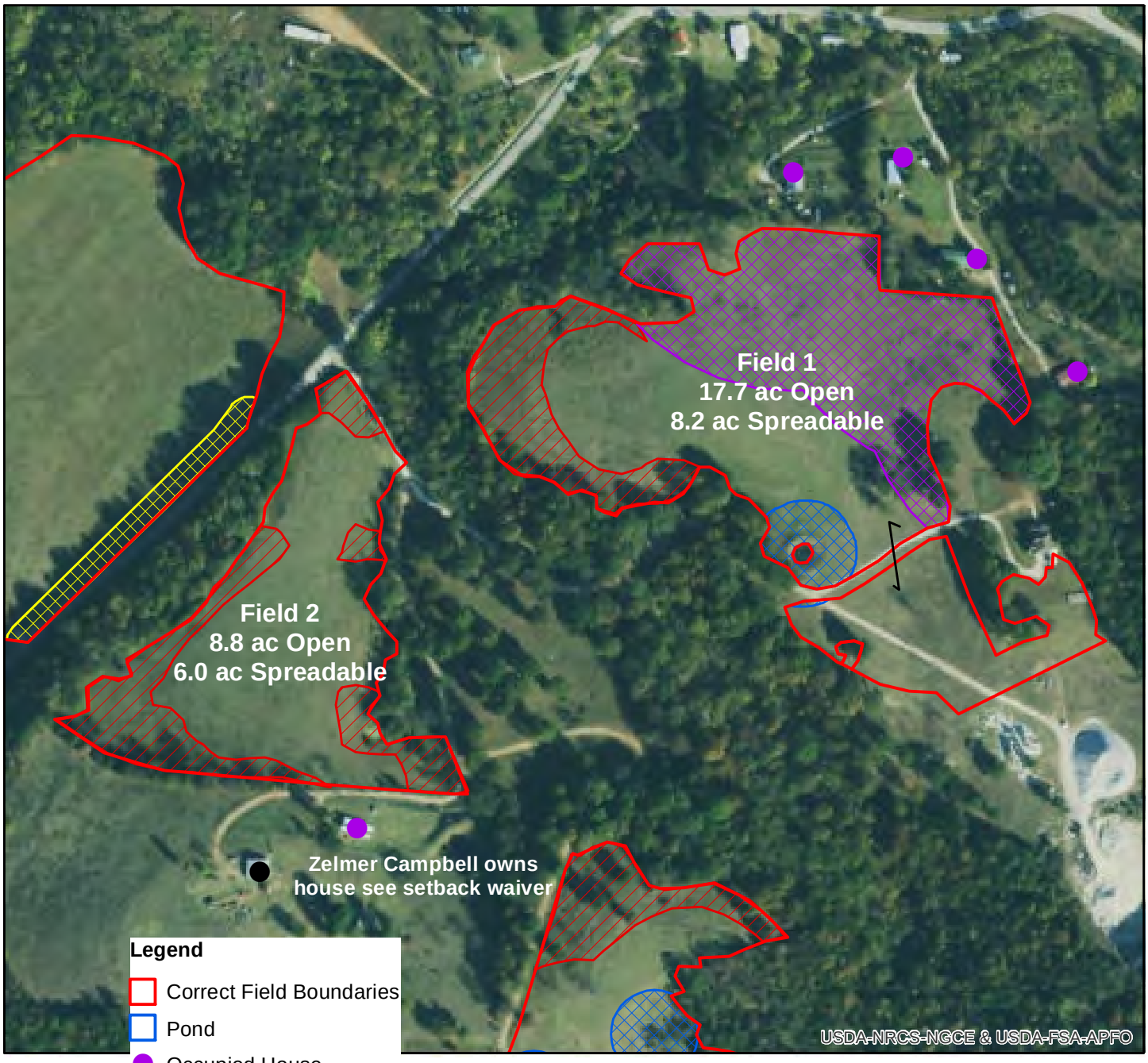
Correct Field Boundaries

1,800 0 1,800 3,600 5,400 7,200

Feet

N

Buffered Field Map
Field 1 and 2
Jason Henson
T15N, R20W, S25
Mt. Judea Quad



Legend

- Correct Field Boundaries
- Pond
- Occupied House
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

200 0 200 400 600 800 Feet

N

Buffered Field Map
Field 4
Jason Henson
T15N, R20W, S36
Mt. Judea Quad

Legend

- Correct Field Boundaries
- Pond
- Occupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer

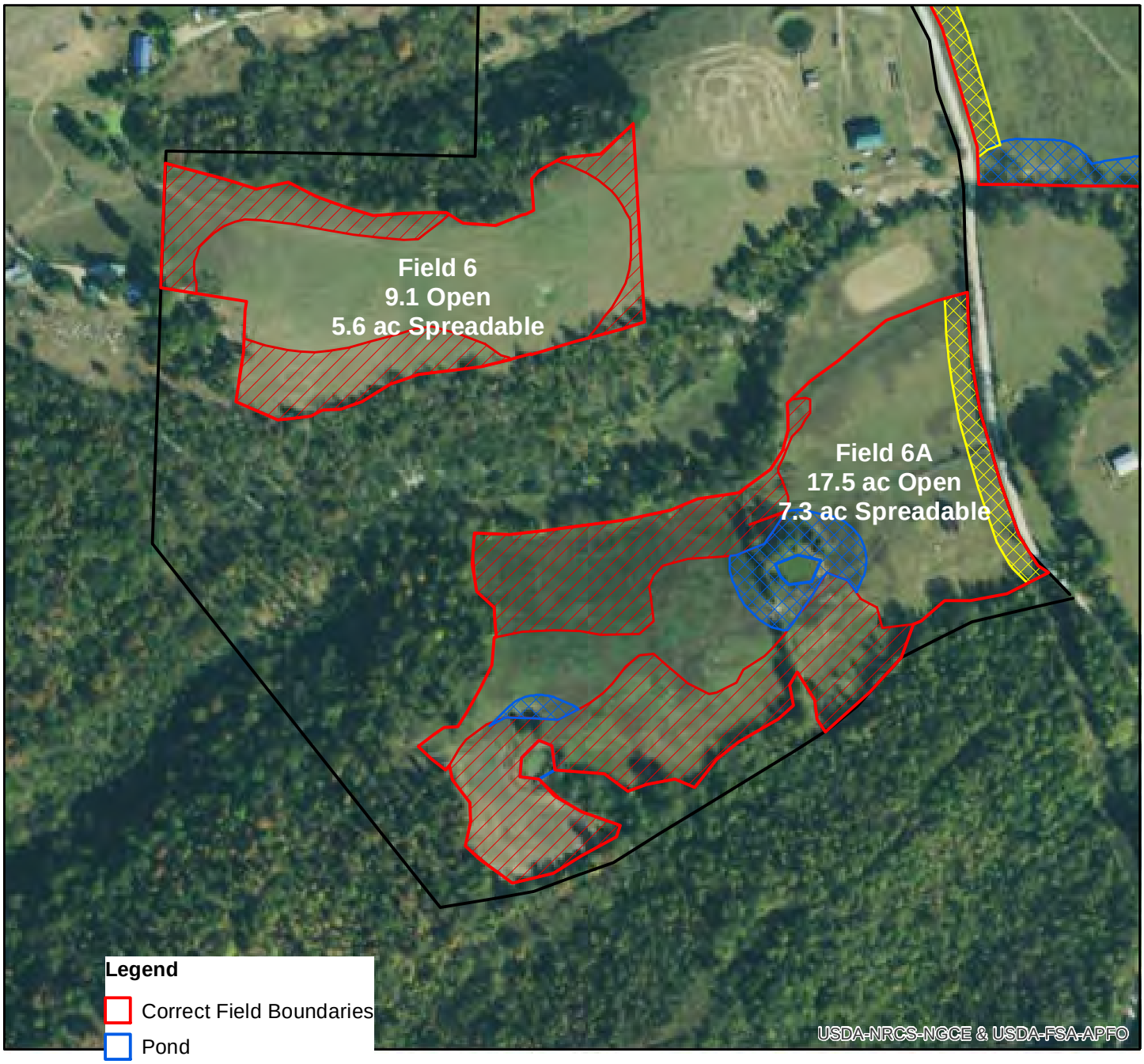
140 0 140 280 420 560 Feet

5

N

Buffered Field Map
Field 5
Louetta/Glen Ricketts
T15N, R20W, S23
Mt. Judea Quad

Buffered Field Map
Field 6 Louetta/Glen Ricketts
Field 6A Shawn Ricketts
T15N, R20W, S26
Mt. Judea Quad



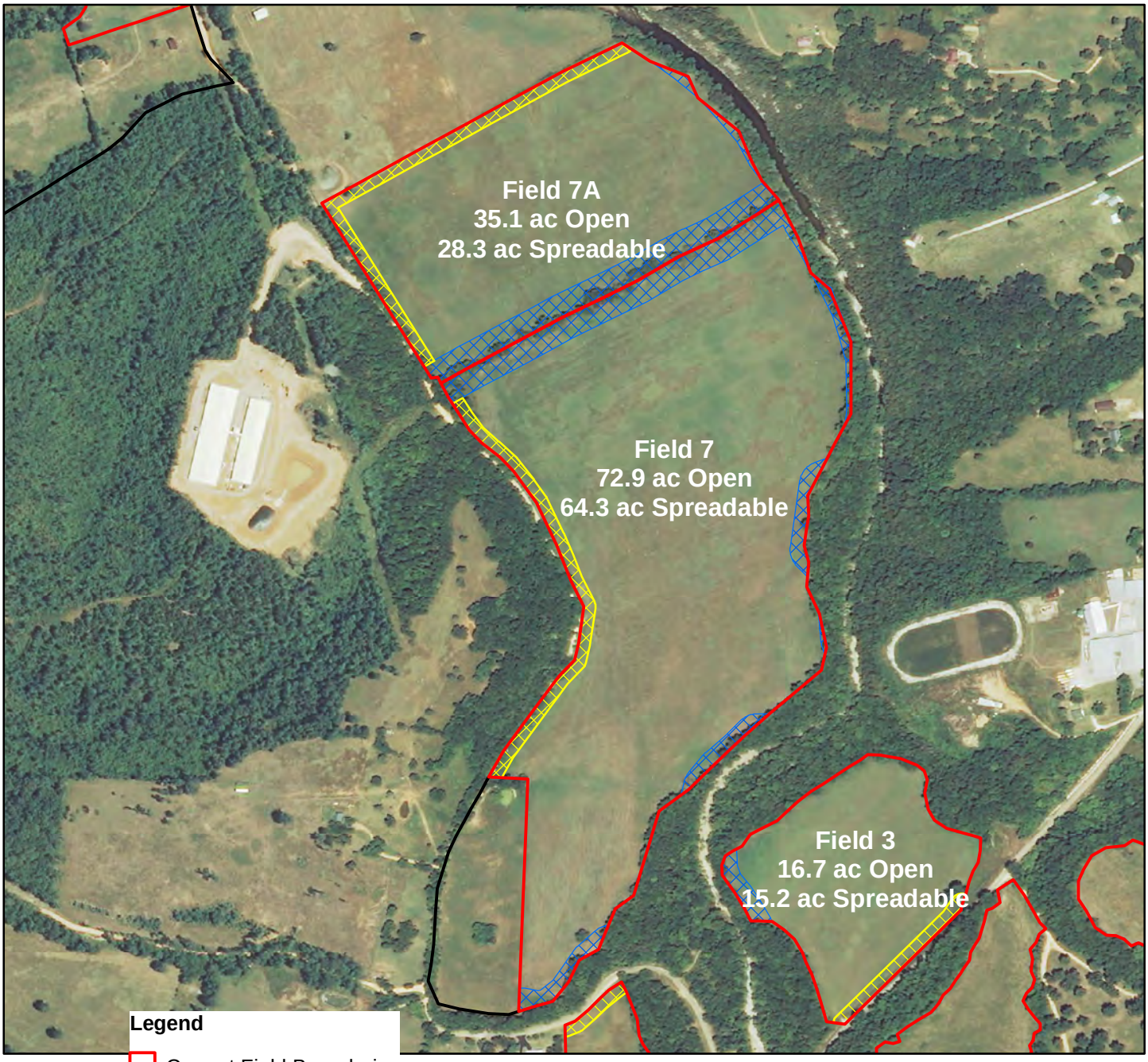
Legend

- Correct Field Boundaries
- Pond
- Unoccupied House
- Property Line
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

190 0 190 380 570 760 Feet

N

Buffered Field Map
Fields 7 and 7A
E. G. Campbell
Field 3 Charles Campbell
T15N, R20W, S25 and 26
Mt. Judea Quad



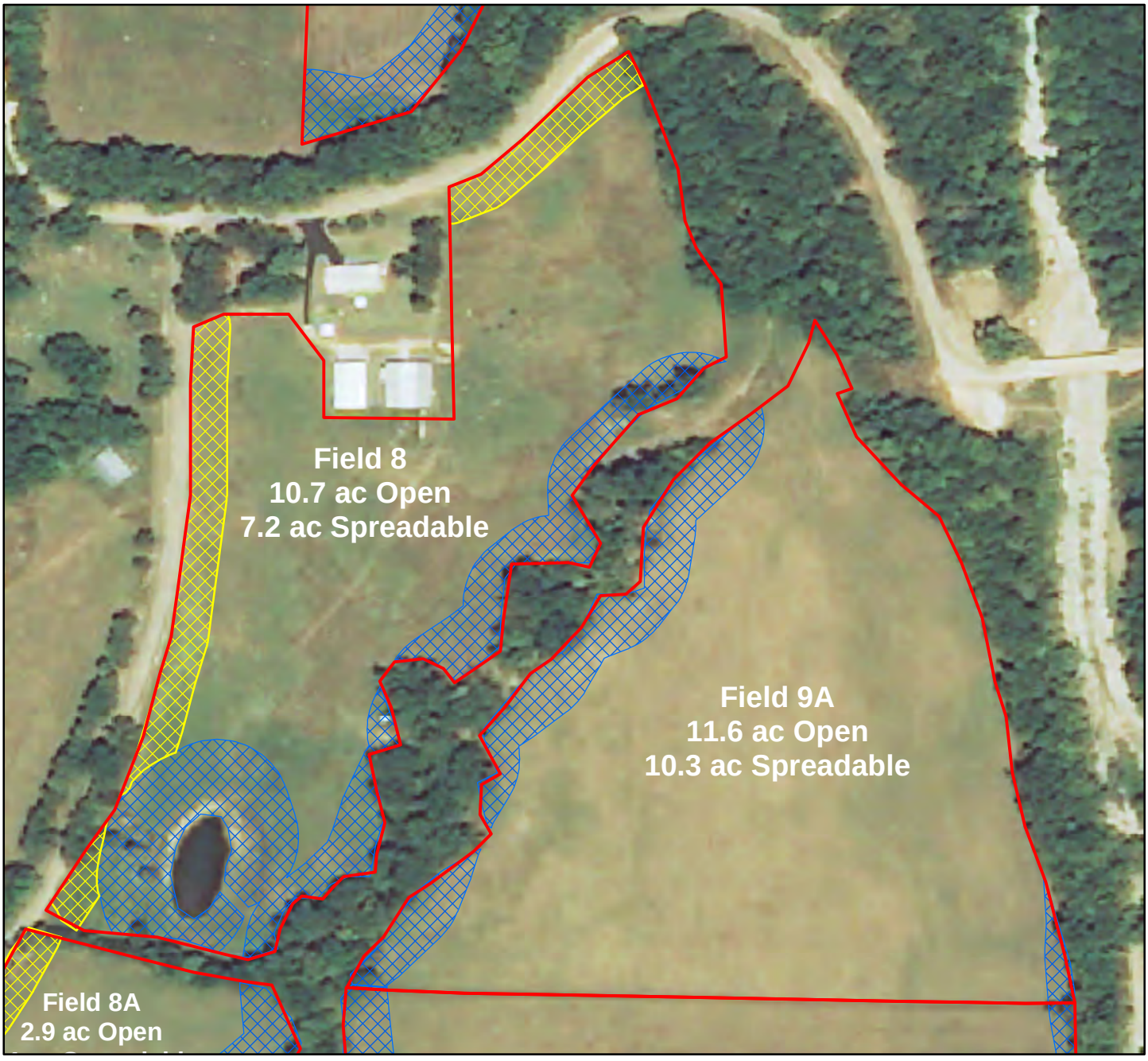
Legend

- Correct Field Boundaries
- Occupied House
- property_line
- Pond
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer

390 0 390 780 1,170 1,560 Feet

N

Buffered Field Map
Charles Campbell
Fields 8 and 9A
T15N, R20W, S26 & S35
Mt. Judea Quad



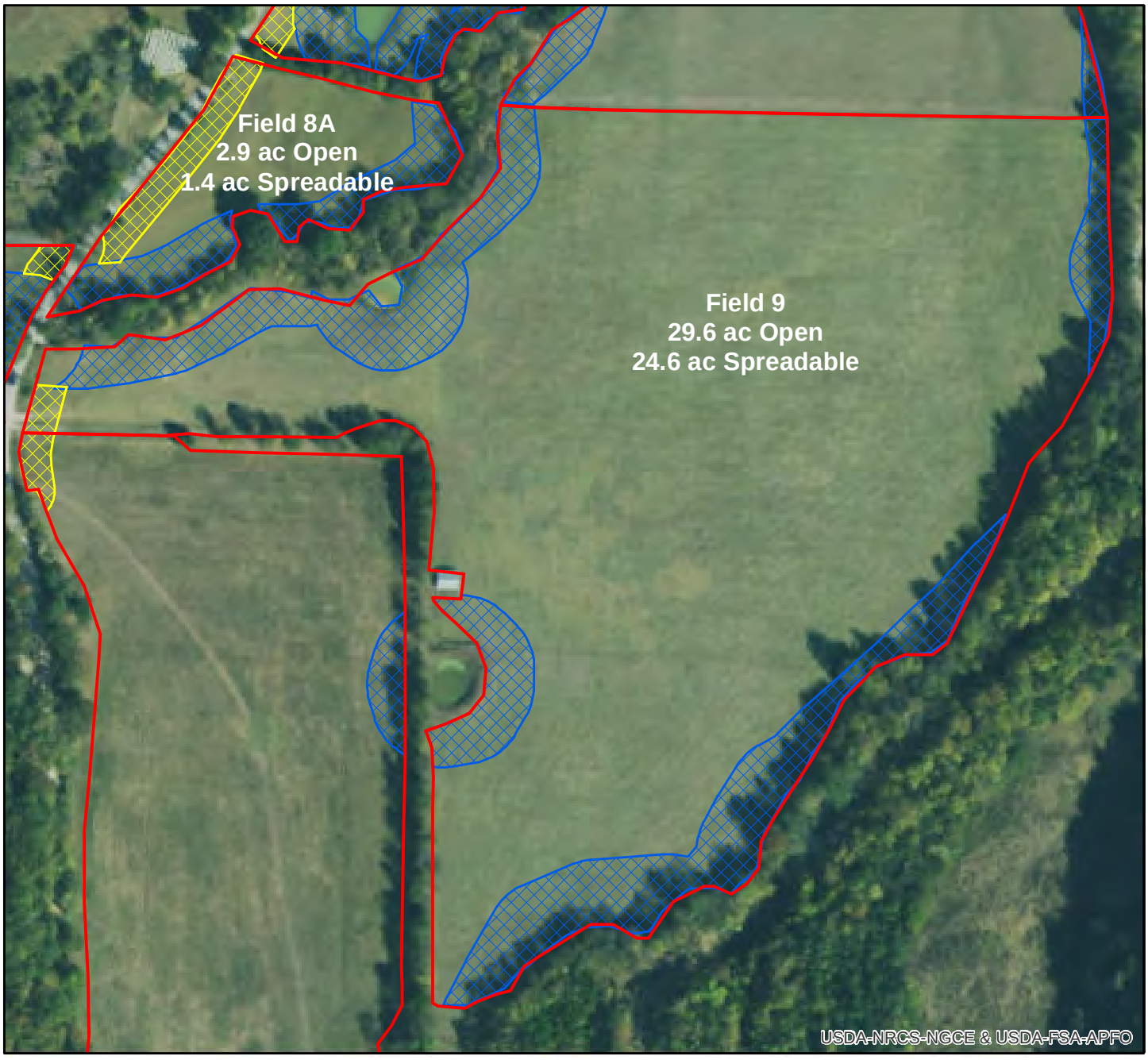
Legend

- Correct Field Boundaries
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope buffer

120 0 120 240 360 480 Feet

N

Buffered Field Map
Charles Campbell
Fields 8A and 9
T15N, R20W, S35
Mt. Judea Quad



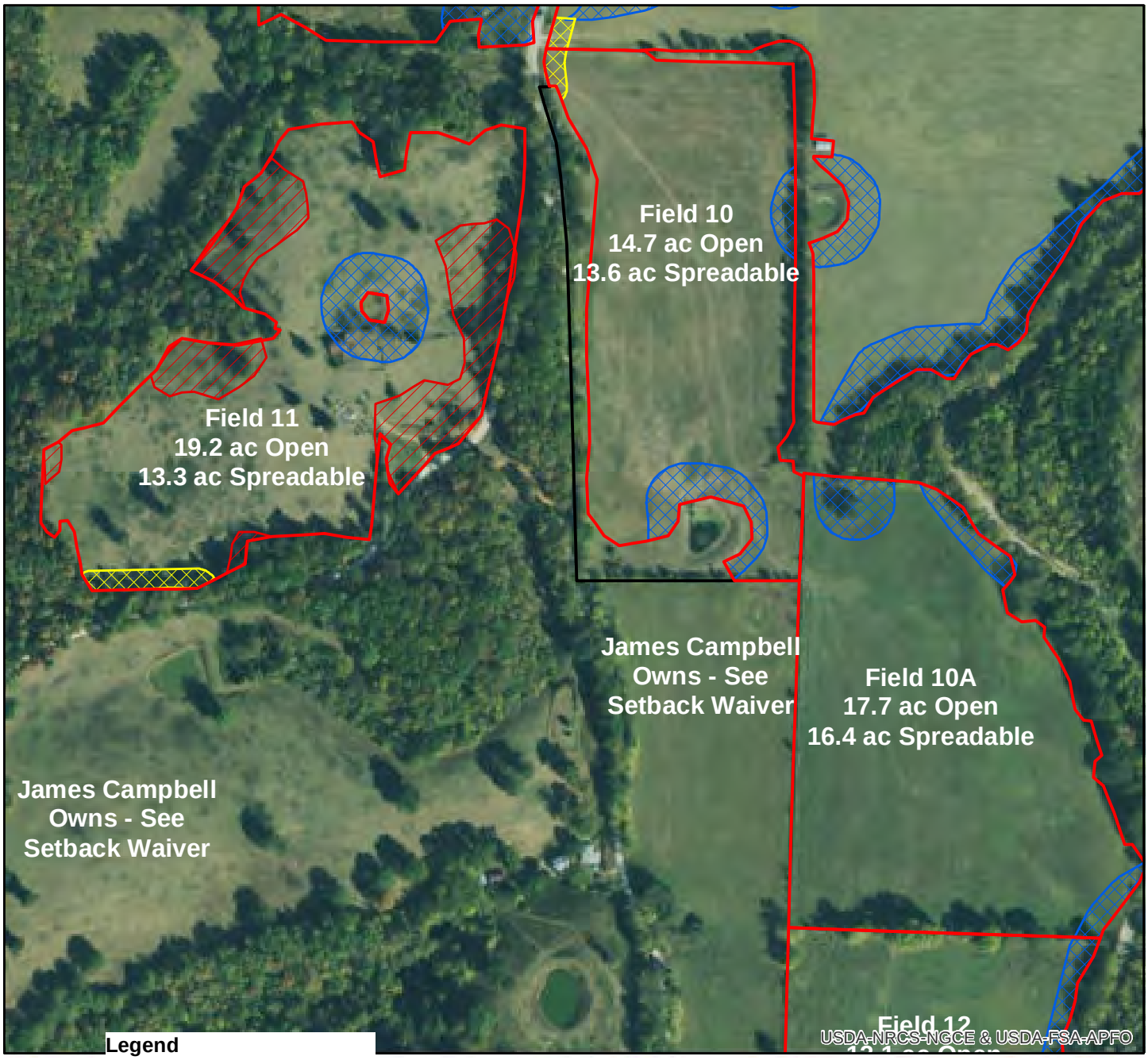
Legend

- Correct Field Boundaries
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

140 0 140 280 420 560 Feet
10

N

Buffered Field Map
Fields 10 and 11 Fayma Dickey
Field 10A Billy F. Cheatham
T15N, R20W, S35
Mt. Judea Quad



Buffered Field Map
Robert Flud
Field 12
T15N, R20W, S35
Mt. Judea Quad

Legend

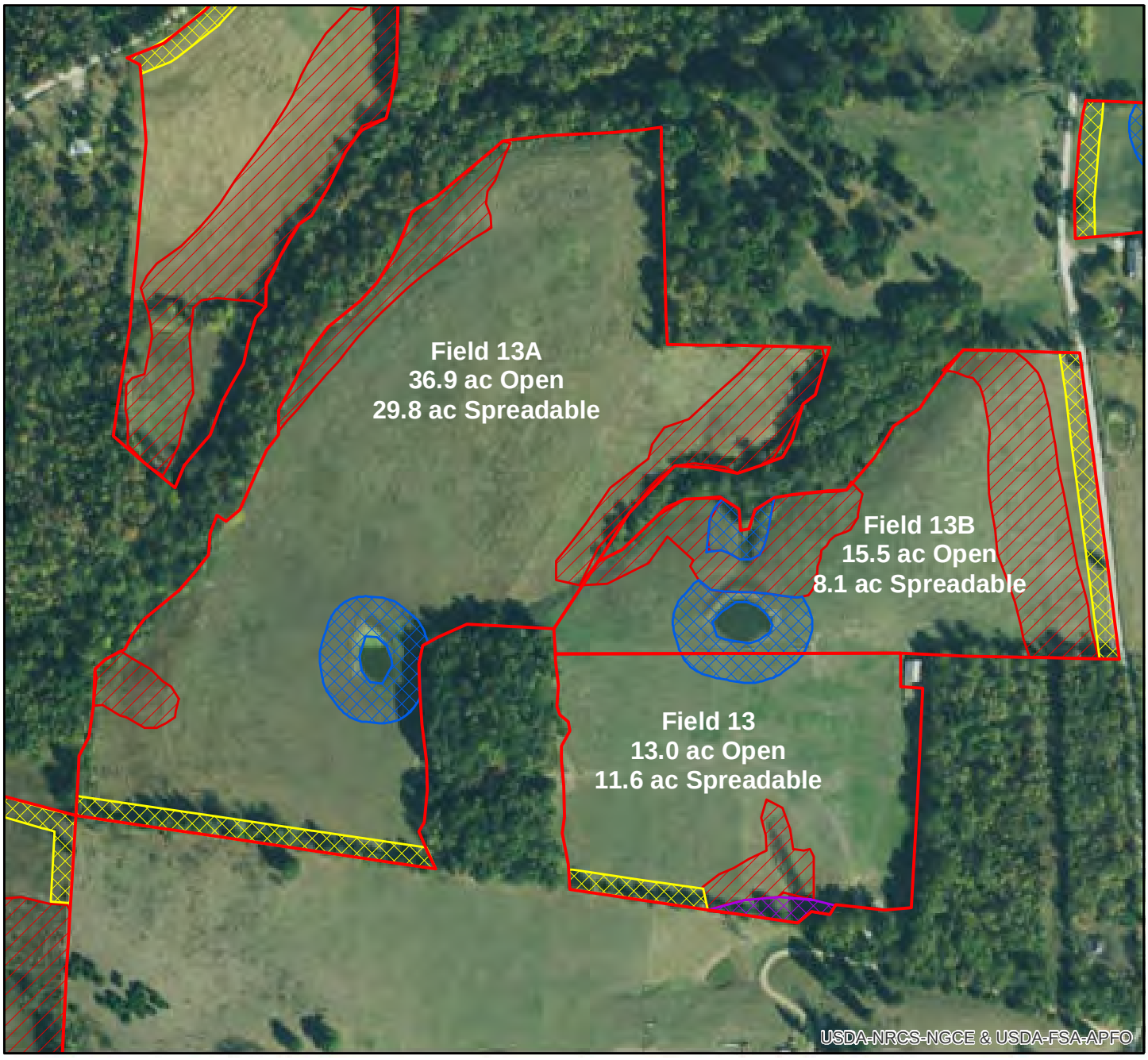
- Correct Field Boundaries
- Pond
- Occupied House
- Property Line
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

120 0 120 240 360 480 Feet

12

N

Buffered Field Map
Fields 13, 13A, 13B
Charles Campbell
T15N, R20W, S35
T14N, R20W, S2
Mt. Judea Quad



Legend

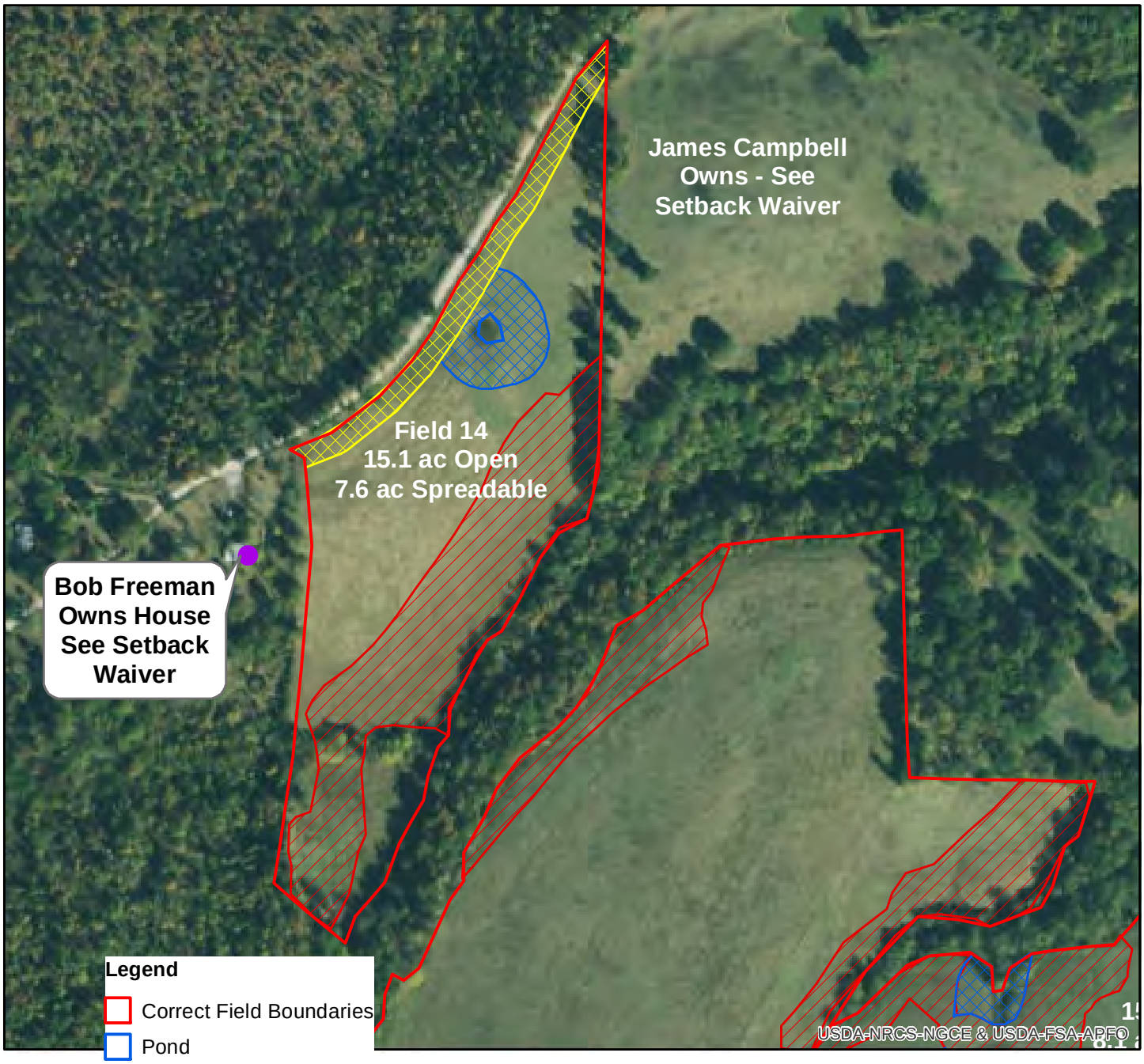
- Correct Field Boundaries
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

220 0 220 440 660 880 Feet

13

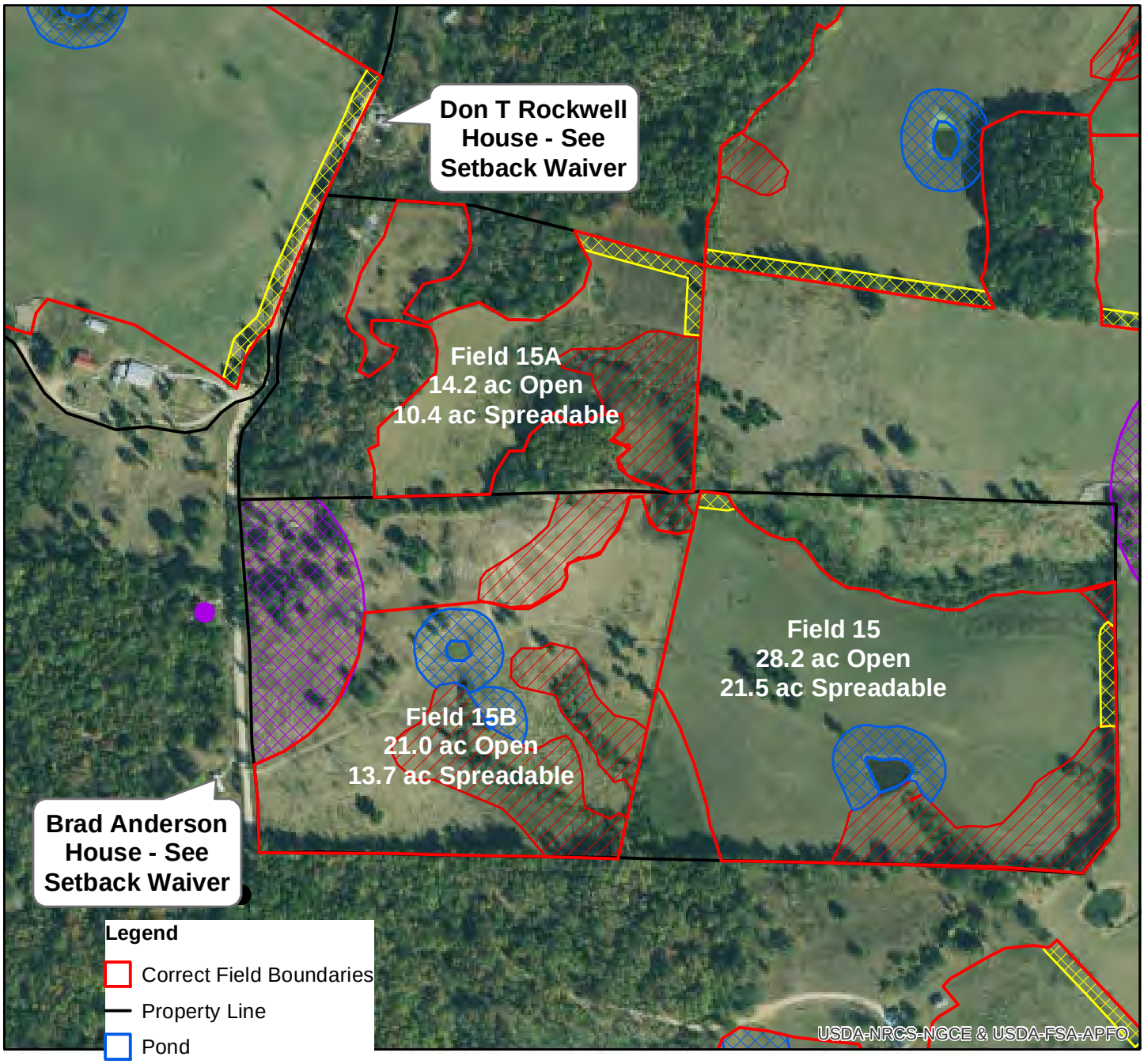
N

Buffered Field Map
Field 14
Charles Campbell
T15N, R20W, S35
Mt. Judea Quad



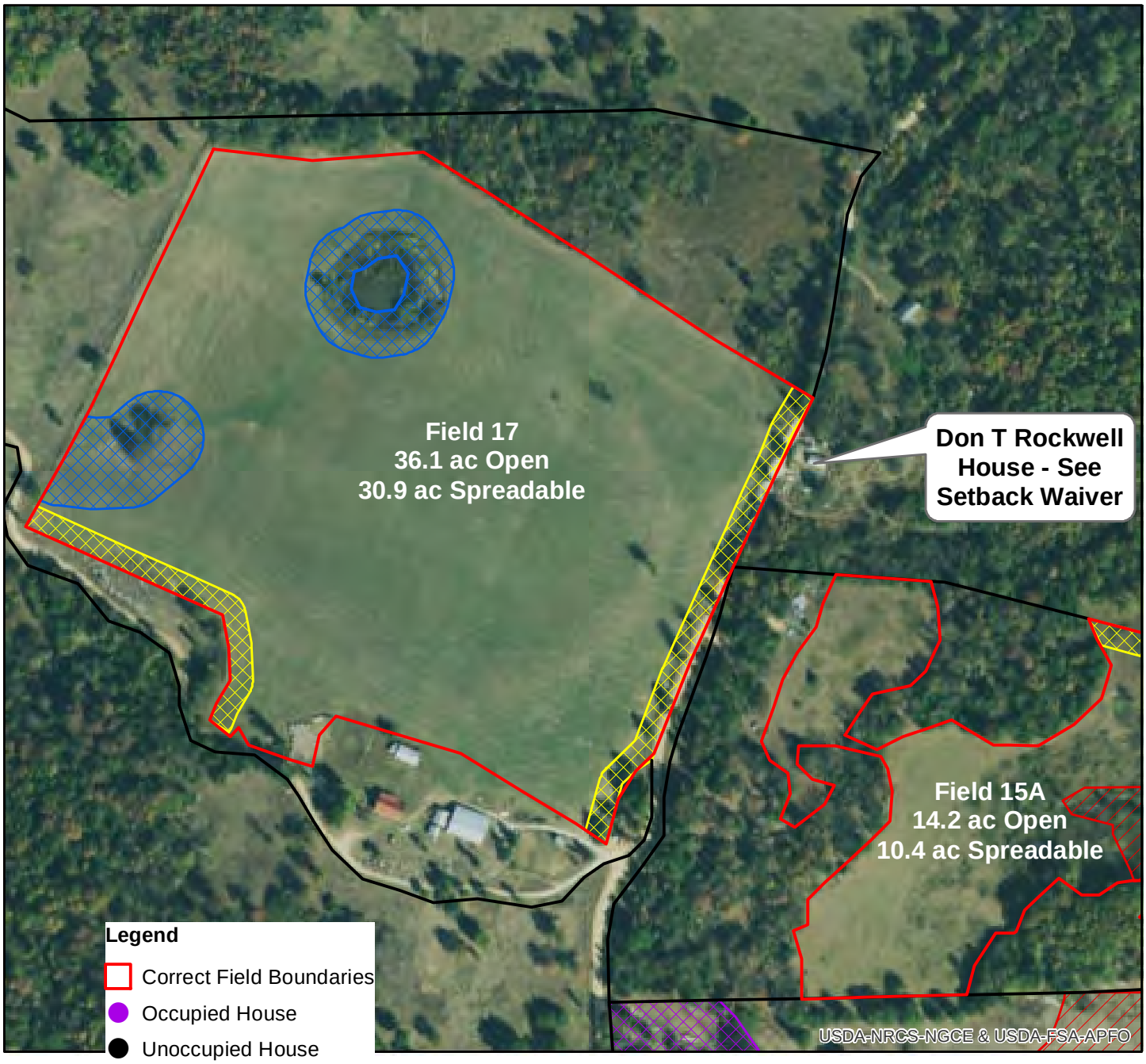
14

Buffered Field Map
Fields 15, 15A, 15B
Clayel Criner
T14N, R20W, S2
Mt. Judea Quad



Buffered Field Map
Field 16
Barbara Hefley
T14N, R20W, S2
Mt. Judea Quad

Buffered Field Map
Field 17
Jason Criner
T15N, R20W, S34 & 35
T14N, R20W, S2 & 3
Mt. Judea Quad



Legend

- Correct Field Boundaries
- Occupied House
- Unoccupied House
- Pond
- Property Line
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

190 0 190 380 570 760 Feet

17

N

Buffered Field Map
Field 18
Murl Bryant
T15N, R20W, S25
Mt. Judea Quad

Buffered Field Map
Field 19
Murl Bryant
T15N, R20W, S25
Mt. Judea Quad

Legend

- Pond
- Correct Field Boundaries
- Occupied House
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

140 0 140 280 420 560 Feet

19

N

Buffered Field Map
Field 20
Rondal Campbell
T15N, R20W, S35
Mt. Judea Quad

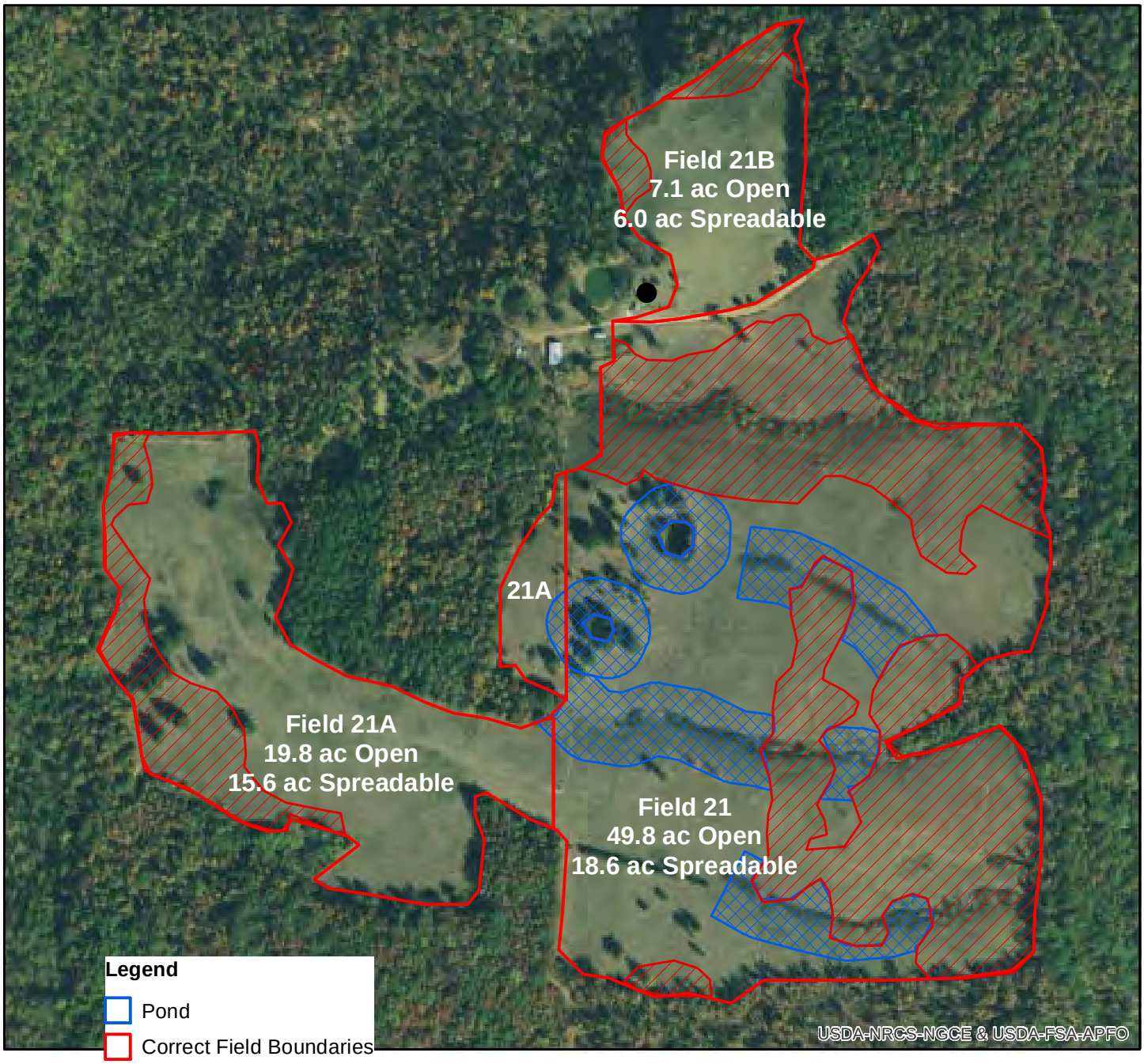
Legend

- Pond
- Correct Field Boundaries
- Occupied House
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

140 0 140 280 420 560 Feet
20

N

Buffered Field Map
Fields 21, 21A, 21B
Rondal Campbell
T15N, R20W, S34 and S35
Mt. Judea Quad



Legend

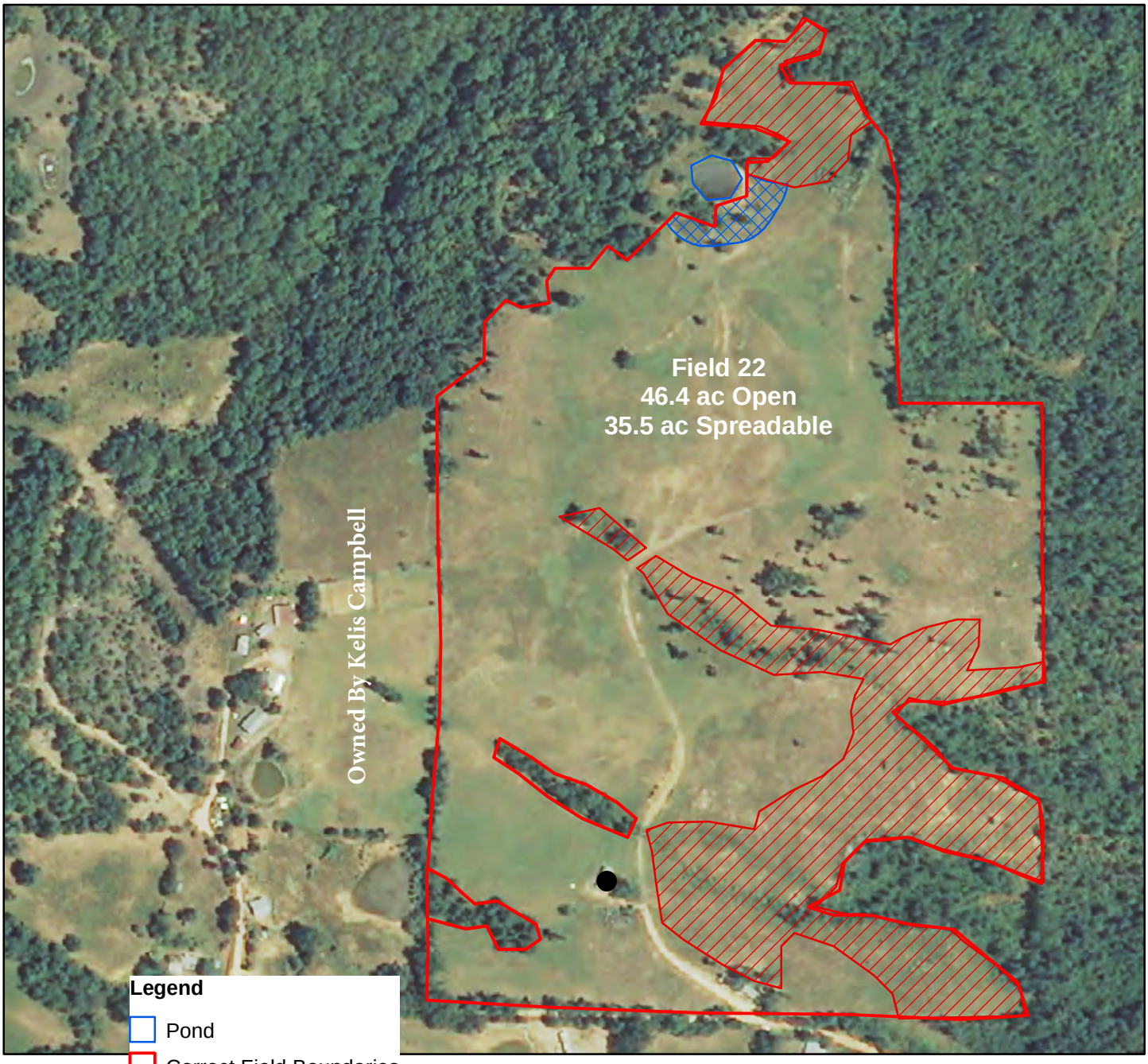
- Pond
- Correct Field Boundaries
- Occupied House
- Unoccupied House
- Steep Slope Buffer
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- NAIP

240 0 240 480 720 960
Feet

21

N

Buffered Field Map
Field 22
Kelis Campbell
T15N, R20W, S26
Mt. Judea Quad



Buffered Field Map
Greg Grice
Field 23
T15N, R20W, S22
Mt. Judea Quad

Buffered Field Map
Field 24
Donald Haddock
T15N, R20W, S23
Mt. Judea Quad

Legend

- Correct Field Boundaries
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer

90 0 90 180 270 360 Feet

24

N

Buffered Field Map
Field 32 & 33
Howard Criner
T15N, R20W, S22
Mt. Judea Quad

Legend

- Pond
- Correct Field Boundaries
- Occupied House
- Unoccupied House
- Steep Slope Buffer
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- NAIP

120 0 120 240 360 480 Feet
25

N

Buffered Field Map
Rondal Campbell
Field 34
T15N, R20W, S26
Mt. Judea Quad

Legend

- Pond
- Correct Field Boundaries
- Occupied House
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

140 0 140 280 420 560 Feet

N

Buffered Field Map
Fields 35 and 36
C & H Hog Farms, Inc.
T15N, R20W, S25
Mt. Judea Quad

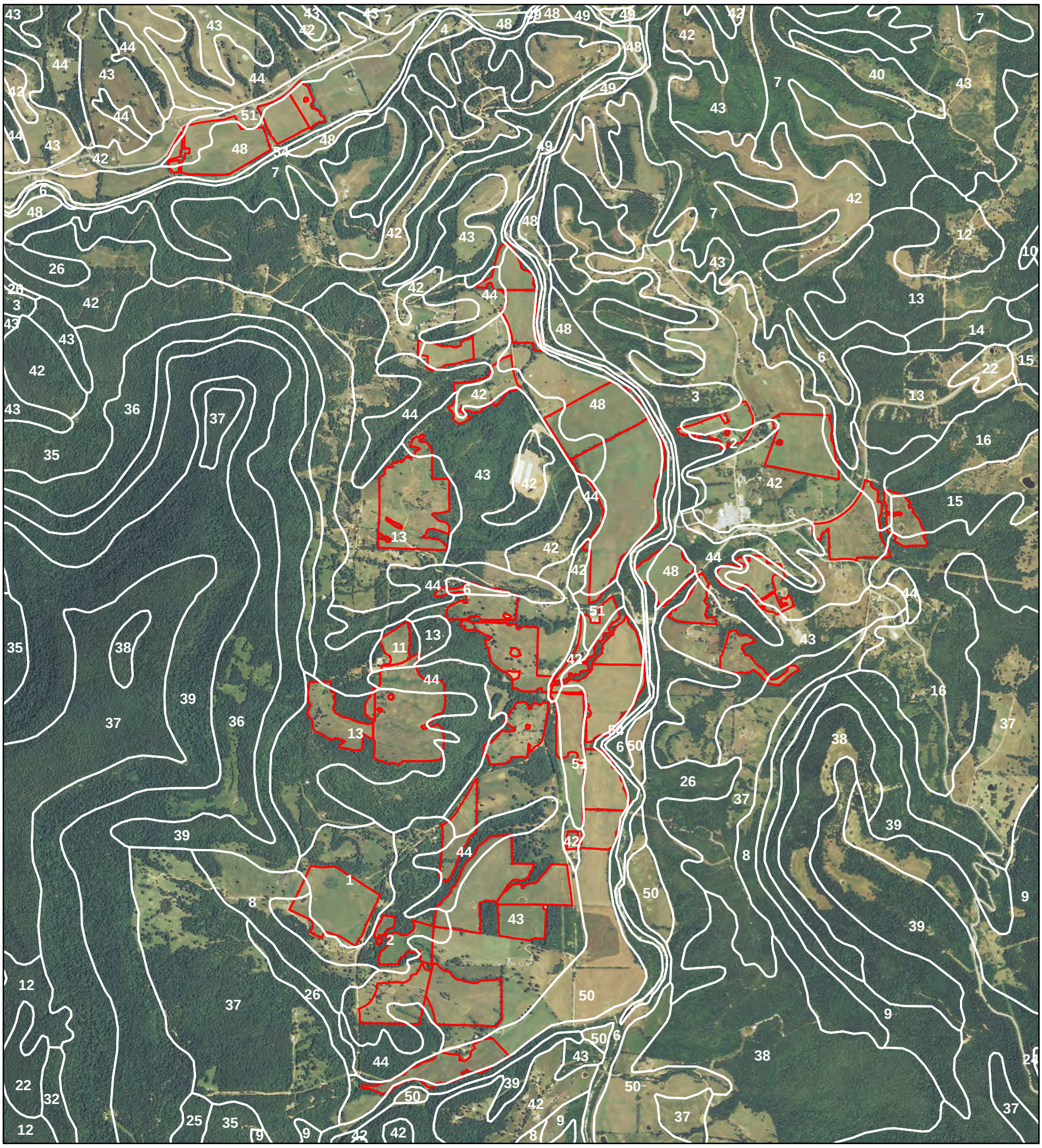
Legend

- Correct Field Boundaries
- Pond
- Occupied House
- Unoccupied House
- 50 Ft Buffer
- 100 Ft Buffer
- 500 Ft Buffer
- Steep Slope Buffer
- NAIP

190 0 190 380 570 760 Feet

N

Soils Map Overview



Legend

Team_1_soils

Correct Field Boundaries

1,800 0 1,800 3,600 5,400 7,200 Feet

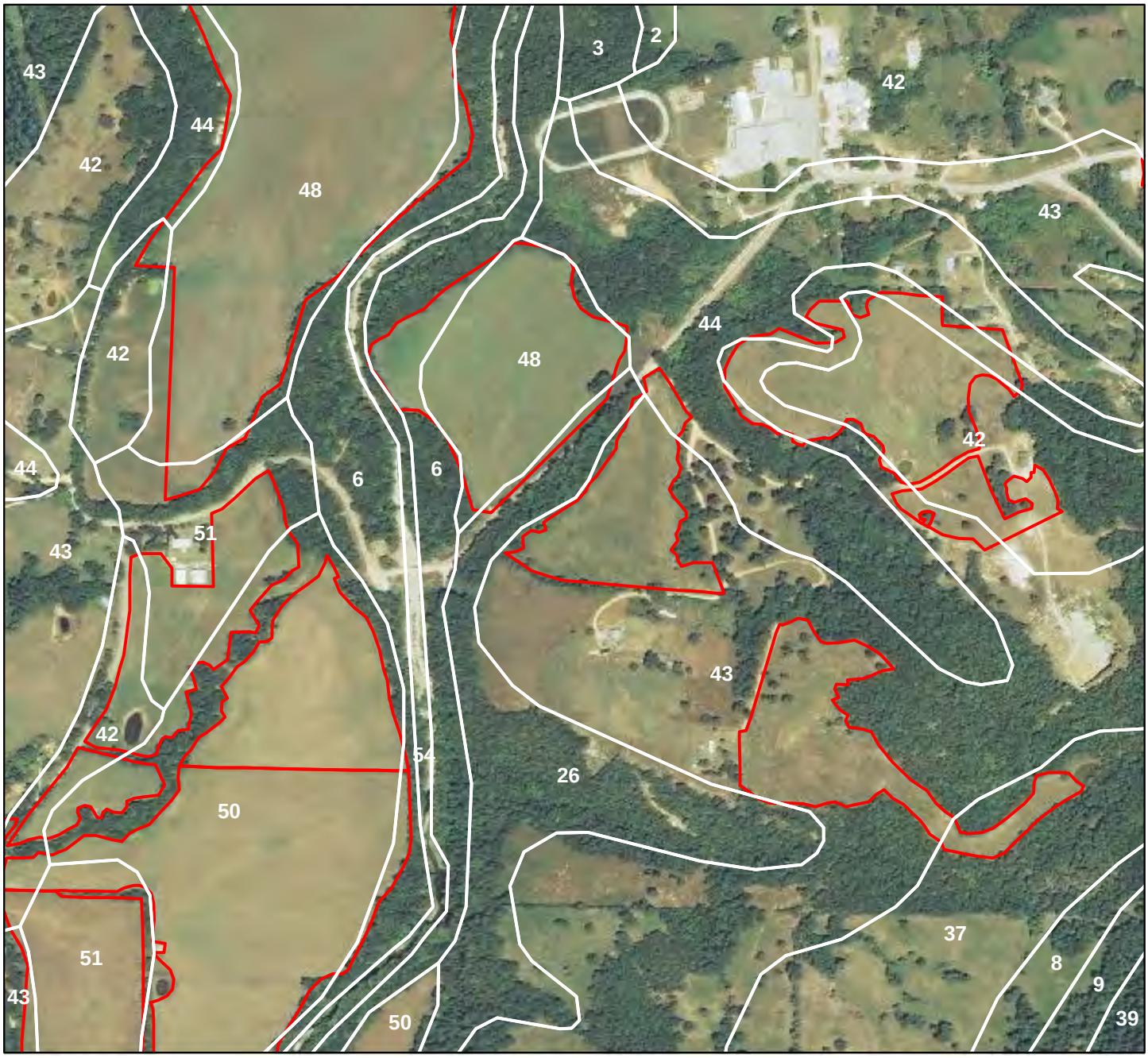
N

SOIL LEGEND

The legend is numeric. Soils without a slope designation in the name are those on level to nearly level landscapes of occasionally or frequently flooded bottomlands. The soil name followed by the superscript 1/ is a mapping unit that was designed primarily for woodland management. Fewer soil examinations were made in these units and included areas are generally larger.

SYMBOL	NAME
1	Arkana very cherty silt loam, 3 to 8 percent slopes
2	Arkana-Moko complex, 8 to 20 percent slopes 1/
3	Arkana-Moko complex, 20 to 40 percent slopes 1/
4	Britwater gravelly silt loam, 3 to 8 percent slopes
5	Ceda cobbly loam, frequently flooded
6	Ceda-Kenn complex, frequently flooded
7	Clarksville very cherty silt loam, 20 to 50 percent slopes
8	Eden-Newnata complex, 8 to 20 percent slopes 1/
9	Eden-Newnata complex, 20 to 40 percent slopes 1/
10	Eden-Newnata-Rock outcrop complex, 40 to 60 percent slopes 1/
11	Enders gravelly loam, 3 to 8 percent slopes
12	Enders gravelly loam, 8 to 20 percent slopes
13	Enders stony loam, 3 to 20 percent slopes
14	Enders stony loam, 20 to 40 percent slopes
15	Enders-Leesburg stony loams, 8 to 20 percent slopes 1/
16	Enders-Leesburg stony loams, 20 to 40 percent slopes 1/
17	Estate-Lily-Portia complex, 8 to 20 percent slopes 1/
18	Estate-Lily-Portia complex, 20 to 40 percent slopes 1/
19	Leadvale silt loam, 3 to 8 percent slopes
20	Lily-Udorthents-Rock outcrop complex, 8 to 20 percent slopes 1/
21	Lily-Udorthents-Rock outcrop complex, 20 to 40 percent slopes 1/
22	Linker loam, 3 to 8 percent slopes
23	Linker gravelly loam, 3 to 8 percent slopes
24	Linker-Mountainburg complex, 3 to 8 percent slopes
25	Linker-Mountainburg complex, 8 to 20 percent slopes
26	Moko-Rock outcrop complex, 15 to 50 percent slopes 1/
27	Mountainburg gravelly fine sandy loam, 3 to 8 percent slopes
28	Mountainburg very stony fine sandy loam, 3 to 8 percent slopes
29	Mountainburg very stony fine sandy loam, 8 to 20 percent slopes
30	Mountainburg very stony fine sandy loam, 20 to 40 percent slopes
31	Nella gravelly loam, 3 to 12 percent slopes
32	Nella gravelly loam, 12 to 20 percent slopes
33	Nella stony loam, 8 to 20 percent slopes
34	Nella stony loam, 20 to 40 percent slopes
35	Nella-Enders stony loams, 8 to 20 percent slopes 1/
36	Nella-Enders stony loams, 20 to 40 percent slopes 1/
37	Nella-Steprock complex, 8 to 20 percent slopes 1/
38	Nella-Steprock-Mountainburg very stony loams, 20 to 40 percent slopes 1/
39	Nella-Steprock-Mountainburg very stony loams, 40 to 60 percent slopes 1/
40	Nixa very cherty silt loam, 3 to 8 percent slopes
41	Nixa very cherty silt loam, 8 to 12 percent slopes
42	Noark very cherty silt loam, 3 to 8 percent slopes
43	Noark very cherty silt loam, 8 to 20 percent slopes
44	Noark very cherty silt loam, 20 to 40 percent slopes
45	Peridge silt loam, 3 to 8 percent slopes
46	Portia sandy loam, 3 to 8 percent slopes
47	Portia sandy loam, 8 to 12 percent slopes
48	Razort loam, occasionally flooded
49	Riverwash, frequently flooded
50	Spadra loam, occasionally flooded
51	Spadra loam, 2 to 5 percent slopes
52	Steprock gravelly loam, 3 to 8 percent slopes
53	Wideman loamy fine sand, frequently flooded

Soils Map



Legend

Team_1_soils

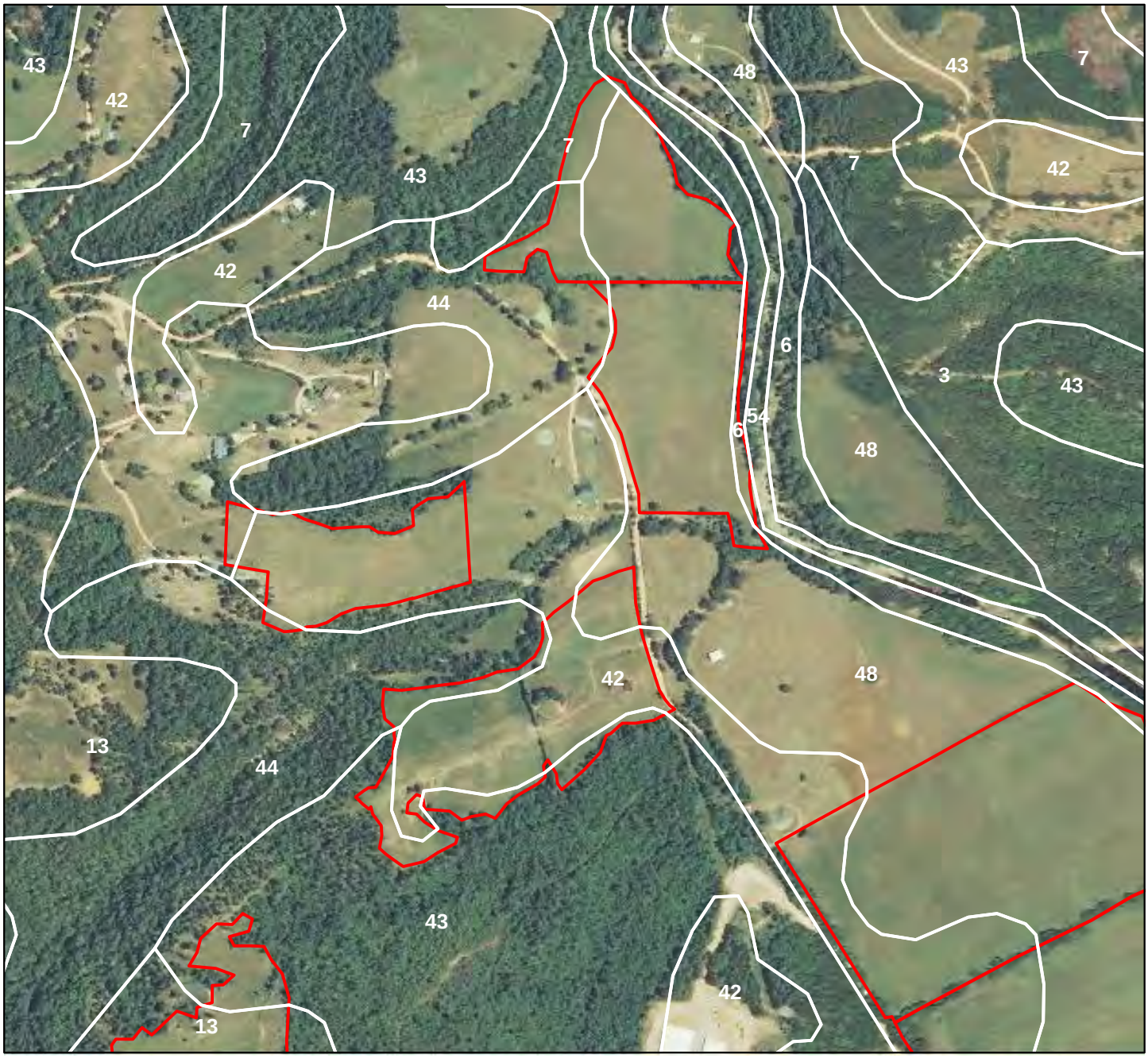
Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

30

N

Soils Map



Legend

Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Soils Map

Legend

Team_1_soils

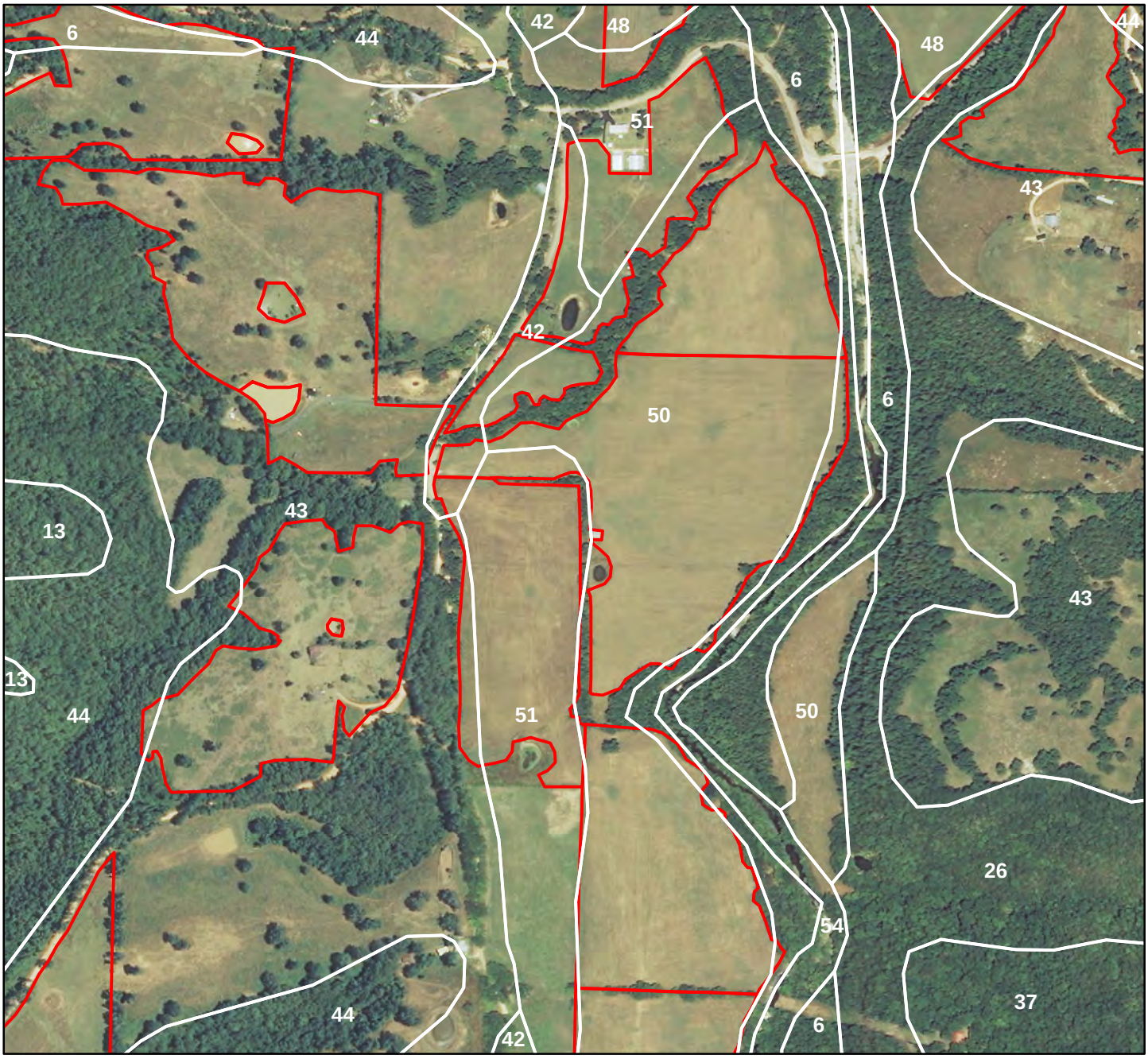
Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

32

N

Soils Map



Legend

Team_1_soils

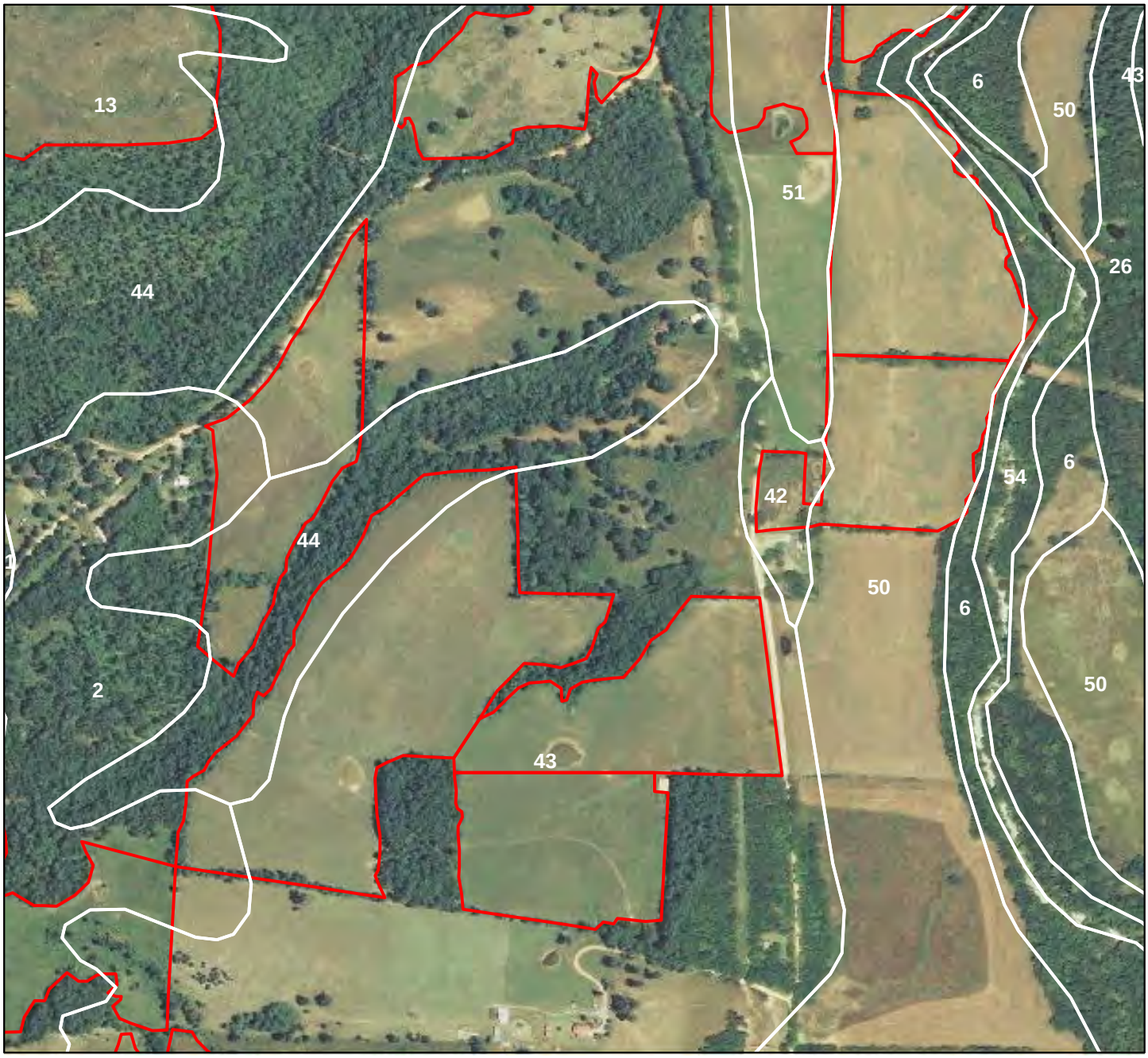
Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

33

N

Soils Map



Legend

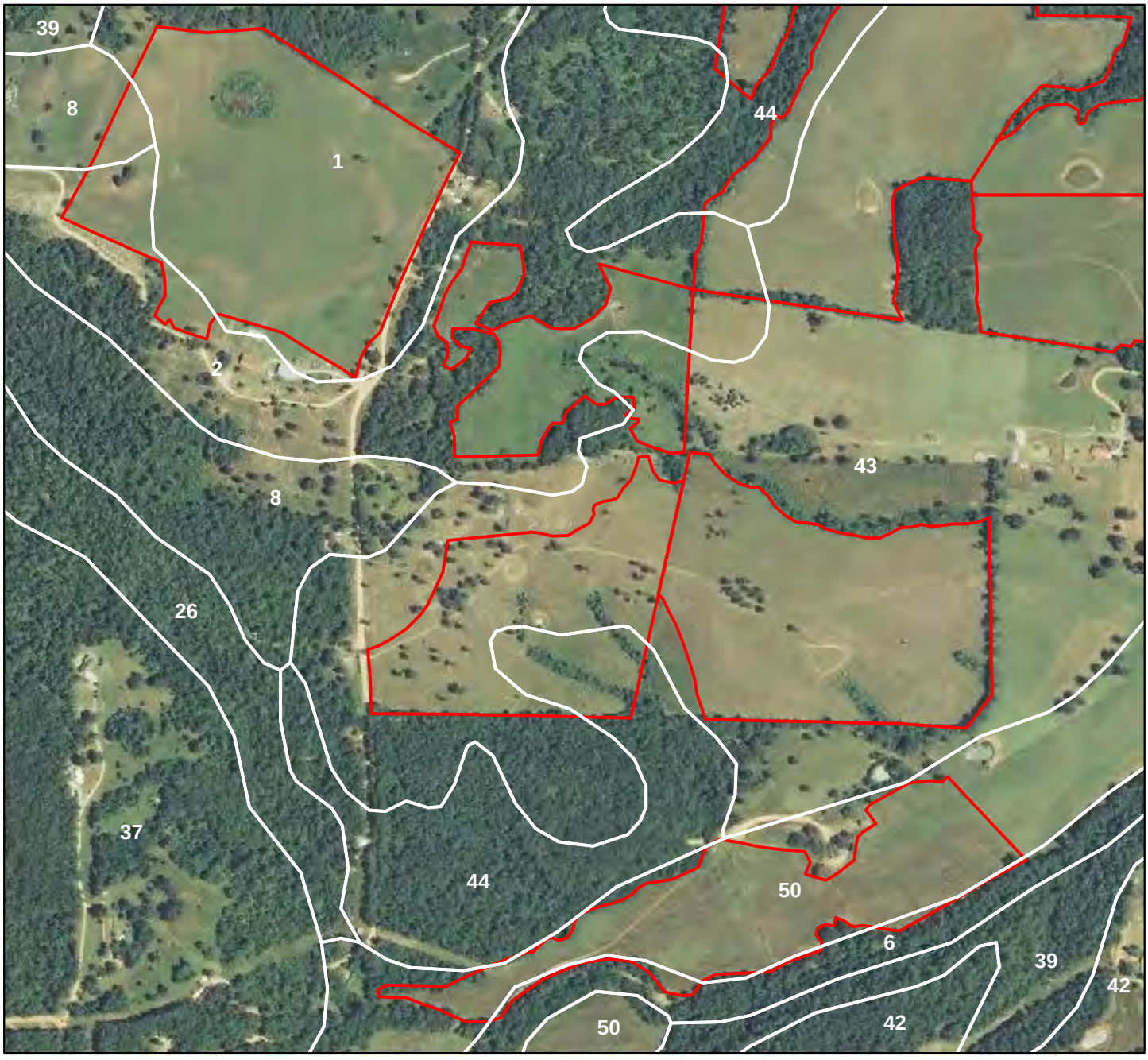
Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Soils Map



Legend

Team_1_soils

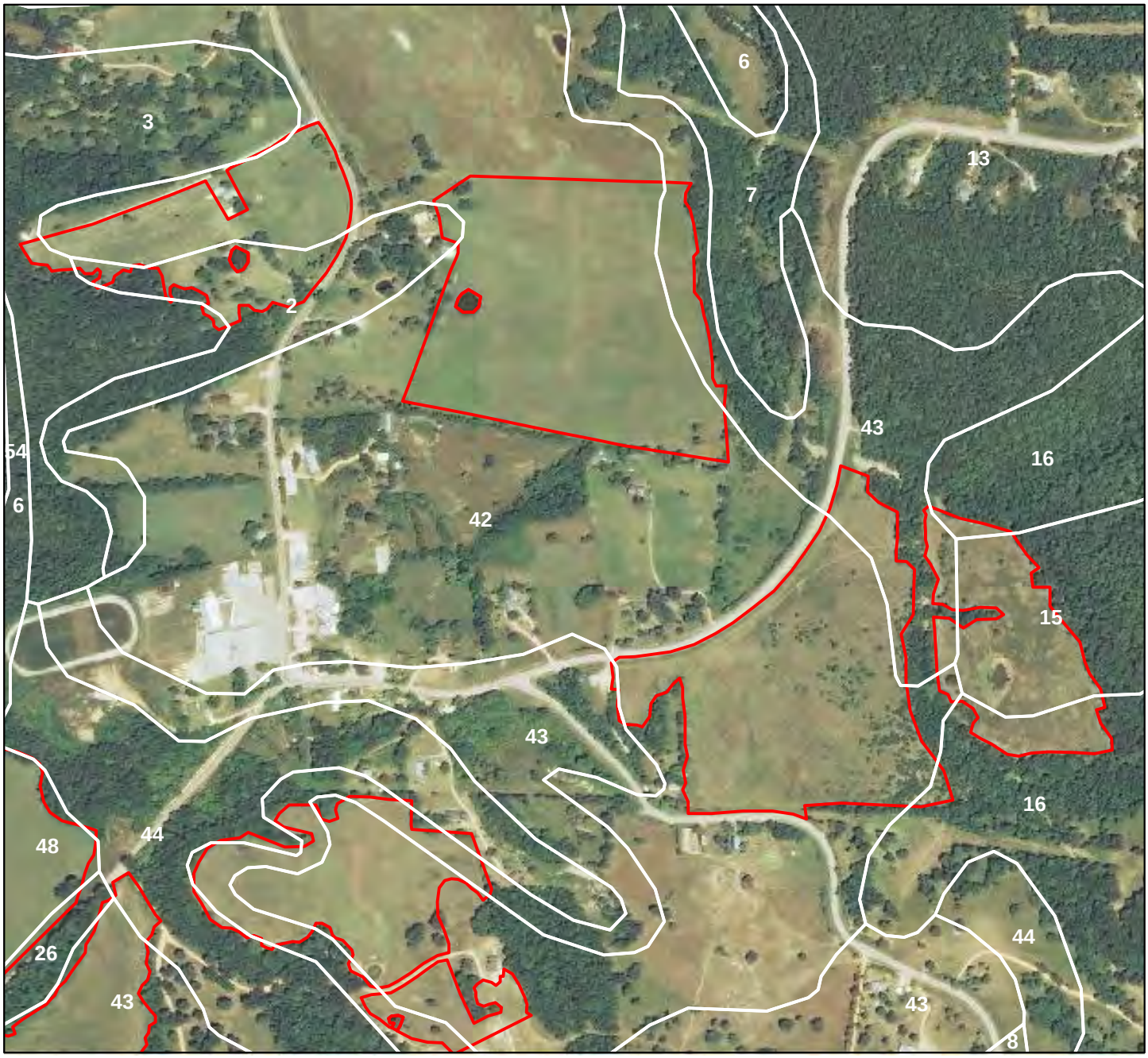
Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

35

N

Soils Map



Legend

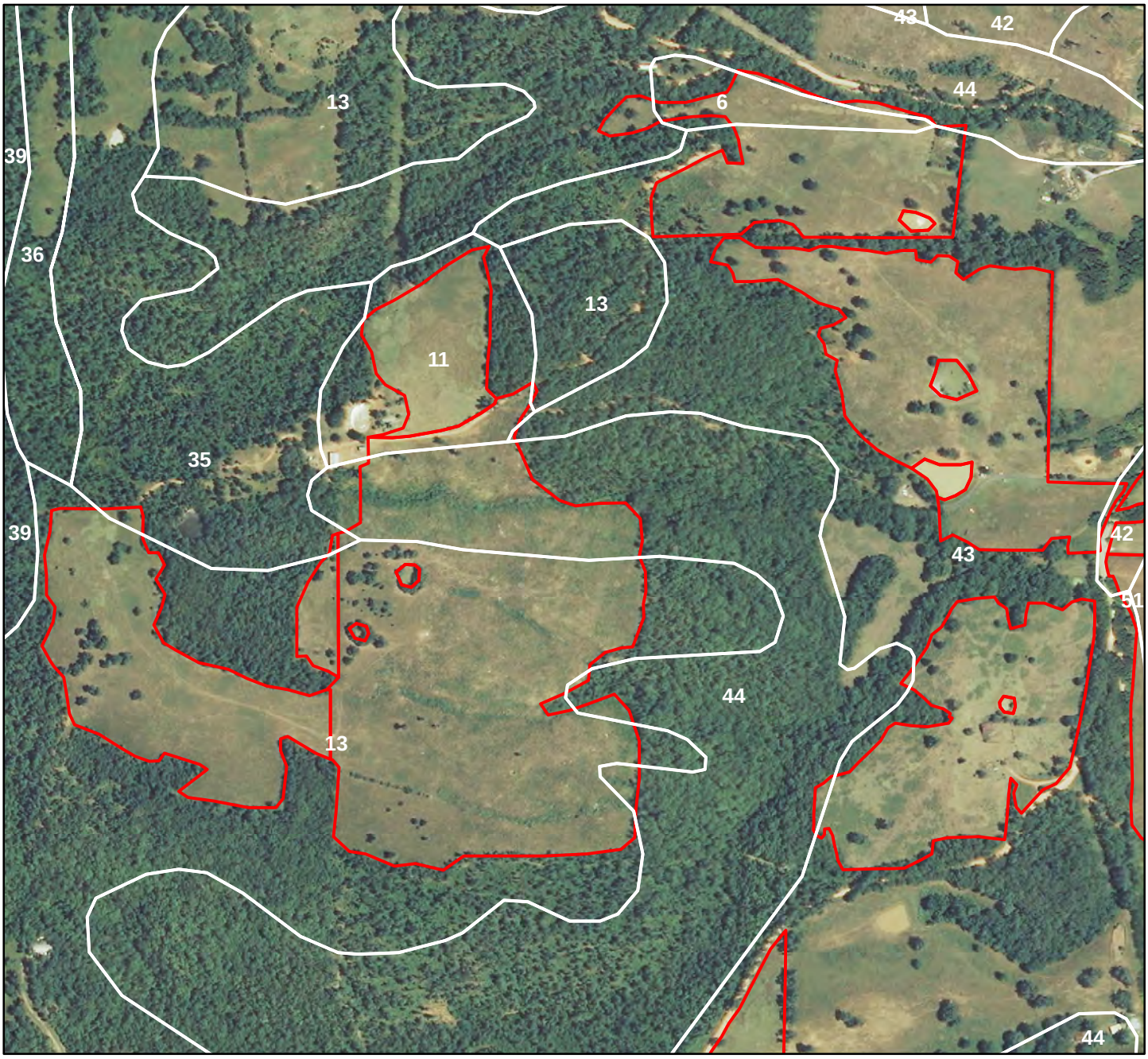
Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Soils Map



Legend

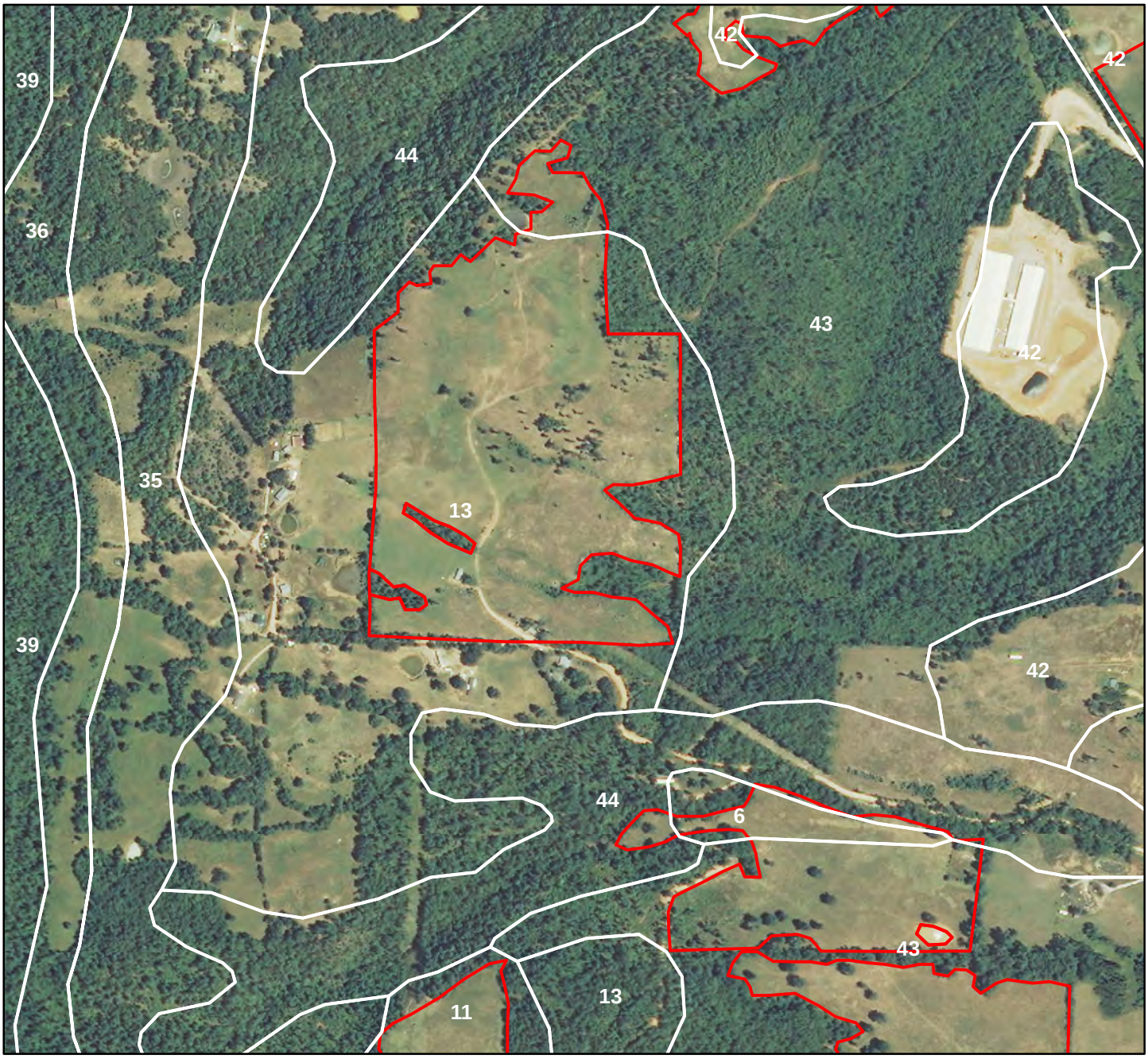
Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Soils Map



Legend

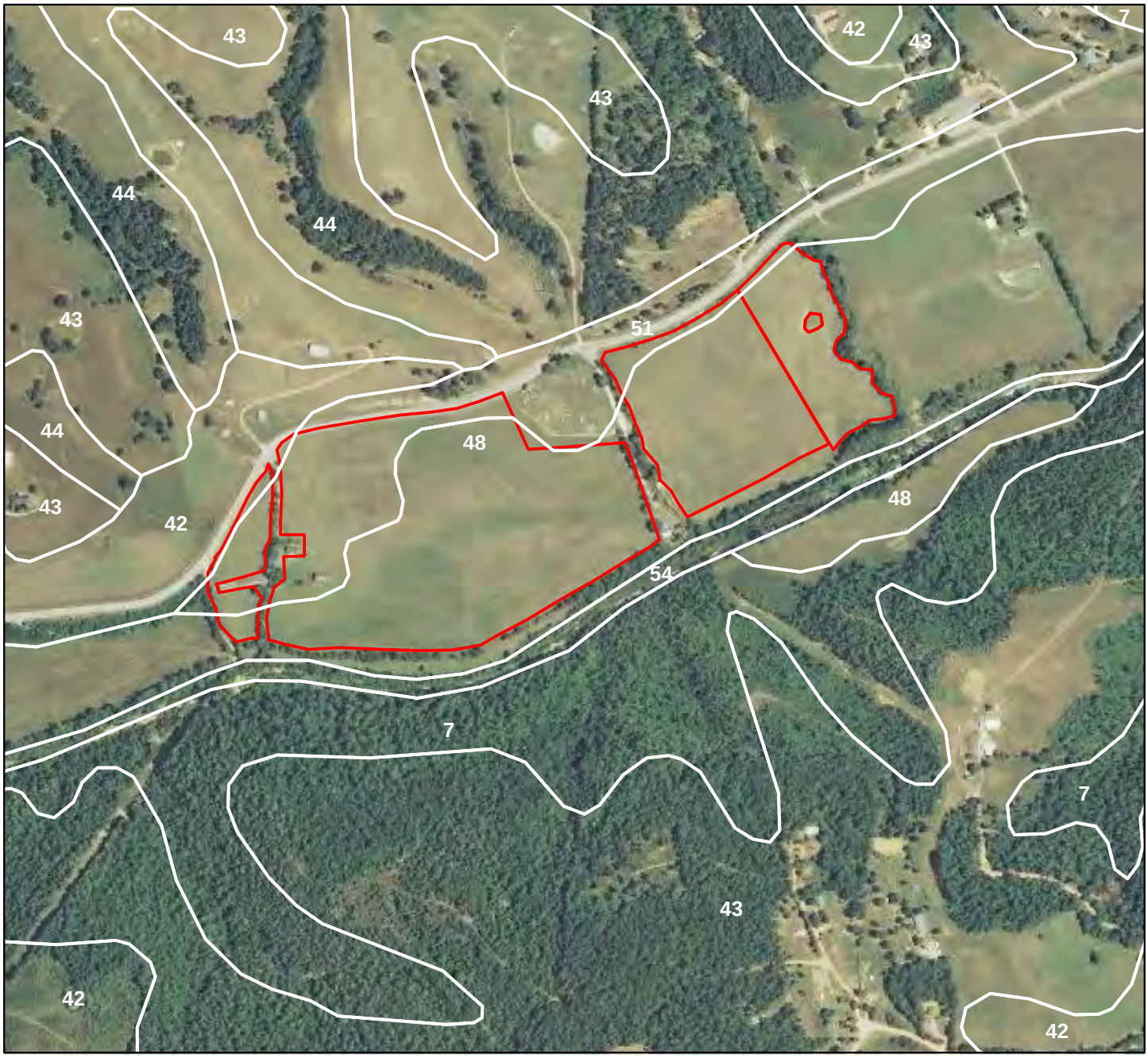
Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Soils Map



Legend

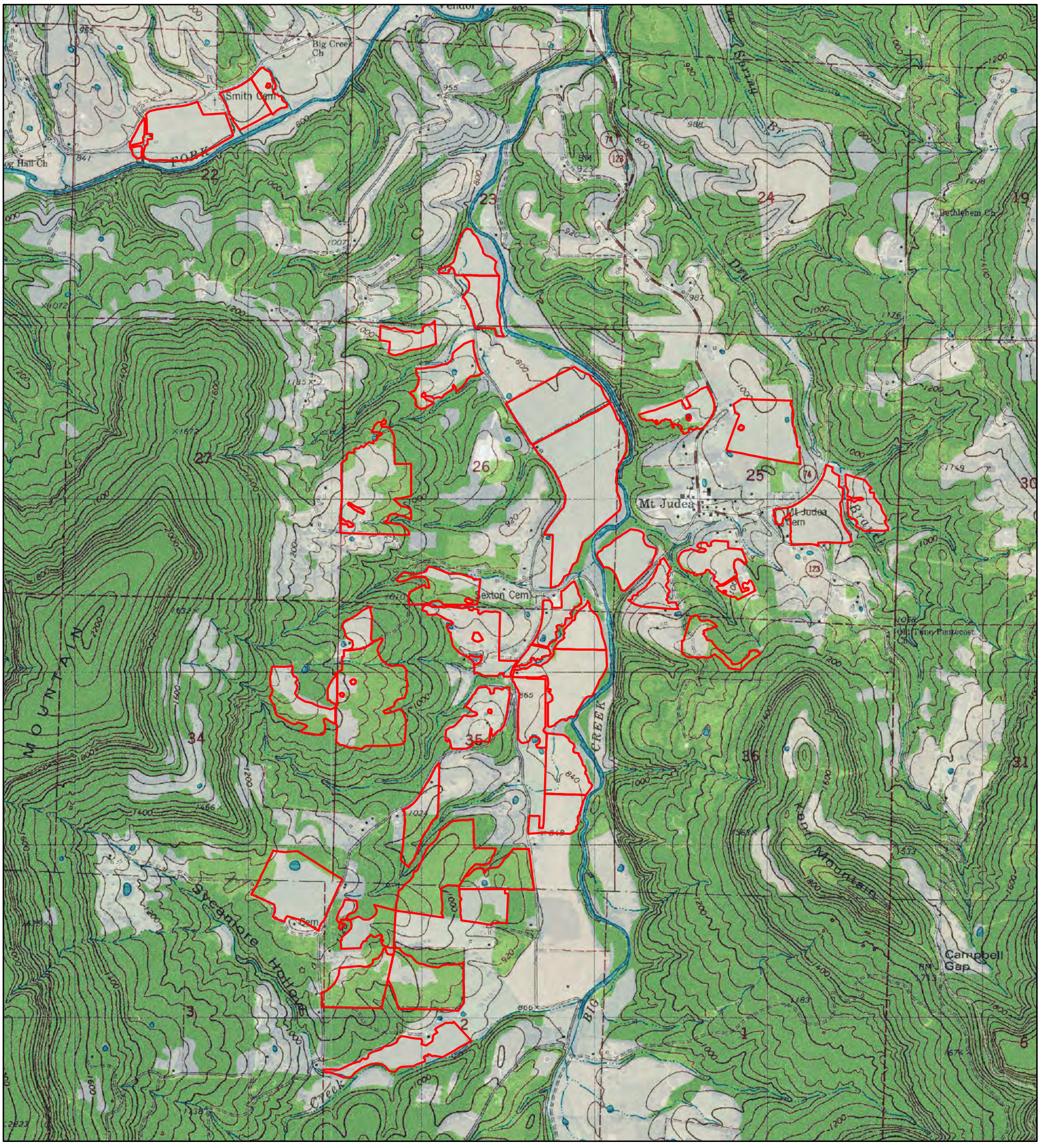
Team_1_soils

Correct Field Boundaries

380 0 380 760 1,140 1,520 Feet

N

Topo



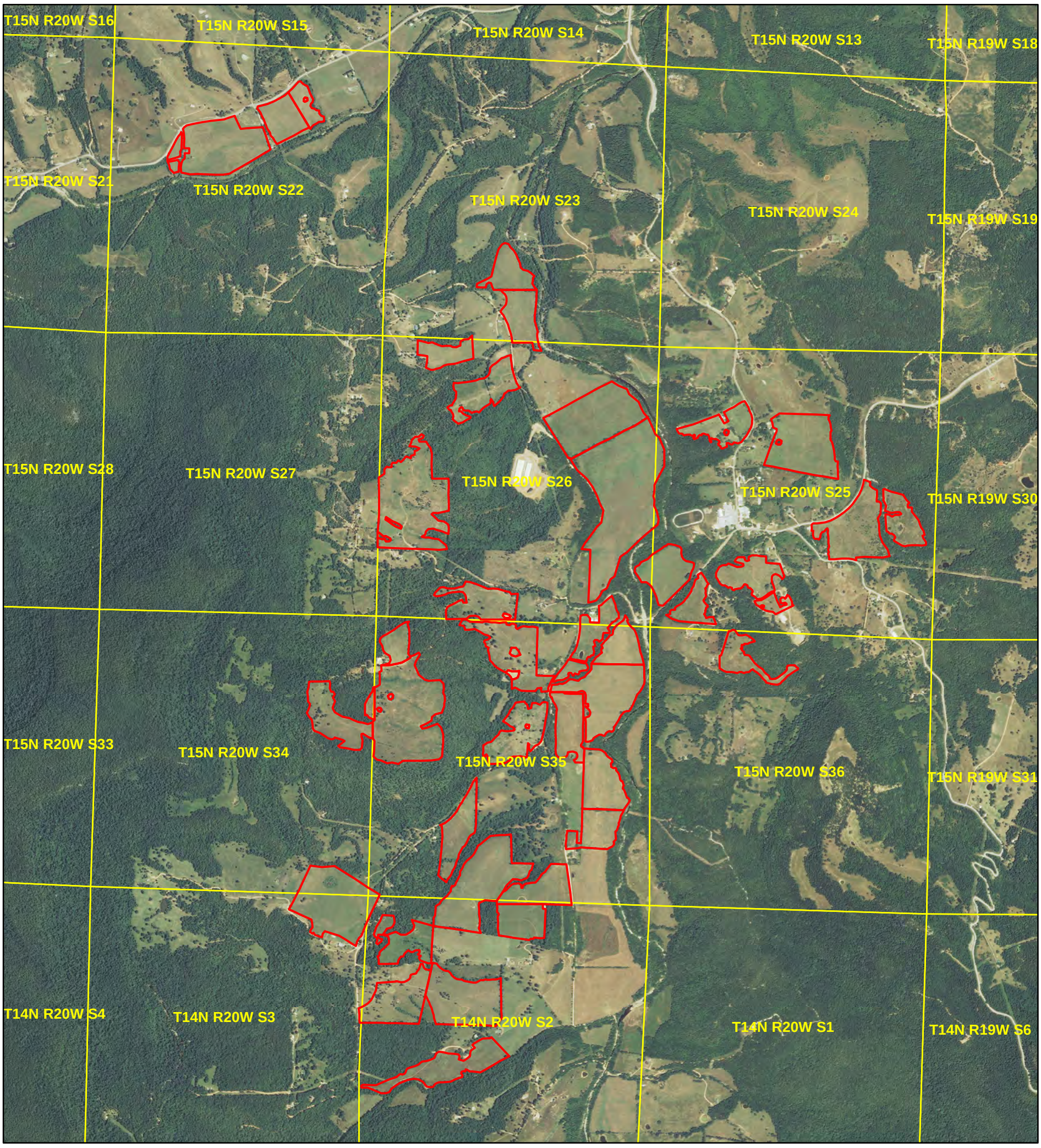
Legend

Correct Field Boundaries

1,800 0 1,800 3,600 5,400 7,200 Feet

N

Section, Township, Range Overview Map



Legend

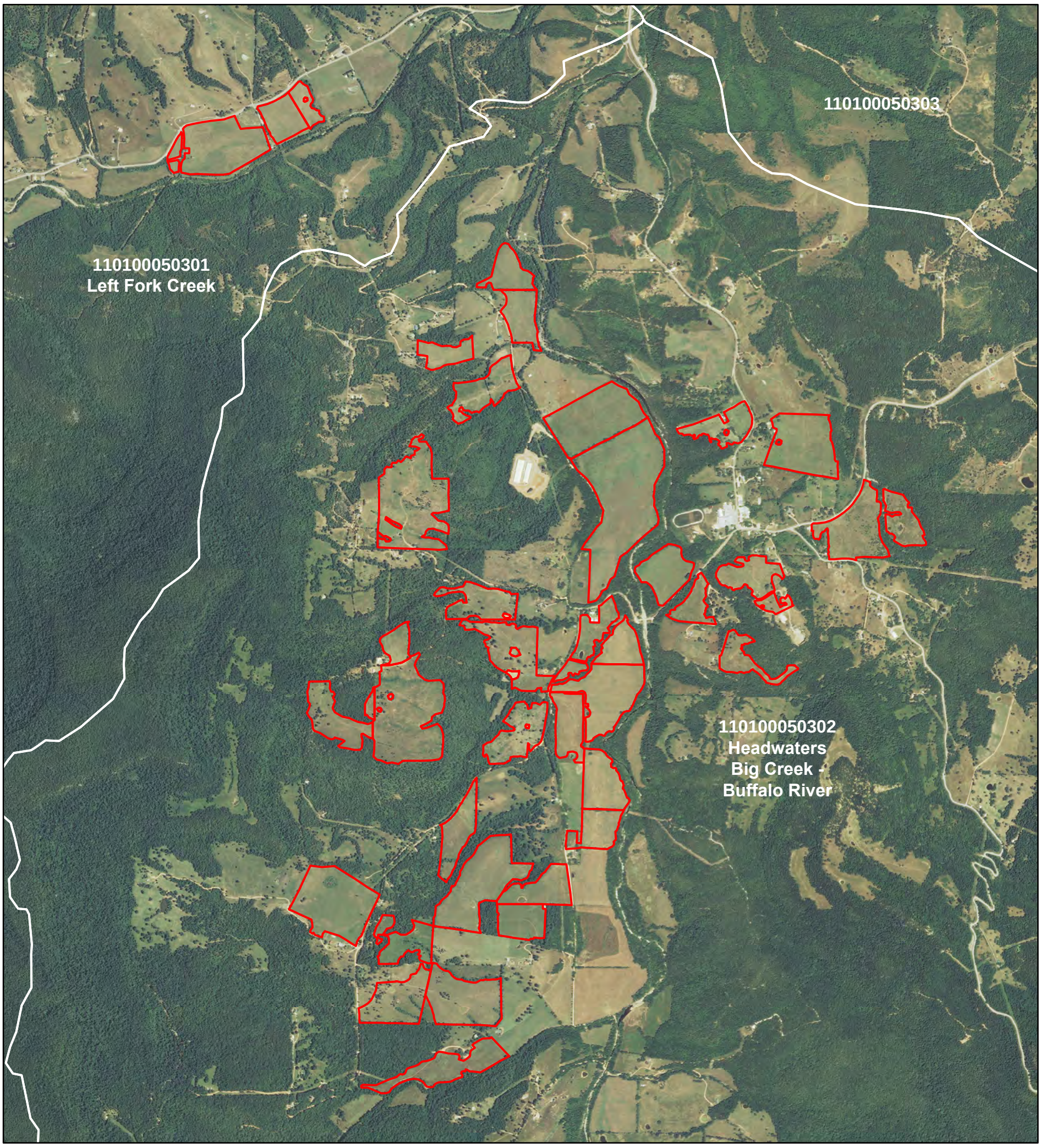
Correct Field Boundaries

plss_a_ar_utm15

1,800 0 1,800 3,600 5,400 7,200 Feet

N

Watershed Overview Map



Legend

Correct Field Boundaries

wbdhu12_a_ar

1,800 0 1,800 3,600 5,400 7,200 Feet

N

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	**Client ID:** 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	JH 1
Acres:	18
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154610
Sample Number:	3466528

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	95	190	Above Optimum
K	443	886	Above Optimum
Ca	4722	9444	--
Mg	169	338	--
SO4-S	19	38	--
Zn	7.9	15.8	--
Fe	106	212	--
Mn	261	522	--
Cu	1	2	--
B	0.6	1.2	--
NO3-N	85	170	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	7.1	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	28.25	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Clay	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
92.92	83.58	4.99	4.02	0.34

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	0	0	0	0	0
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

The University of Arkansas is an equal opportunity/affirmative action institution.

JASON HENSON		**Client ID:**	8706881318
HC 72 BOX 10			
MT JUDEA	AR	72655	

Date Processed:	12/4/2015
Field ID:	JH 2
Acres:	9
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154611
Sample Number:	3466529

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	108	216	Above Optimum
K	283	566	Above Optimum
Ca	1621	3242	--
Mg	124	248	--
SO4-S	19	38	--
Zn	5.3	10.6	--
Fe	137	274	--
Mn	326	652	--
Cu	0.8	1.6	--
B	0.4	0.8	--
NO3-N	52	104	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.2	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	13.42	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
73.91	60.41	7.70	5.41	0.39

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	0	0	0	0	0
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	**Client ID:** 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 3
Acres:	17
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154612
Sample Number:	3466530

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	89	178	Above Optimum
K	89	178	Low
Ca	1994	3988	--
Mg	71	142	--
SO4-S	11	22	--
Zn	3.8	7.6	--
Fe	186	372	--
Mn	253	506	--
Cu	1.6	3.2	--
B	0.4	0.8	--
NO3-N	26	52	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.7	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	13.86	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
78.35	71.96	4.27	1.65	0.47

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	lb/acre						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	220	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	300	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	100	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MT JUDEA	AR	72655	

Date Processed:	12/4/2015
Field ID:	JH 4
Acres:	11
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154613
Sample Number:	3466531

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	75	150	Above Optimum
K	220	440	Above Optimum
Ca	1718	3436	--
Mg	166	332	--
SO4-S	19	38	--
Zn	7.5	15	--
Fe	255	510	--
Mn	96	192	--
Cu	0.9	1.8	--
B	0.4	0.8	--
NO3-N	32	64	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.6	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	15.64	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
68.03	54.92	8.84	3.61	0.67

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	lb/acre						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	5000
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	0	0	0	0	5000
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	5000

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	GR 5
Acres	24
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38459
Sample Number:	2045423

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	63	126	Above Optimum
K	123	246	Medium
Ca	2331	4662	--
Mg	104	208	--
SO4-S	9	18	--
Zn	5.4	10.8	--
Fe	141	282	--
Mn	86	172	--
Cu	1.6	3.2	--
B	0.5	1.0	--
NO3-N	16	32	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.5	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	16	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
81.1	73.4	5.5	2.0	0.3

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	60	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	40	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

The University of Arkansas is an equal opportunity/affirmative action institution

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	SR 6
Acres	5
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38460
Sample Number:	2045424

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	116	232	Above Optimum
K	216	432	Above Optimum
Ca	698	1396	--
Mg	70	140	--
SO4-S	12	24	--
Zn	3.4	6.8	--
Fe	120	240	--
Mn	181	362	--
Cu	0.4	0.8	--
B	0.3	0.6	--
NO3-N	13	26	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.9	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	8	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
60.8	45.5	7.6	7.2	0.5

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	GR 6A
Acres	9
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38461
Sample Number:	2045425

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	111	222	Above Optimum
K	238	476	Above Optimum
Ca	1133	2266	--
Mg	117	234	--
SO4-S	16	32	--
Zn	4.8	9.6	--
Fe	130	260	--
Mn	244	488	--
Cu	0.9	1.8	--
B	0.4	0.8	--
NO3-N	29	58	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.8	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	12	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
61.9	48.0	8.3	5.2	0.5

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	0	0	0	0	0
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	EGC 7
Acres:	73
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154614
Sample Number:	3466532

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	89	178	Above Optimum
K	88	176	Low
Ca	889	1778	--
Mg	116	232	--
SO4-S	15	30	--
Zn	6.4	12.8	--
Fe	182	364	--
Mn	205	410	--
Cu	1.6	3.2	--
B	0.2	0.4	--
NO3-N	20	40	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.4	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	10.24	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
56.04	43.42	9.44	2.20	0.98

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Hay (144)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	220	0	0	0	5000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	300	0	0	0	5000
Crop 3								

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON	Client ID:	8706881318
HC 72 BOX 10		
MTN JUDEA	AR	72655
Date Processed:	4/1/2014	
Field ID:	EGC 7A	
Acres	34	
Lime Applied in the last 4 years:	No	
Leveled in past 4 years:	No	
Irrigation:	Unknown	
County:	Pope	
Lab Number:	38463	
Sample Number:	2045427	

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	38	76	Optimum
K	55	110	Very Low
Ca	751	1502	--
Mg	75	150	--
SO4-S	12	24	--
Zn	3.5	7.0	--
Fe	131	262	--
Mn	172	344	--
Cu	1.5	3.0	--
B	0.3	0.6	--
NO3-N	13	26	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.5	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	9	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
50.5	41.3	6.9	1.6	0.7

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Hay (134)	---------- lb/acre ----------						
Crop 1	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	45	350	0	0	0	4000
Crop 2	Warm-Season Grasses (MNT) (207)	60	0	160	0	0	0	4000
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	120	0	0	0	4000

4. Crop 1 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 8
Acres:	11
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154615
Sample Number:	3466533

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	82	164	Above Optimum
K	111	222	Medium
Ca	2083	4166	--
Mg	95	190	--
SO4-S	12	24	--
Zn	4.4	8.8	--
Fe	155	310	--
Mn	224	448	--
Cu	0.9	1.8	--
B	0.4	0.8	--
NO3-N	30	60	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.5	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	14.57	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
79.41	71.48	5.43	1.95	0.54

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 8A
Acres:	3
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154616
Sample Number:	3466534

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	72	144	Above Optimum
K	79	158	Low
Ca	1606	3212	--
Mg	80	160	--
SO4-S	13	26	--
Zn	3	6	--
Fe	168	336	--
Mn	194	388	--
Cu	0.8	1.6	--
B	0.3	0.6	--
NO3-N	20	40	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.2	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	12.45	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
71.89	64.49	5.35	1.63	0.42

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	lb/acre						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	220	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	300	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	100	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 9
Acres:	30
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154617
Sample Number:	3466535

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	82	164	Above Optimum
K	87	174	Low
Ca	3027	6054	--
Mg	96	192	--
SO4-S	11	22	--
Zn	5.2	10.4	--
Fe	198	396	--
Mn	140	280	--
Cu	2	4	--
B	0.5	1	--
NO3-N	32	64	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.9	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	18.75	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Clay	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
86.66	80.74	4.27	1.19	0.46

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	220	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	300	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	100	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

The University of Arkansas is an equal opportunity/affirmative action institution.

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655

Date Processed:	12/4/2015
Field ID:	CC 9A
Acres:	12
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154618
Sample Number:	3466536

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	67	134	Above Optimum
K	93	186	Medium
Ca	2433	4866	--
Mg	77	154	--
SO4-S	11	22	--
Zn	2.5	5	--
Fe	156	312	--
Mn	169	338	--
Cu	1.5	3	--
B	0.3	0.6	--
NO3-N	23	46	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.6	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	16.13	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
81.40	75.41	3.98	1.48	0.54

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655

Date Processed:	12/4/2015
Field ID:	FD 10
Acres:	15
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154619
Sample Number:	3466537

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	72	144	Above Optimum
K	109	218	Medium
Ca	1462	2924	--
Mg	144	288	--
SO4-S	17	34	--
Zn	5.5	11	--
Fe	294	588	--
Mn	199	398	--
Cu	2	4	--
B	0.3	0.6	--
NO3-N	72	144	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.3	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	14.45	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
61.93	50.60	8.31	1.93	1.08

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	5000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	5000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	5000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	BC 10A
Acres:	18
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154620
Sample Number:	3466538

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	100	200	Above Optimum
K	125	250	Medium
Ca	1380	2760	--
Mg	127	254	--
SO4-S	15	30	--
Zn	6.4	12.8	--
Fe	204	408	--
Mn	206	412	--
Cu	1.8	3.6	--
B	0.4	0.8	--
NO3-N	32	64	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.7	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	12.91	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
65.14	53.45	8.20	2.48	1.01

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	4000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	4000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MT JUDEA	AR	72655	

Date Processed:	12/4/2015
Field ID:	FD 11
Acres:	19
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154622
Sample Number:	3466539

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	62	124	Above Optimum
K	150	300	Optimum
Ca	875	1750	--
Mg	157	314	--
SO4-S	20	40	--
Zn	4.7	9.4	--
Fe	157	314	--
Mn	281	562	--
Cu	0.9	1.8	--
B	0.3	0.6	--
NO3-N	23	46	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.4	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	10.64	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
57.70	41.13	12.30	3.62	0.65

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	40	0	0	0	5000
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	0	0	0	0	5000
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	5000

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	RF 12
Acres:	13
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154623
Sample Number:	3466540

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	88	176	Above Optimum
K	128	256	Medium
Ca	1247	2494	--
Mg	101	202	--
SO4-S	14	28	--
Zn	3.9	7.8	--
Fe	185	370	--
Mn	206	412	--
Cu	1.5	3	--
B	0.4	0.8	--
NO3-N	21	42	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.8	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	12.00	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
62.50	51.96	7.01	2.73	0.80

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655

Date Processed:	12/4/2015
Field ID:	CC 13
Acres:	13
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154624
Sample Number:	3466541

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	86	172	Above Optimum
K	176	352	Above Optimum
Ca	1670	3340	--
Mg	131	262	--
SO4-S	18	36	--
Zn	7.6	15.2	--
Fe	122	244	--
Mn	510	1020	--
Cu	1.2	2.4	--
B	0.5	1	--
NO3-N	45	90	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.4	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	13.49	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
74.06	61.88	8.09	3.34	0.74

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 13A
Acres:	37
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154625
Sample Number:	3466542

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	75	150	Above Optimum
K	233	466	Above Optimum
Ca	1805	3610	--
Mg	144	288	--
SO4-S	18	36	--
Zn	7.9	15.8	--
Fe	110	220	--
Mn	483	966	--
Cu	1.1	2.2	--
B	0.6	1.2	--
NO3-N	46	92	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.3	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	14.41	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
75.70	62.65	8.33	4.15	0.57

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	lb/acre						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

The University of Arkansas is an equal opportunity/affirmative action institution.

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MT JUDEA	AR	72655	

Date Processed:	12/4/2015
Field ID:	CC 13B
Acres:	16
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154626
Sample Number:	3466543

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	61	122	Above Optimum
K	227	454	Above Optimum
Ca	1730	3460	--
Mg	121	242	--
SO4-S	15	30	--
Zn	4.8	9.6	--
Fe	93	186	--
Mn	477	954	--
Cu	1	2	--
B	0.5	1	--
NO3-N	40	80	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.6	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	13.31	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
77.46	64.99	7.58	4.37	0.52

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CC 14
Acres:	15
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154627
Sample Number:	3466544

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	75	150	Above Optimum
K	149	298	Optimum
Ca	894	1788	--
Mg	145	290	--
SO4-S	19	38	--
Zn	8.3	16.6	--
Fe	141	282	--
Mn	446	892	--
Cu	1.1	2.2	--
B	0.3	0.6	--
NO3-N	48	96	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.8	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	10.14	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
60.55	44.09	11.92	3.77	0.77

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	150	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	200	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	40	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	C1C 15
Acres:	28
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154628
Sample Number:	3466545

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	72	144	Above Optimum
K	144	288	Optimum
Ca	908	1816	--
Mg	155	310	--
SO4-S	18	36	--
Zn	6.9	13.8	--
Fe	131	262	--
Mn	498	996	--
Cu	1.5	3	--
B	0.4	0.8	--
NO3-N	45	90	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.7	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	10.28	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
61.10	44.15	12.56	3.59	0.80

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	lb/acre						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	150	0	0	0	4000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	200	0	0	0	4000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	40	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	C1C 15A
Acres	10
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38485
Sample Number:	2045502

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	18	36	Low
K	98	196	Medium
Ca	1165	2330	--
Mg	81	162	--
SO4-S	11	22	--
Zn	2.5	5.0	--
Fe	91	182	--
Mn	133	266	--
Cu	0.6	1.2	--
B	0.3	0.6	--
NO3-N	27	54	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.6	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	11	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
60.2	51.5	6.0	2.2	0.5

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	80	60	0	0	0	4000
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	70	50	0	0	0	4000
Crop 3	Warm-Season Grasses (MNT) (207)	60	70	60	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	C1C 15B
Acres:	21
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154630
Sample Number:	3466547

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	66	132	Above Optimum
K	238	476	Above Optimum
Ca	1600	3200	--
Mg	201	402	--
SO4-S	25	50	--
Zn	9.1	18.2	--
Fe	139	278	--
Mn	699	1398	--
Cu	1.7	3.4	--
B	0.5	1	--
NO3-N	64	128	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.9	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	13.86	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
74.75	57.71	12.08	4.40	0.56

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655

Date Processed:	12/4/2015
Field ID:	BH 16
Acres:	21
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154631
Sample Number:	3466548

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	68	136	Above Optimum
K	183	366	Above Optimum
Ca	1145	2290	--
Mg	138	276	--
SO4-S	17	34	--
Zn	4.9	9.8	--
Fe	190	380	--
Mn	236	472	--
Cu	1.4	2.8	--
B	0.3	0.6	--
NO3-N	47	94	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.5	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	12.91	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
57.41	44.33	8.91	3.63	0.54

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	0	0	0	0	4000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	4000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	0	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

The University of Arkansas is an equal opportunity/affirmative action institution.

JASON HENSON HC 72 BOX 10	Client ID: 8706881318
MT JUDEA	AR 72655

Date Processed:	12/4/2015
Field ID:	JC 17
Acres:	36
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154632
Sample Number:	3466549

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	86	172	Above Optimum
K	93	186	Medium
Ca	2539	5078	--
Mg	106	212	--
SO4-S	17	34	--
Zn	7.1	14.2	--
Fe	158	316	--
Mn	207	414	--
Cu	1.9	3.8	--
B	0.4	0.8	--
NO3-N	38	76	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.5	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	17.00	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
82.35	74.68	5.20	1.40	1.07

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	0	180	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	0	60	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON	Client ID:	8706881318
HC 72 BOX 10		
MTN JUDEA	AR	72655
Date Processed:	4/1/2014	
Field ID:	MB 18	
Acres	37	
Lime Applied in the last 4 years:	No	
Leveled in past 4 years:	No	
Irrigation:	Unknown	
County:	Pope	
Lab Number:	38472	
Sample Number:	2045507	

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	42	84	Optimum
K	54	108	Very Low
Ca	1683	3366	--
Mg	71	142	--
SO4-S	13	26	--
Zn	3.7	7.4	--
Fe	86	172	--
Mn	339	678	--
Cu	1.0	2.0	--
B	0.4	0.8	--
NO3-N	29	58	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.5	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	12	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
75.4	68.9	4.8	1.1	0.6

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	160	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	45	350	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	120	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	MB 19
Acres	10
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38473
Sample Number:	2045508

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	66	132	Above Optimum
K	221	442	Above Optimum
Ca	1982	3964	--
Mg	100	200	--
SO4-S	13	26	--
Zn	5.0	10.0	--
Fe	92	184	--
Mn	352	704	--
Cu	1.1	2.2	--
B	0.6	1.2	--
NO3-N	35	70	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.8	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	14	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
82.0	71.5	6.0	4.1	0.4

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	0	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON	Client ID:	8706881318
HC 72 BOX 10		
MTN JUDEA	AR	72655
Date Processed:	4/1/2014	
Field ID:	RC 20	
Acres	30	
Lime Applied in the last 4 years:	No	
Leveled in past 4 years:	No	
Irrigation:	Unknown	
County:	Pope	
Lab Number:	38474	
Sample Number:	2045509	

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	63	126	Above Optimum
K	168	336	Optimum
Ca	1612	3224	--
Mg	103	206	--
SO4-S	11	22	--
Zn	3.6	7.2	--
Fe	104	208	--
Mn	234	468	--
Cu	0.9	1.8	--
B	0.6	1.2	--
NO3-N	21	42	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.5	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	12	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam - Silty Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
75.8	65.0	6.9	3.5	0.4

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	200	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	RC 21
Acres	7
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38475
Sample Number:	2045510

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	12	24	Very Low
K	142	284	Optimum
Ca	635	1270	--
Mg	72	144	--
SO4-S	9	18	--
Zn	1.5	3.0	--
Fe	85	170	--
Mn	174	348	--
Cu	0.3	0.6	--
B	0.3	0.6	--
NO3-N	13	26	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.2	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	7	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
62.6	47.5	9.0	5.4	0.7

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	120	40	0	0	0	0
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	100	0	0	0	0	0
Crop 3	Warm-Season Grasses (MNT) (207)	60	100	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	RC21A
Acres	24
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38505
Sample Number:	2045465

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	21	42	Low
K	181	362	Above Optimum
Ca	865	1730	--
Mg	78	156	--
SO4-S	11	22	--
Zn	2.4	4.8	--
Fe	72	144	--
Mn	280	560	--
Cu	0.7	1.4	--
B	0.3	0.6	--
NO3-N	27	54	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.3	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	8	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
68.7	54.1	8.1	5.8	0.7

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	80	0	0	0	0	0
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	70	0	0	0	0	0
Crop 3	Warm-Season Grasses (MNT) (207)	60	70	0	0	0	0	0

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	RC 21B
Acres	5
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38490
Sample Number:	2045451

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	38	76	Optimum
K	162	324	Optimum
Ca	910	1820	--
Mg	66	132	--
SO4-S	12	24	--
Zn	2.3	4.6	--
Fe	117	234	--
Mn	119	238	--
Cu	0.5	1.0	--
B	0.4	0.8	--
NO3-N	18	36	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.3	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	8	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
69.0	56.4	6.8	5.1	0.7

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	45	200	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	KC 22
Acres	49
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38491
Sample Number:	2045452

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	38	76	Optimum
K	126	252	Medium
Ca	405	810	--
Mg	60	120	--
SO4-S	13	26	--
Zn	1.4	2.8	--
Fe	109	218	--
Mn	156	312	--
Cu	0.3	0.6	--
B	0.2	0.4	--
NO3-N	15	30	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.6	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	7	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Sandy Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
42.0	29.3	7.2	4.7	0.8

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	30	60	0	0	0	3000
Crop 2	Pasture - Cool-Season Grasses (MNT) (203)	60	0	50	0	0	0	3000
Crop 3	Warm-Season Grasses (MNT) (207)	60	0	60	0	0	0	3000

4. Crop 1 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

5. Crop 2 Notes:

Apply the recommended rate of N, P, and K in late winter. For higher production apply an additional 50 lb N/Acre after every 4 to 6 weeks of grazing. For fall/winter grazing, apply 50 lbs N/Acre in late summer.

6. Crop 3 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	GN 23
Acres	32
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38492
Sample Number:	2045453

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	56	112	Above Optimum
K	35	70	Very Low
Ca	734	1468	--
Mg	25	50	--
SO4-S	11	22	--
Zn	1.5	3.0	--
Fe	95	190	--
Mn	189	378	--
Cu	0.5	1.0	--
B	0.2	0.4	--
NO3-N	8	16	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.8	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	8	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
50.2	45.7	2.6	1.1	0.8

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Hay (134)	---------- lb/acre ----------						
Crop 1	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	350	0	0	0	0
Crop 2	Warm-Season Grasses (MNT) (207)	60	0	160	0	0	0	0
Crop 3								

4. Crop 1 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	DH 24
Acres	12
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38493
Sample Number:	2045454

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	45	90	Optimum
K	68	136	Low
Ca	922	1844	--
Mg	58	116	--
SO4-S	14	28	--
Zn	1.9	3.8	--
Fe	126	252	--
Mn	162	324	--
Cu	1.0	2.0	--
B	0.2	0.4	--
NO3-N	11	22	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.4	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	10	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
54.2	46.9	4.9	1.8	0.6

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	110	0	0	0	5000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	45	300	0	0	0	5000
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	80	0	0	0	5000

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	HC 32
Acres	15
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38503
Sample Number:	2045463

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	57	114	Above Optimum
K	101	202	Medium
Ca	707	1414	--
Mg	48	96	--
SO4-S	12	24	--
Zn	1.9	3.8	--
Fe	99	198	--
Mn	260	520	--
Cu	0.6	1.2	--
B	0.2	0.4	--
NO3-N	15	30	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.9	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	7	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
58.6	48.7	5.5	3.6	0.8

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	60	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	250	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	40	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.
If S deficiency has occurred previously on this field apply 20 lb SO4-S/Acre.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	HC 33
Acres	5
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38504
Sample Number:	2045464

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	52	104	Above Optimum
K	165	330	Optimum
Ca	1766	3532	--
Mg	88	176	--
SO4-S	14	28	--
Zn	3.6	7.2	--
Fe	115	230	--
Mn	156	312	--
Cu	1.1	2.2	--
B	0.3	0.6	--
NO3-N	12	24	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	6.0	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	14	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
74.1	65.2	5.4	3.1	0.4

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0
Crop 3								

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

5. Crop 2 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

6. Crop 3 Notes:

UofA UNIVERSITY OF ARKANSAS DIVISION OF AGRICULTURE

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
http://www.uark.edu/depts/soiltest

JASON HENSON		Client ID:	8706881318
HC 72 BOX 10			
MTN JUDEA	AR		72655

Date Processed:	4/1/2014
Field ID:	RC 34
Acres	10
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	38506
Sample Number:	2045466

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	56	112	Above Optimum
K	134	268	Optimum
Ca	638	1276	--
Mg	93	186	--
SO4-S	13	26	--
Zn	2.8	5.6	--
Fe	108	216	--
Mn	195	390	--
Cu	1.1	2.2	--
B	0.5	1.0	--
NO3-N	18	36	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.9	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	7	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
59.3	43.3	10.5	4.7	0.9

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Pasture (207)	---------- lb/acre ----------						
Crop 1	Warm-Season Grasses (MNT) (207)	60	0	0	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	200	0	0	0	0
Crop 3	Winter Annuals (EST/MNT) (210)	90	0	0	0	0	0	0

4. Crop 1 Notes:

Apply the recommended rates of N, P, and K, in spring when night temperatures are > 60 degrees F for 1 week. For higher production, topdress an additional 60 lb N/Acre after every 4 to 6 weeks of grazing. For fall grazing apply 50 lb N/Acre in early August. Do not apply N after September 1.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

Apply the recommended P and K fertilizer rates and one-third of the total N rate immediately before or after stand is successfully established. Apply the remaining N(60 lb N/Acre/application) during mid February. For higher production, apply an additional 50 lb N/Acre in mid March.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CH 35
Acres:	26
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154664
Sample Number:	3466550

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	40	80	Optimum
K	92	184	Medium
Ca	681	1362	--
Mg	89	178	--
SO4-S	19	38	--
Zn	2.6	5.2	--
Fe	111	222	--
Mn	506	1012	--
Cu	0.7	1.4	--
B	0.2	0.4	--
NO3-N	36	72	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.6	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	8.43	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silt Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
52.55	40.39	8.80	2.80	0.57

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	40	180	0	0	0	4000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	45	250	0	0	0	4000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	30	60	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Cooperative Extension Service
Soil Testing And Research Laboratory
Marianna, AR 72360
http://soiltest.uark.edu

JASON HENSON	Client ID: 8706881318
HC 72 BOX 10	
MT JUDEA	AR 72655
Date Processed:	12/4/2015
Field ID:	CH 36
Acres:	12
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	154665
Sample Number:	3466551

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	20	40	Low
K	183	366	Above Optimum
Ca	427	854	--
Mg	77	154	--
SO4-S	16	32	--
Zn	1.2	2.4	--
Fe	105	210	--
Mn	420	840	--
Cu	0.3	0.6	--
B	0.1	0.2	--
NO3-N	41	82	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.4	--
Soil EC (1:2 soil-water)		umhos/cm
Soil Estimated CEC	7.78	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Sandy Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
42.13	27.46	8.25	6.03	0.39

3. Recommendations

(Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4-S	Zn	B	Lime
Last Crop	Pasture (212)	---------- lb/acre ----------						
Crop 1	Mixed Cool and Warm Season Grasses 4 ton (144)	160	100	0	0	0	0	4000
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	110	0	0	0	0	4000
Crop 3	Mixed Cool and Warm-Season Grasses for Pasture (212)	60	80	0	0	0	0	4000

4. Crop 1 Notes:

To favor cool-season grasses, apply fertilizer in split applications in late winter and after spring hay harvest. To favor warm-season grasses, do not apply N until May 1. Split apply the recommended fertilizer rates after each subsequent hay harvest.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

To favor cool-season grasses, apply N in late winter. To favor warm-season grasses, do not apply N until May 1. For higher production, topdress 50 lb N/Acre after every 4-6 weeks of grazing or as needed.

AGRICULTURAL DIAGNOSTIC SERVICE LABORATORY
1366 W. Altheimer Dr., Fayetteville, AR 72704
(479)575-3908 agrilab@uark.edu
University of Arkansas, Dept. of Crops, Soils, and Environmental Science
LIQUID MANURE FOR FERTILIZER ANALYSIS (report for AGRI-429)

Name:	KARL VanDEVENDER / ANDREW SHARPLE	***Received in lab:***	***4/17/2015***
Address:		***Mailed:***	***4/24/2015***
City:		State,Zip:	AR
County:		Phone #:	
E-Mail:	kvan@uaex.edu, sharpley@uark.edu	Check #:	Big Creek Research Project

Lab. No.	M50518	M50519				
Sample I.D.	C&HP1P	C&HP2P				
Animal type	swine	swine				
age / lbs	no info	no info				
Bedding type	none	none				
Manure type	pond liquid	pond liquid				
Sample date	4/16/2015	4/16/2015				
Age of manure	no info	no info				
pH	7.6	8.0				
EC(µmhos/cm)	13580	8710				
% Solids	3.37	2.42				
		-mg/l on as-is basis-				
Total N	2410	1820				
Total P	253	417				
Total K	1358	1044				
Total Ca	102	378				
NH4-N	1291	636				
Water Extractable P	169	89				
		-lbs/1000 gal on as-is basis-				
Total N	20.1	15.2				
TOTAL P AS "P2O5"	4.8	7.9				
TOTAL K AS "K20"	13.6	10.4				
Total Ca	0.9	3.1				
NH4-N	10.8	5.3				
Water Extractable P	1.4	0.7				

*lbs/1000gal P2O5 = mg/l Total P on "as-is" basis multiplied by 2.29*0.00833
*lbs/1000gal K2O = mg/l Total K on "as-is" basis multiplied by 1.2*0.00833
*Water Extractable P: **1:100 solids to H2O ratio**, I hr shake, centrifuged, filtered, acidified, analysis by ICP

Section 5

Nutrient Management

Determining Acceptable Manure Application Rates
Example Phosphorous Index Calculations

Methodology for Determining Acceptable Manure Application Rates

Determination of acceptable manure application rates will be done using the Arkansas Phosphorous Index. This index classifies evaluated potential field phosphorous runoff risk as Low, Medium, High, or Very High. Only conditions and management decisions that result in risk values in the Low or Medium ranges will allow for manure applications. The most variable inputs to the evaluation process are: manure application rate; manure total and soluble phosphorous concentrations; application timing; application method; soil test phosphorous concentrations and land use. Section 5 of this plan shows an example of typical initial conditions for each field of this operation. As these conditions change, the phosphorous runoff risk should be re-evaluated as necessary to insure manure applications are made only when the associated risk is in the Low or Medium range. As a result, inputs such as application rates will vary over time, however the phosphorous runoff risk will remain in the low to medium range. In addition, no manure application should be made that exceeds nitrogen recommendations. As demonstrated by the example calculations, this farm has sufficient land to manage pond volume levels.

Interpreting P Index Values with the ARNMP Phosphorous Index:

Range Class	Interpretation
Low (<33)	Low potential for P movement from site. Apply nutrients based on crop needs, normally nitrogen. However, if P is applied above crop needs, P build up will take place over time.
Medium (33 to 66)	Medium potential for P movement from site. Evaluate the index and determine any areas that could cause long-term concerns. Consider adding conservation practices or reduced P application to maintain the risk at 66 or less. Apply nutrients based on crop needs, normally nitrogen. If P is applied above crop requirements, soil P levels will accumulate over time.
High (67 to 100)	High potential for P movement from site. Evaluate the index and determine elevation cause. Add appropriate conservation practices and/or reduce soluble P application. The immediate planning target is a PI value of 66 or less. If this cannot be achieved with realistic conservation practices and/or reduced P rates in the short term, then a progressive plan needs to be developed with a long term goal of a PI less than 66. Apply nutrients to meet crop phosphorus needs according to NRCS Nutrient Management Standard (590).
Very High (>100)	Very high potential for P movement from site. Add conservation practices to decrease this value below 100 in the short term and develop a progressive conservation plan that would reduce the PI to a lower risk category, with a long term goal of a PI of less than 66.

Arkansas Nutrient Managemnt Planner with 2009 PI (Beta draft ver 09162015)

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Date:	1/14/2016

Beta Test Version for Use by Select Planners working with Author. This worksheet is intended to assist in the writing of Nutrient Management Plans for the application of manure to pasture and hay land. To do this, the worksheet estimates the litter production for the farm, estimates the P Index risk value for the defined conditions of each field, assists with the allocation of nutrients to the various receiving fields, and estimates the amount of litter available for off farm use. This worksheet is the result of an effort to develop a reliable training/planning tool faithful to the 2009 Arkansas P Index developed by a multi-agency effort. However, no guarantees are made, and any observed problems or suggestions for improvement should be directed to Karl VanDevender at kvan@uaex.edu.

Nutrient Source and Description Information

Manure Source	Source Type	Amount Available		N Concentration		P2O5 Concentration		K2O Concentration		Water Extractable P		Alum
Pond 1 M50518	Liquid Manure	2,624	1000 gal	20.1	lb/1000 gal	4.8	lb/1000 gal	13.6	lb/1000 gal	1.4	lb/1000 gal	No
Pond 2 M50519	Liquid Manure	2,624	1000 gal	15.2	lb/1000 gal	7.9	lb/1000 gal	10.4	lb/1000 gal	0.7	lb/1000 gal	No

Nutrient Loss and Mineralization Factors

Manure Source	N		P2O5		K2O	
	Storage Losses (%)	Appl. Losses (%)	Storage Losses (%)	Appl. Losses (%)	Storage Losses (%)	Appl. Losses (%)
Pond 1 M50518		25%				
Pond 2 M50519		25%				
0						
0						
0						

2,624 is the 365 day amount available and was calculated from the engineering section.

Estimated Plant Available Nutrients

Manure Source	N			P2O5			K2O			Water Extractable P		
	Concentration		Total (lb)	Concentration		Total (lb)	Concentration		Total (lb)	Concentration		Total (lb)
Pond 1 M50518	15.08	lb/1000 gal	39,557	4.80	lb/1000 gal	12,595	13.60	lb/1000 gal	35,686	1.40	lb/1000 gal	3673.6
Pond 2 M50519	11.40	lb/1000 gal	29,914	7.90	lb/1000 gal	20,730	10.40	lb/1000 gal	27,290	0.70	lb/1000 gal	1836.8
0												
0												
0												
			69,470			33,325			62,976			5,510

Arkansas Nutrient Managemnt Planner with 2009 PI (Beta draft ver 02252106)

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working with Author. This worksheet is intended to assist in the writing of Nutrient Management Plans for the application of manure to pasture and hay land. To do this, the worksheet estimates the litter production for the farm, estimates the P Index risk value for the defined conditions of each field, assists with the allocation of nutrients to the various receiving fields, and estimates the amount of litter available for off farm use. This

Fields Shown	Total Annual Summary				- - - General Field Information - - -- - - General Field Information - - -- - - General Field Information - - -- - - General Field Information - - -- - - General Field Information - - -- - - General Field Information - - -- - - General Field																			
											Slope Gradient (%)				Slope Length (ft)				Flooding Frequency				
50	PI	Nutrient Balance (+/-)			County	Field Area (ac)	Buffer Length (ft)	Buffer Width (ft)	Appl Area (ac)	Soil Map Unit	Min	Max	Rep	Used	Min	Max	Rep	Used	**D**ata **B**ase **D**efault	Used	Predominate Vegetation	Percent Ground Cover	Conservation Support Practices (P)
Field	Value	N	P2O5	K2O																				
Field 1	20	-5	+79	+141	Newton	8.20			8.20	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 2	22	-5	+79	+141	Newton	6.00			6.00	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 3	57	-3	+152	-30	Newton	15.20			15.20	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 4	20	-5	+79	+141	Newton	7.20			7.20	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 5	54	-3	+152	+20	Newton	9.70			9.70	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 6	21	-5	+79	+141	Newton	5.60			5.60	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 6A	21	-5	+79	+141	Newton	7.30			7.30	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 7	57	-3	+152	-30	Newton	64.30			64.30	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 7A	50	-3	+107	-80	Newton	28.30			28.30	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 8	29	-3	+152	+20	Newton	7.20			7.20	51	2	5	2.5	2.5	15	75	45	45	None	None	Grass	95-100	None
Field 8A	55	-3	+152	-30	Newton	1.40			1.40	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 9	56	-3	+152	-30	Newton	24.60			24.60	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 9A	54	-3	+152	+20	Newton	10.30			10.30	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 10	29	-3	+152	+20	Newton	13.60			13.60	51	2	5	2.5	2.5	15	75	45	45	None	None	Grass	95-100	None
Field 10A	59	-3	+152	+20	Newton	16.40			16.40	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 11	18	-5	+79	+101	Newton	13.30			13.30	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field12	57	-3	+152	+20	Newton	11.20			11.20	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field13	32	-3	+152	+270	Newton	11.60			11.60	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 13A	31	-3	+152	+270	Newton	29.80			29.80	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 13B	30	-3	+152	+270	Newton	8.10			8.10	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 14	31	-3	+152	+70	Newton	7.60			7.60	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 15	31	-3	+152	+70	Newton	21.50			21.50	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 15A	35	-5	-1	+81	Newton	10.40			10.40	2	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 15B	31	-3	+152	+270	Newton	13.70			13.70	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 16	54	-3	+152	+270	Newton	15.20			15.20	50	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 17	32	-3	+152	+20	Newton	30.90			30.90	1	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 18	26	-3	+107	-80	Newton	21.70			21.70	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 19	28	-3	+152	+270	Newton	10.10			10.10	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 20	30	-3	+152	+70	Newton	20.70			20.70	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 21	21	-5	-41	+101	Newton	18.60			18.60	13	3	20	12	12	15	30	20	20	None	None	Grass	95-100	None
Field 21A	22	-5	-1	+141	Newton	15.60			15.60	13	3	20	12	12	15	30	20	20	None	None	Grass	95-100	None
Field 21B	28	-3	+107	+70	Newton	6.00			6.00	11	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 22	25	-5	+49	+81	Newton	35.50			35.50	13	3	20	12	12	15	30	20	20	None	None	Grass	95-100	None
Field 23	53	-3	+152	-80	Newton	28.10			28.10	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 24	51	-3	+107	-30	Newton	8.00			8.00	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 32	53	-3	+152	+20	Newton	10.00			10.00	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 33	31	-5	+79	+141	Newton	3.40			3.40	48	0	3	2	2	15	75	45	45	Occasional	Occasional	Grass	95-100	None
Field 34	30	-3	+152	+70	Newton	12.80			12.80	43	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Field 35	26	-3	+107	+20	Newton	18.40			18.40	42	3	8	5	5	15	75	45	45	None	None	Grass	95-100	None
Field 36	63	-3	+42	+270	Newton	8.40			8.40	15	8	20	14	14	15	30	20	20	None	None	Grass	95-100	None
Farm Totals						615.90			615.90														
Available																							
Surpluses/Deficits (+/-)																							

Arkansas Nutrient Managemnt Plann

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working wit

Nutrient Management Plans for the application of manure to
litter production for the farm, estimates the P Index risk value
allocation of nutrients to the various receiving fields, and esti

Fields Shown	Total Annual Summary				Information - - -- - - General Field Information - - -			- - - Nutrient Application Information - - -- - - Nutrient Application Information - - -- - - Nutrient Application Information - - -- - - Nutrient Application Information - - -- - - -													
								- - - Application Group 1 - - -	- - - Application Group 1 - - -	- - - Application Group 1 - - -								- - - Application Group 2 - - -	- - - Application Grou		
50	PI	Nutrient Balance (+/-)			Pasture Use	RUSLE 1 (ton/ac)	RUSLE 2 (ton/ac)	Timing	Appl Method	Nutrient Source	Bulk Rate	Units	N	P2O5	K2O	Group Sub PI	Group Sub PI Range	Timing	Appl Method	Nutrient Source	Bulk Rate
Field	Value	N	P2O5	K2O									(lb/ac)	(lb/ac)	(lb/ac)						
Field 1	20	-5	+79	+141	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	7	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 2	22	-5	+79	+141	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	8	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 3	57	-3	+152	-30	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 4	20	-5	+79	+141	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	8	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 5	54	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 6	21	-5	+79	+141	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	7	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 6A	21	-5	+79	+141	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	7	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 7	57	-3	+152	-30	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 7A	50	-3	+107	-80	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 8	29	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	14	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 8A	55	-3	+152	-30	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 9	56	-3	+152	-30	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 9A	54	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 10	29	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	14	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 10A	59	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 11	18	-5	+79	+101	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	8	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field12	57	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field13	32	-3	+152	+270	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 13A	31	-3	+152	+270	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 13B	30	-3	+152	+270	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 14	31	-3	+152	+70	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 15	31	-3	+152	+70	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 15A	35	-5	-1	+81	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	18	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 15B	31	-3	+152	+270	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 16	54	-3	+152	+270	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 17	32	-3	+152	+20	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 18	26	-3	+107	-80	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	14	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 19	28	-3	+152	+270	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	14	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 20	30	-3	+152	+70	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 21	21	-5	-41	+101	Rotational Grazing	0.17	0.17	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	12	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 21A	22	-5	-1	+141	Rotational Grazing	0.17	0.17	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	12	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 21B	28	-3	+107	+70	Rotational Grazing	0.09	0.09	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 22	25	-5	+49	+81	Rotational Grazing	0.17	0.17	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	12	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 23	53	-3	+152	-80	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 24	51	-3	+107	-30	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 32	53	-3	+152	+20	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 33	31	-5	+79	+141	Rotational Grazing	0.05	0.05	March-June	Surface	Pond 1 M50518	5.00	1000 gal/ac	75	24	68	14	Low	July-Oct	Surface	Pond 2 M50519	7.00
Field 34	30	-3	+152	+70	Rotational Grazing	0.28	0.28	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	15	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 35	26	-3	+107	+20	Rotational Grazing	0.12	0.12	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	14	Low	July-Oct	Surface	Pond 2 M50519	13.50
Field 36	63	-3	+42	+270	Rotational Grazing	0.21	0.21	March-June	Surface	Pond 1 M50518	9.50	1000 gal/ac	143	46	129	34	Medium	July-Oct	Surface	Pond 2 M50519	13.50

Farm Totals

Available

Surpluses/Deficits (+/-)

Arkansas Nutrient Managemnt Plann

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working wit

Nutrient Management Plans for the application of manure to
litter production for the farm, estimates the P Index risk value
allocation of nutrients to the various receiving fields, and esti

Fields Shown	Total Annual Summary				Nutrient Application Information - - -- - - Nutrient Application Information - - -- - - Nutrient Application Information - - -- - - Nutrient Application Information - - -																Soil Test P and Soil Sub PI				
					2 - - - - - - Application Group 2 - - -						- - - Application Group 3 - - - - - - Application Group 3 - - - - - - Application Group 3 - - -														
50	PI	Nutrient Balance (+/-)			Units	N	P2O5	K2O	Group Sub PI	Group Sub PI Range	Timing	Appl Method	Nutrient Source	Bulk Rate	Units	N	P2O5	K2O	Group Sub PI	Group Sub PI Range	Highest Risk Timing	ppm	lb/ac	Soil Sub PI	Soil Sub Range
Field	Value	N	P2O5	K2O		(lb/ac)	(lb/ac)	(lb/ac)								(lb/ac)	(lb/ac)	(lb/ac)							
Field 1	20	-5	+79	+141	1000 gal/ac	80	55	73	5	Low											March-June	95	126	8	Low
Field 2	22	-5	+79	+141	1000 gal/ac	80	55	73	5	Low											March-June	108	144	9	Low
Field 3	57	-3	+152	-30	1000 gal/ac	154	107	140	18	Low											March-June	89	118	13	Low
Field 4	20	-5	+79	+141	1000 gal/ac	80	55	73	5	Low											March-June	75	100	6	Low
Field 5	54	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	63	84	9	Low
Field 6	21	-5	+79	+141	1000 gal/ac	80	55	73	5	Low											March-June	116	154	9	Low
Field 6A	21	-5	+79	+141	1000 gal/ac	80	55	73	5	Low											March-June	111	148	9	Low
Field 7	57	-3	+152	-30	1000 gal/ac	154	107	140	18	Low											March-June	89	118	13	Low
Field 7A	50	-3	+107	-80	1000 gal/ac	154	107	140	18	Low											March-June	38	51	6	Low
Field 8	29	-3	+152	+20	1000 gal/ac	154	107	140	9	Low											March-June	82	109	7	Low
Field 8A	55	-3	+152	-30	1000 gal/ac	154	107	140	18	Low											March-June	72	96	11	Low
Field 9	56	-3	+152	-30	1000 gal/ac	154	107	140	18	Low											March-June	82	109	12	Low
Field 9A	54	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	67	89	10	Low
Field 10	29	-3	+152	+20	1000 gal/ac	154	107	140	9	Low											March-June	72	96	6	Low
Field 10A	59	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	100	133	15	Low
Field 11	18	-5	+79	+101	1000 gal/ac	80	55	73	5	Low											March-June	62	82	5	Low
Field12	57	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	88	117	13	Low
Field13	32	-3	+152	+270	1000 gal/ac	154	107	140	10	Low											March-June	86	114	7	Low
Field 13A	31	-3	+152	+270	1000 gal/ac	154	107	140	10	Low											March-June	75	100	6	Low
Field 13B	30	-3	+152	+270	1000 gal/ac	154	107	140	10	Low											March-June	61	81	5	Low
Field 14	31	-3	+152	+70	1000 gal/ac	154	107	140	10	Low											March-June	75	100	6	Low
Field 15	31	-3	+152	+70	1000 gal/ac	154	107	140	10	Low											March-June	72	96	6	Low
Field 15A	35	-5	-1	+81	1000 gal/ac	80	55	73	13	Low											March-June	18	24	3	Low
Field 15B	31	-3	+152	+270	1000 gal/ac	154	107	140	10	Low											March-June	66	88	6	Low
Field 16	54	-3	+152	+270	1000 gal/ac	154	107	140	18	Low											March-June	68	90	10	Low
Field 17	32	-3	+152	+20	1000 gal/ac	154	107	140	10	Low											March-June	86	114	7	Low
Field 18	26	-3	+107	-80	1000 gal/ac	154	107	140	9	Low											March-June	42	56	3	Low
Field 19	28	-3	+152	+270	1000 gal/ac	154	107	140	9	Low											March-June	66	88	5	Low
Field 20	30	-3	+152	+70	1000 gal/ac	154	107	140	10	Low											March-June	63	84	5	Low
Field 21	21	-5	-41	+101	1000 gal/ac	80	55	73	8	Low											March-June	12	16	2	Low
Field 21A	22	-5	-1	+141	1000 gal/ac	80	55	73	8	Low											March-June	21	28	3	Low
Field 21B	28	-3	+107	+70	1000 gal/ac	154	107	140	10	Low											March-June	38	51	3	Low
Field 22	25	-5	+49	+81	1000 gal/ac	80	55	73	8	Low											March-June	38	51	5	Low
Field 23	53	-3	+152	-80	1000 gal/ac	154	107	140	18	Low											March-June	56	74	8	Low
Field 24	51	-3	+107	-30	1000 gal/ac	154	107	140	18	Low											March-June	45	60	7	Low
Field 32	53	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	57	76	8	Low
Field 33	31	-5	+79	+141	1000 gal/ac	80	55	73	10	Low											March-June	52	69	8	Low
Field 34	30	-3	+152	+70	1000 gal/ac	154	107	140	10	Low											March-June	56	74	5	Low
Field 35	26	-3	+107	+20	1000 gal/ac	154	107	140	9	Low											March-June	40	53	3	Low
Field 36	63	-3	+42	+270	1000 gal/ac	154	107	140	25	Low											March-June	20	27	4	Low

Farm Totals
Available
Surpluses/Deficits (+/-)

Arkansas Nutrient Managemnt Plann

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working wit

Nutrient Management Plans for the application of manure to
litter production for the farm, estimates the P Index risk value
allocation of nutrients to the various receiving fields, and esti

Fields Shown	Total Annual Summary				Application Totals				Total = Soil + Applications		Per Acre Nutrient Budget Application Rate Totals			Per Acre Nutrient Budget Nutrient Recommendation			Per Acre Nutrient Budget Surpluses / Deficits (+/-)			- - - Per Field N Appl
50	PI	Nutrient Balance (+/-)			WEP rate (lb/ac)	TP rate (lb/ac)	App Sub PIs Sum	App Sub PIs Range	Total PI Value	PI Range	N (lb/ac)	P2O5 (lb/ac)	K2O (lb/ac)	N (lb/ac)	P2O5 (lb/ac)	K2O (lb/ac)	N (lb/ac)	P2O5 (lb/ac)	K2O (lb/ac)	N (lb/field)
Field	Value	N	P2O5	K2O																
Field 1	20	-5	+79	+141	12	35	12	Low	20	Low	155	79	141	160	0	0	-5	79	141	1,272
Field 2	22	-5	+79	+141	12	35	13	Low	22	Low	155	79	141	160	0	0	-5	79	141	931
Field 3	57	-3	+152	-30	23	66	44	Medium	57	Medium	297	152	270	300	0	300	-3	152	-30	4,516
Field 4	20	-5	+79	+141	12	35	13	Low	20	Low	155	79	141	160	0	0	-5	79	141	1,117
Field 5	54	-3	+152	+20	23	66	44	Medium	54	Medium	297	152	270	300	0	250	-3	152	20	2,882
Field 6	21	-5	+79	+141	12	35	12	Low	21	Low	155	79	141	160	0	0	-5	79	141	869
Field 6A	21	-5	+79	+141	12	35	12	Low	21	Low	155	79	141	160	0	0	-5	79	141	1,133
Field 7	57	-3	+152	-30	23	66	44	Medium	57	Medium	297	152	270	300	0	300	-3	152	-30	19,104
Field 7A	50	-3	+107	-80	23	66	44	Medium	50	Medium	297	152	270	300	45	350	-3	107	-80	8,408
Field 8	29	-3	+152	+20	23	66	23	Low	29	Low	297	152	270	300	0	250	-3	152	20	2,139
Field 8A	55	-3	+152	-30	23	66	44	Medium	55	Medium	297	152	270	300	0	300	-3	152	-30	416
Field 9	56	-3	+152	-30	23	66	44	Medium	56	Medium	297	152	270	300	0	300	-3	152	-30	7,309
Field 9A	54	-3	+152	+20	23	66	44	Medium	54	Medium	297	152	270	300	0	250	-3	152	20	3,060
Field 10	29	-3	+152	+20	23	66	23	Low	29	Low	297	152	270	300	0	250	-3	152	20	4,041
Field 10A	59	-3	+152	+20	23	66	44	Medium	59	Medium	297	152	270	300	0	250	-3	152	20	4,873
Field 11	18	-5	+79	+101	12	35	13	Low	18	Low	155	79	141	160	0	40	-5	79	101	2,064
Field12	57	-3	+152	+20	23	66	44	Medium	57	Medium	297	152	270	300	0	250	-3	152	20	3,328
Field13	32	-3	+152	+270	23	66	25	Low	32	Low	297	152	270	300	0	0	-3	152	270	3,447
Field 13A	31	-3	+152	+270	23	66	25	Low	31	Low	297	152	270	300	0	0	-3	152	270	8,854
Field 13B	30	-3	+152	+270	23	66	25	Low	30	Low	297	152	270	300	0	0	-3	152	270	2,407
Field 14	31	-3	+152	+70	23	66	25	Low	31	Low	297	152	270	300	0	200	-3	152	70	2,258
Field 15	31	-3	+152	+70	23	66	25	Low	31	Low	297	152	270	300	0	200	-3	152	70	6,388
Field 15A	35	-5	-1	+81	12	35	31	Low	35	Medium	155	79	141	160	80	60	-5	-1	81	1,614
Field 15B	31	-3	+152	+270	23	66	25	Low	31	Low	297	152	270	300	0	0	-3	152	270	4,070
Field 16	54	-3	+152	+270	23	66	44	Medium	54	Medium	297	152	270	300	0	0	-3	152	270	4,516
Field 17	32	-3	+152	+20	23	66	25	Low	32	Low	297	152	270	300	0	250	-3	152	20	9,181
Field 18	26	-3	+107	-80	23	66	23	Low	26	Low	297	152	270	300	45	350	-3	107	-80	6,447
Field 19	28	-3	+152	+270	23	66	23	Low	28	Low	297	152	270	300	0	0	-3	152	270	3,001
Field 20	30	-3	+152	+70	23	66	25	Low	30	Low	297	152	270	300	0	200	-3	152	70	6,150
Field 21	21	-5	-41	+101	12	35	20	Low	21	Low	155	79	141	160	120	40	-5	-41	101	2,886
Field 21A	22	-5	-1	+141	12	35	20	Low	22	Low	155	79	141	160	80	0	-5	-1	141	2,421
Field 21B	28	-3	+107	+70	23	66	25	Low	28	Low	297	152	270	300	45	200	-3	107	70	1,783
Field 22	25	-5	+49	+81	12	35	20	Low	25	Low	155	79	141	160	30	60	-5	49	81	5,509
Field 23	53	-3	+152	-80	23	66	44	Medium	53	Medium	297	152	270	300	0	350	-3	152	-80	8,349
Field 24	51	-3	+107	-30	23	66	44	Medium	51	Medium	297	152	270	300	45	300	-3	107	-30	2,377
Field 32	53	-3	+152	+20	23	66	44	Medium	53	Medium	297	152	270	300	0	250	-3	152	20	2,971
Field 33	31	-5	+79	+141	12	35	23	Low	31	Low	155	79	141	160	0	0	-5	79	141	528
Field 34	30	-3	+152	+70	23	66	25	Low	30	Low	297	152	270	300	0	200	-3	152	70	3,803
Field 35	26	-3	+107	+20	23	66	23	Low	26	Low	297	152	270	300	45	250	-3	107	20	5,467
Field 36	63	-3	+42	+270	23	66	59	Medium	63	Medium	297	152	270	300	110	0	-3	42	270	2,496
Farm Totals																				164,384
Available																				69,470
Surpluses/Deficits (+/-)																				-94,913

Arkansas Nutrient Managemnt Plann

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working wit

Nutrient Management Plans for the application of manure to
litter production for the farm, estimates the P Index risk value
allocation of nutrients to the various receiving fields, and esti

Fields Shown	Total Annual Summary				utrient Budget - - - - - - Per Field Nutrient Budget - - - - - - Per Field Nutrient Budget - - - - - - Per Field Nutrient Budget - - -								- - - Manure Distribution Summary, Units Applied by Field and Source - - - - - - Manure Distribut					
					lication Rate Totals		Nutrient Recommendation (lb/field)			Surpluses / Deficits (+/-)			SourcesSourcesSourcesSourcesSourcesSourcesSourcesSourcesSourcesSourcesSou					
													Pond 1 M50518					
50	PI	Nutrient Balance (+/-)			P2O5 (lb/field)	K2O (lb/field)	N (lb/field)	P2O5 (lb/field)	K2O (lb/field)	N (lb/field)	P2O5 (lb/field)	K2O (lb/field)	1000 gal					
													Nov-Feb		March-June		July-Oct	
Field	Value	N	P2O5	K2O									Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field
Field 1	20	-5	+79	+141	650	1,155	1,312	0	0	-40	650	1,155	0.0	0.0	5.0	41.0	0.0	0.0
Field 2	22	-5	+79	+141	476	845	960	0	0	-29	476	845	0.0	0.0	5.0	30.0	0.0	0.0
Field 3	57	-3	+152	-30	2,314	4,098	4,560	0	4,560	-44	2,314	-462	0.0	0.0	9.5	144.4	0.0	0.0
Field 4	20	-5	+79	+141	571	1,014	1,152	0	0	-35	571	1,014	0.0	0.0	5.0	36.0	0.0	0.0
Field 5	54	-3	+152	+20	1,477	2,615	2,910	0	2,425	-28	1,477	190	0.0	0.0	9.5	92.2	0.0	0.0
Field 6	21	-5	+79	+141	444	788	896	0	0	-27	444	788	0.0	0.0	5.0	28.0	0.0	0.0
Field 6A	21	-5	+79	+141	579	1,028	1,168	0	0	-35	579	1,028	0.0	0.0	5.0	36.5	0.0	0.0
Field 7	57	-3	+152	-30	9,790	17,335	19,290	0	19,290	-186	9,790	-1,955	0.0	0.0	9.5	610.9	0.0	0.0
Field 7A	50	-3	+107	-80	4,309	7,630	8,490	1,274	9,905	-82	3,035	-2,275	0.0	0.0	9.5	268.9	0.0	0.0
Field 8	29	-3	+152	+20	1,096	1,941	2,160	0	1,800	-21	1,096	141	0.0	0.0	9.5	68.4	0.0	0.0
Field 8A	55	-3	+152	-30	213	377	420	0	420	-4	213	-43	0.0	0.0	9.5	13.3	0.0	0.0
Field 9	56	-3	+152	-30	3,745	6,632	7,380	0	7,380	-71	3,745	-748	0.0	0.0	9.5	233.7	0.0	0.0
Field 9A	54	-3	+152	+20	1,568	2,777	3,090	0	2,575	-30	1,568	202	0.0	0.0	9.5	97.9	0.0	0.0
Field 10	29	-3	+152	+20	2,071	3,667	4,080	0	3,400	-39	2,071	267	0.0	0.0	9.5	129.2	0.0	0.0
Field 10A	59	-3	+152	+20	2,497	4,421	4,920	0	4,100	-47	2,497	321	0.0	0.0	9.5	155.8	0.0	0.0
Field 11	18	-5	+79	+101	1,055	1,873	2,128	0	532	-64	1,055	1,341	0.0	0.0	5.0	66.5	0.0	0.0
Field12	57	-3	+152	+20	1,705	3,020	3,360	0	2,800	-32	1,705	220	0.0	0.0	9.5	106.4	0.0	0.0
Field13	32	-3	+152	+270	1,766	3,127	3,480	0	0	-33	1,766	3,127	0.0	0.0	9.5	110.2	0.0	0.0
Field 13A	31	-3	+152	+270	4,537	8,034	8,940	0	0	-86	4,537	8,034	0.0	0.0	9.5	283.1	0.0	0.0
Field 13B	30	-3	+152	+270	1,233	2,184	2,430	0	0	-23	1,233	2,184	0.0	0.0	9.5	77.0	0.0	0.0
Field 14	31	-3	+152	+70	1,157	2,049	2,280	0	1,520	-22	1,157	529	0.0	0.0	9.5	72.2	0.0	0.0
Field 15	31	-3	+152	+70	3,273	5,796	6,450	0	4,300	-62	3,273	1,496	0.0	0.0	9.5	204.3	0.0	0.0
Field 15A	35	-5	-1	+81	825	1,464	1,664	832	624	-50	-7	840	0.0	0.0	5.0	52.0	0.0	0.0
Field 15B	31	-3	+152	+270	2,086	3,694	4,110	0	0	-40	2,086	3,694	0.0	0.0	9.5	130.2	0.0	0.0
Field 16	54	-3	+152	+270	2,314	4,098	4,560	0	0	-44	2,314	4,098	0.0	0.0	9.5	144.4	0.0	0.0
Field 17	32	-3	+152	+20	4,705	8,331	9,270	0	7,725	-89	4,705	606	0.0	0.0	9.5	293.6	0.0	0.0
Field 18	26	-3	+107	-80	3,304	5,850	6,510	977	7,595	-63	2,327	-1,745	0.0	0.0	9.5	206.2	0.0	0.0
Field 19	28	-3	+152	+270	1,538	2,723	3,030	0	0	-29	1,538	2,723	0.0	0.0	9.5	96.0	0.0	0.0
Field 20	30	-3	+152	+70	3,152	5,581	6,210	0	4,140	-60	3,152	1,441	0.0	0.0	9.5	196.7	0.0	0.0
Field 21	21	-5	-41	+101	1,475	2,619	2,976	2,232	744	-90	-757	1,875	0.0	0.0	5.0	93.0	0.0	0.0
Field 21A	22	-5	-1	+141	1,237	2,196	2,496	1,248	0	-75	-11	2,196	0.0	0.0	5.0	78.0	0.0	0.0
Field 21B	28	-3	+107	+70	914	1,618	1,800	270	1,200	-17	644	418	0.0	0.0	9.5	57.0	0.0	0.0
Field 22	25	-5	+49	+81	2,815	4,998	5,680	1,065	2,130	-171	1,750	2,868	0.0	0.0	5.0	177.5	0.0	0.0
Field 23	53	-3	+152	-80	4,278	7,576	8,430	0	9,835	-81	4,278	-2,259	0.0	0.0	9.5	267.0	0.0	0.0
Field 24	51	-3	+107	-30	1,218	2,157	2,400	360	2,400	-23	858	-243	0.0	0.0	9.5	76.0	0.0	0.0
Field 32	53	-3	+152	+20	1,523	2,696	3,000	0	2,500	-29	1,523	196	0.0	0.0	9.5	95.0	0.0	0.0
Field 33	31	-5	+79	+141	270	479	544	0	0	-16	270	479	0.0	0.0	5.0	17.0	0.0	0.0
Field 34	30	-3	+152	+70	1,949	3,451	3,840	0	2,560	-37	1,949	891	0.0	0.0	9.5	121.6	0.0	0.0
Field 35	26	-3	+107	+20	2,801	4,961	5,520	828	4,600	-53	1,973	361	0.0	0.0	9.5	174.8	0.0	0.0
Field 36	63	-3	+42	+270	1,279	2,265	2,520	924	0	-24	355	2,265	0.0	0.0	9.5	79.8	0.0	0.0
Farm Totals					84,207	149,161	166,416	10,009	111,060	-2,032	74,198	38,101						
Available					33,325	62,976												
Surpluses/Deficits (+/-)					-50,882	-86,185												

Arkansas Nutrient Managemnt Plann

Planner:	Monica Hancock
Plan Description:	C & H Hog Farms, Inc

Beta Test Version for Use by Select Planners working wit

Nutrient Management Plans for the application of manure to
litter production for the farm, estimates the P Index risk value
allocation of nutrients to the various receiving fields, and esti

ion Summary, Units Applied by Field and Source - - - - - - Manure Distribution Summary, Units Applied by Field and Source - - - - - - Manure Distribution Summary, Units Applied by Field and Source - - -

ırcesSources

Fields Shown	Total Annual Summary						Pond 2 M50519 1000 gal								Dry ton		Liquid 1000 gal	
					Annual		Nov-Feb		March-June		July-Oct		Annual		Annual		Annual	
50	PI	Nutrient Balance (+/-)			Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field	Per Acre	Per Field
Field	Value	N	P2O5	K2O														
Field 1	20	-5	+79	+141	5.0	41.0	0	0	0	0	7	57	7	57	0.0	0.0	12.0	98.4
Field 2	22	-5	+79	+141	5.0	30.0	0	0	0	0	7	42	7	42	0.0	0.0	12.0	72.0
Field 3	57	-3	+152	-30	9.5	144.4	0	0	0	0	14	205	14	205	0.0	0.0	23.0	349.6
Field 4	20	-5	+79	+141	5.0	36.0	0	0	0	0	7	50	7	50	0.0	0.0	12.0	86.4
Field 5	54	-3	+152	+20	9.5	92.2	0	0	0	0	14	131	14	131	0.0	0.0	23.0	223.1
Field 6	21	-5	+79	+141	5.0	28.0	0	0	0	0	7	39	7	39	0.0	0.0	12.0	67.2
Field 6A	21	-5	+79	+141	5.0	36.5	0	0	0	0	7	51	7	51	0.0	0.0	12.0	87.6
Field 7	57	-3	+152	-30	9.5	610.9	0	0	0	0	14	868	14	868	0.0	0.0	23.0	1478.9
Field 7A	50	-3	+107	-80	9.5	268.9	0	0	0	0	14	382	14	382	0.0	0.0	23.0	650.9
Field 8	29	-3	+152	+20	9.5	68.4	0	0	0	0	14	97	14	97	0.0	0.0	23.0	165.6
Field 8A	55	-3	+152	-30	9.5	13.3	0	0	0	0	14	19	14	19	0.0	0.0	23.0	32.2
Field 9	56	-3	+152	-30	9.5	233.7	0	0	0	0	14	332	14	332	0.0	0.0	23.0	565.8
Field 9A	54	-3	+152	+20	9.5	97.9	0	0	0	0	14	139	14	139	0.0	0.0	23.0	236.9
Field 10	29	-3	+152	+20	9.5	129.2	0	0	0	0	14	184	14	184	0.0	0.0	23.0	312.8
Field 10A	59	-3	+152	+20	9.5	155.8	0	0	0	0	14	221	14	221	0.0	0.0	23.0	377.2
Field 11	18	-5	+79	+101	5.0	66.5	0	0	0	0	7	93	7	93	0.0	0.0	12.0	159.6
Field12	57	-3	+152	+20	9.5	106.4	0	0	0	0	14	151	14	151	0.0	0.0	23.0	257.6
Field13	32	-3	+152	+270	9.5	110.2	0	0	0	0	14	157	14	157	0.0	0.0	23.0	266.8
Field 13A	31	-3	+152	+270	9.5	283.1	0	0	0	0	14	402	14	402	0.0	0.0	23.0	685.4
Field 13B	30	-3	+152	+270	9.5	77.0	0	0	0	0	14	109	14	109	0.0	0.0	23.0	186.3
Field 14	31	-3	+152	+70	9.5	72.2	0	0	0	0	14	103	14	103	0.0	0.0	23.0	174.8
Field 15	31	-3	+152	+70	9.5	204.3	0	0	0	0	14	290	14	290	0.0	0.0	23.0	494.5
Field 15A	35	-5	-1	+81	5.0	52.0	0	0	0	0	7	73	7	73	0.0	0.0	12.0	124.8
Field 15B	31	-3	+152	+270	9.5	130.2	0	0	0	0	14	185	14	185	0.0	0.0	23.0	315.1
Field 16	54	-3	+152	+270	9.5	144.4	0	0	0	0	14	205	14	205	0.0	0.0	23.0	349.6
Field 17	32	-3	+152	+20	9.5	293.6	0	0	0	0	14	417	14	417	0.0	0.0	23.0	710.7
Field 18	26	-3	+107	-80	9.5	206.2	0	0	0	0	14	293	14	293	0.0	0.0	23.0	499.1
Field 19	28	-3	+152	+270	9.5	96.0	0	0	0	0	14	136	14	136	0.0	0.0	23.0	232.3
Field 20	30	-3	+152	+70	9.5	196.7	0	0	0	0	14	279	14	279	0.0	0.0	23.0	476.1
Field 21	21	-5	-41	+101	5.0	93.0	0	0	0	0	7	130	7	130	0.0	0.0	12.0	223.2
Field 21A	22	-5	-1	+141	5.0	78.0	0	0	0	0	7	109	7	109	0.0	0.0	12.0	187.2
Field 21B	28	-3	+107	+70	9.5	57.0	0	0	0	0	14	81	14	81	0.0	0.0	23.0	138.0
Field 22	25	-5	+49	+81	5.0	177.5	0	0	0	0	7	249	7	249	0.0	0.0	12.0	426.0
Field 23	53	-3	+152	-80	9.5	267.0	0	0	0	0	14	379	14	379	0.0	0.0	23.0	646.3
Field 24	51	-3	+107	-30	9.5	76.0	0	0	0	0	14	108	14	108	0.0	0.0	23.0	184.0
Field 32	53	-3	+152	+20	9.5	95.0	0	0	0	0	14	135	14	135	0.0	0.0	23.0	230.0
Field 33	31	-5	+79	+141	5.0	17.0	0	0	0	0	7	24	7	24	0.0	0.0	12.0	40.8
Field 34	30	-3	+152	+70	9.5	121.6	0	0	0	0	14	173	14	173	0.0	0.0	23.0	294.4
Field 35	26	-3	+107	+20	9.5	174.8	0	0	0	0	14	248	14	248	0.0	0.0	23.0	423.2
Field 36	63	-3	+42	+270	9.5	79.8	0	0	0	0	14	113	14	113	0.0	0.0	23.0	193.2
Farm Totals						5,261						7,463		7,463				12,724
Available						2,624								2,624				2,624
Surpluses/Deficits (+/-)						-2,637								-4,839				

Section 6

Record Keeping Forms

Example Table for Recordkeeping

Copy of ADEQ's Annual Report Form

ARKANSAS RECORD KEEPING REQUIREMENTS

The Arkansas Department of Environmental Quality (ADEQ) requires that the following test results and records be submitted to them annually by May 30th from any person operating a liquid waste management and disposal system under Regulation 5. All sampling and analysis shall be in accordance with the University of Arkansas Cooperative Extension Service guidelines. Reports must be submitted on forms provided by ADEQ and a blank copy of the form is included in this section.

1. Records shall be kept on all waste/wastewater applications. A log shall be kept at the facility showing dates, volumes or weights, destinations and acreage over which the wastes are applied.
2. A representative sample of the waste/wastewater shall be collected once per year and analyzed for the following parameters: pH, total nitrogen, ammonia nitrogen, potassium, phosphorous, water extractable phosphorous (WEP), and percent solids. The results shall be included in the final yearly report.
3. The soils of each field where liquid animal waste has been land applied shall be sampled and analyzed at least once every five (5) years for the following parameters: pH, Potassium, Phosphorous and Nitrates.

It should be noted that these are ADEQ requirements and any failure to produce or obtain the reports shall be deemed a violation of Regulation No. 5 and the permit.

The following table is provided as a convenience and may be used for record keeping. If the owner/operator has a reliable record keeping system in place that meets the Arkansas Record Keeping requirements, then that method shall be used.

Record of Nutrients Applied to Permitted Land*

Date	Field	Temp	Wind/Dir	Hours	Gal	Crop	Method	Total Acres	Condition Of Field	Equip Condition	Pond Liner	Source

***This table is provided as a convenience and may be used for record keeping. If the owner/operator has a reliable record keeping system in place, then that method shall be used.**

ANIMAL WASTE LAND APPLICATION RECORD
FOR PERMITTED CONFINED ANIMAL FACILITIES

PERMITTEE:_____ PERMIT NUMBER:_____

APPLICATION METHOD:_____

Field Name or/and Number	Date Applied	Crop Type	Area Applied (acres)	Volume Applied (gallons)

NOTE: Facility record; **DO NOT MAIL THIS**; Keep this record at the facility.
Make additional copies of this table as needed.

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

ANNUAL REPORT FORM FOR PERMITTED CONFINED ANIMAL FACILITIES

REPORTING PERIOD:
_____

PERMITTEE NAME: _____ PERMIT NUMBER: _____

PHONE NUMBER: _____ AFIN NUMBER:
_____

FACILITY TYPE AND SIZE: _____
(ie., 200 Cow Dairy, 2,500 Swine Finishing, 80,000 Bird Layer Operation, etc.)

WASTE DISPOSAL SYSTEM CONSISTS OF:
_____
(ie., Holding Pond, Holding Pond & Settling Basin, Concrete Holding Tank, etc.)

WASTE APPLICATION METHOD: _____
(ie., Tank Spreader, Irrigation System, etc.)

NO. OF APPLICATION FIELDS: _____

TOTAL AVAILABLE ACREAGE: _____

WASTEWATER SAMPLE LOCATION: _____
(Lagoon During Pumping or Field During Application)

YOU MUST SUBMIT A COPY OF THE **WASTEWATER ANALYSIS** FOR EACH SAMPLE PROVIDED TO THE COOPERATIVE EXTENSION SERVICE OR A PRIVATE LAB. THE WASTEWATER ANALYSIS MUST INCLUDE: pH (su), TOTAL NITROGEN, AMMONIA NITROGEN, TOTAL POTASSIUM, TOTAL PHOSPHORUS, AND PERCENT SOLIDS.

IN ADDITION, YOU MUST SUBMIT A COPY OF THE **SOIL ANALYSIS** FOR EACH FIELD WITH THIS FORM. THE SOIL ANALYSIS MUST INCLUDE: pH (su), POTASSIUM (lbs/ac), PHOSPHORUS (lbs/ac), AND NITRATES (lbs/ac). AT LEAST ONE SOIL ANALYSIS SHOULD BE DONE FOR EACH 30 ACRE TRACT.

PLEASE COMPLETE THE TABLE ON THE BACK FOR THE LAND APPLICATION REPORT. YOU MUST SIGN AND DATE THIS REPORT AND SUBMIT IT TO THE DEPARTMENT PRIOR TO MAY 30th OF EACH YEAR. PLEASE KEEP A COPY OF THIS REPORT, THE SOIL ANALYSIS, AND THE WASTEWATER ANALYSIS FOR YOUR RECORD AT THE FACILITY.

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION.

_____ _____ _____
OWNER OR OPERATOR (Please Print) **SIGNATURE** **DATE**

Mail complete annual report form and annual application report to:

ANNUAL ANIMAL WASTE LAND APPLICATION REPORT

PERMITTEE NAME: _____ PERMIT NUMBER: _____

Field Name or/and Number	Crop Type	Total* Area Applied (acres)	Total** Volume Applied (gallons)	Total*** Nitrogen (lbs/1000 gal.)	Calculated Nitrogen Applied (lbs/ac)
(1)	(2)	(3)	(4)	(5)	(6)

*** Total available area is the area where manure was applied during the reporting period (this data can be obtained from the management plan).**
**** Total volume applied is the total volume applied to the field during the whole reporting period (this data can be obtained from record sheet).**
***** Total Nitrogen concentration (lbs/1000 gallons) can be obtained from the wastewater analysis sheet.**

Column (6) = Nitrogen Applied (lbs/ac) = Column(4) X Column(5) ÷ Column (3) ÷ 1,334

NOTE: You may make additional copies of this table as needed.

Mail complete annual report form and annual application report to:
Arkansas Department of Environmental Quality
Permits Branch, Water Division
5301 Northshore Drive
North Little Rock, AR 72118

December 14, 2017

To Whom It May Concern:

I, Tennie Fitzgerald, am the owner of the property that has been mistakenly identified as the "Mount Judea sports complex". My ownership includes the land previously intended to be used as a track and the property around it, which is located behind the Mount Judea School. My property is not currently being used by the school district.

Respectfully,

Tennie Fitzgerald

From: Ben Gilley
To: chhogfarmsinc@outlook.com
Subject: RE: Water Well Information
Date: Wednesday, December 20, 2017 3:16:13 PM
Attachments: image001.png

Ms. Henson,

I have performed a proximity analysis of public water supplies near your facility.

There are no public drinking water wells or surface intakes within the requested 1500' radius. This **does not** include privately owned water wells.

The closest public supply is East Newton County Water Association's **inactive** "Piercetown Well #2", 3.3 miles to the North. The closest **active** public supply well is Mockingbird Hill Water Association's "Well #1", 6.6 miles to the West. The closest active public supply well **downstream** of your facility is National Park Service's Tyler Bend Campground well, 22 miles to the East.

Thank you for your request and please let us know how we can be of further service.

Benjamin Gilley
Environmental Health Supervisor
Source Water Protection
Engineering Section, AR Dept. of Health
4815 W Markham St
Little Rock AR 72205
501-661-2703
benjamin.gilley@arkansas.gov

From: Darcia Routh
Sent: Wednesday, December 20, 2017 7:25 AM
To: Ben Gilley
Cc: chhogfarmsinc@outlook.com
Subject: FW: Water Well Information

Ben,

Please run proximity analysis for Ms. Henson.

Thank you,

Darcia Routh, P.G.
"dar-sha ruth"
Geologist Supervisor
Source Water Protection
Engineering Section, AR Dept. of Health
4815 W Markham St, Slot 37
Little Rock AR 72205
501-661-2856

Darcia.Routh@arkansas.gov

ARKANSAS DEPARTMENT OF HEALTH

From: C H Hog Farms Inc [mailto:chhogfarmsinc@outlook.com]
Sent: Tuesday, December 19, 2017 3:57 PM
To: Darcia Routh <Darcia.Routh@arkansas.gov>
Subject: Water Well Information

Ms. Routh,

I am seeking information on behalf of C & H Hog Farms, Inc to provide to the Arkansas Department of Environmental Quality of any water wells within 1,500 feet of our lagoons, which are located in Newton County, AR. The latitude for the property is 35 55' 22.43" N, and the longitude is 93 4' 21.76" W. Any information you have on the location and status of any wells (closed, active, etc.) within this respective area would be greatly appreciated.

Merry Christmas!
Thank you,
Tana Henson
870-688-1319

Registered Well Information

The Waste Storage Ponds have a Latitude of 35.922577, and Longitude of -93.073023. The Arkansas.Gov website was used to do an online search for a Report on Water Well Construction Installation. The Enter a Point and Search Radius was used and the above pond latitude was found to have zero wells within 1,500 feet of the location. In addition a search was done within 0.5 miles of the location and zero wells were found.

Figure 1. ANRC Website for Water Well Construction Installation Search

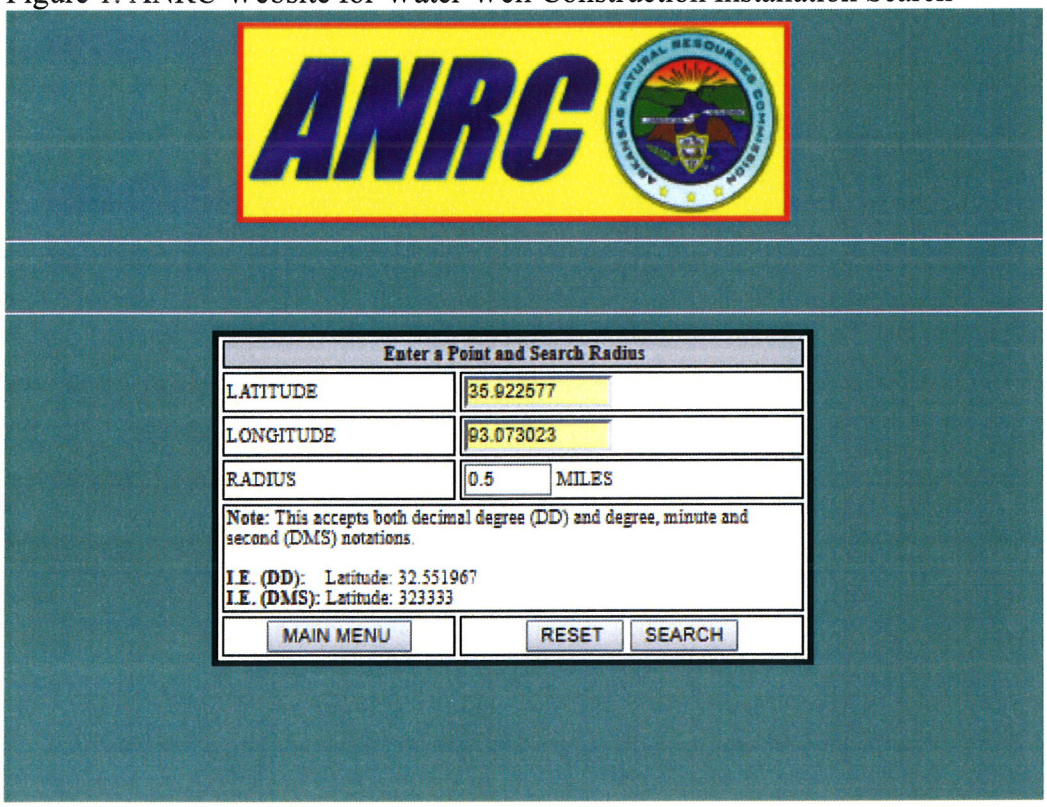
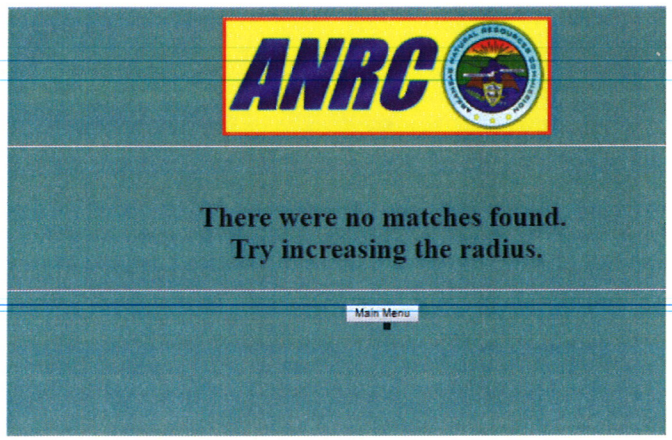


Figure 2. Water Well Construction Installation Search Results



From: Nathan Pesta
To: "C H Hog Farms Inc"; jasonhenson1995@gmail.com
Subject: Well Report
Date: Wednesday, December 20, 2017 4:31:18 PM
Attachments: 20171220175426.pdf

Nathan Pesta | P.E.
Senior Engineer | Owner
Send Large Files to:
https://www.dropbox.com/request/TPNH

DGA
CONSULTING ENGINEERS
701-663-1116 EX 1 | 701-400-3950
4200 21ST ST. SE UNIT 101 | MANDAN, ND | 58554
WWW.DGAENGINEERING.COM

From:	C H Hog Farms Inc
To:	Water Permit Application
Cc:	"William A. Waddell, Jr."
Subject:	Supplemental Information Request
Date:	Tuesday, December 26, 2017 12:46:25 PM
Attachments:	12-26-17 Letter to ADEQ re Reg 5 Supplemental Information Request Response.pdf Distances to Waterbodies.pdf Reg 5 NMP 4_1_16_Revised 12_19-17_Compressed.pdf Landowner Declaration.pdf RE Water Well Information.msg Well Report.msg well abandonment form.msg

---

To Whom It May Concern,

Please see the attached letter re: Permit No.: 5264-W; AFIN: 51-00164 for Supplemental Information requested by the Department.
If any information addressed in the attached letter is not received by the Department or if the attachments do not open correctly, please contact me. Please also verify receipt of this email.

Thank you,
Jason Henson

Arkansas Water Well Construction Commission

Bruce Holland
Executive Secretary

101 East Capitol, Suite 350
Little Rock, Arkansas 72201
www.arkansas.gov/awwcc

Phone: (501) 682-3900
Fax: (501) 682-3991
Jacob.harvey@arkansas.gov

Asa Hutchinson
Governor

Arkansas Water Well Abandonment Form

Contractor/Owner: C & H Farms **Contractor #:** 1077
Arnold Well Drilling 2819

Date: 12 / 21 / 2017 (MM/DD/YYYY)

1. **Well Location:** (Show sketch of location on back of this form) placement, etc.
   County: Newton

   Township **Range** **Section** (if available)

   _____ _____ _____ _____ ¼ _____ ¼

   Latitude: N 35° 55.431 **Longitude:** W 093° 04.226

2. **Owner and Address:** E. G. Campbell
   HC 72 Box 129

3. **Use of Well:** Unused for 20 years.

4. **Depth of Well:** 29 ft. **Diameter of Well:** 36 inch

5. **Amount of Casing Removed:** 2½ ft. **Diameter:** N/A inch (Rock)
   _____ _____ inch

6. **Sealing Material and Placement:**

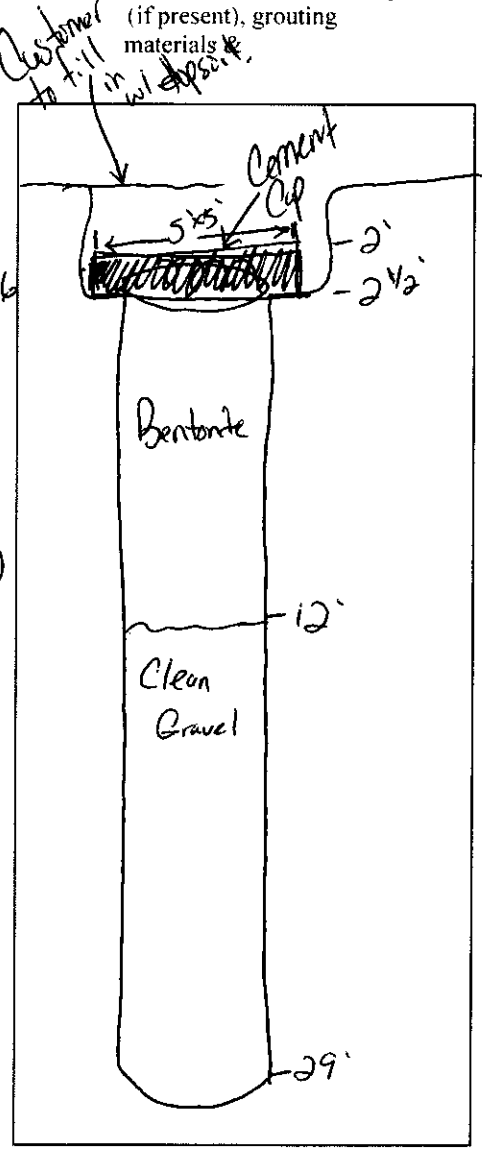
25 bags of 80 lb. cement
6 bags of 50 lb. bentonite

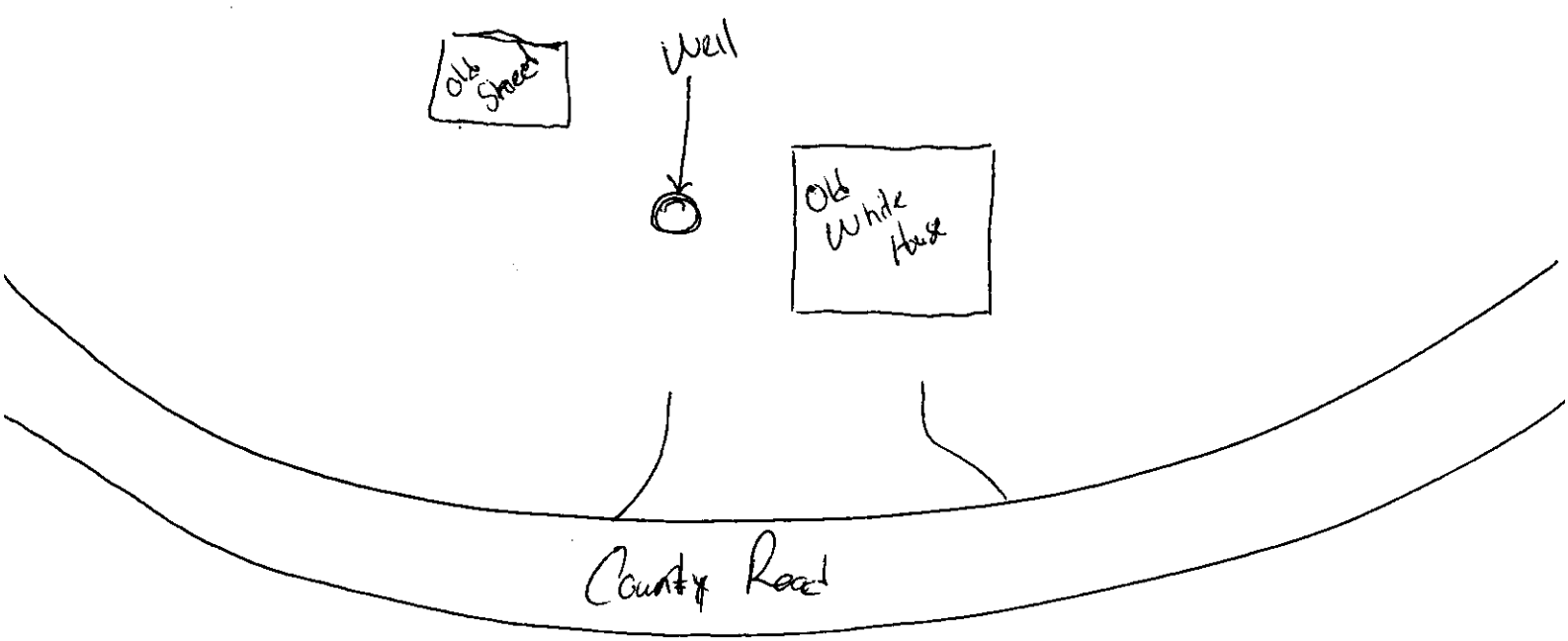
	Neat Cement	Sand Cement	Other	Placement
Bags (94 lb):	____	✓	____	From 2½ ft; To 2 ft
Gals of Water:	____	____	Bentonite	From 2 ft; To 12 ft
Yards of Sand:	____	____	Clean Gravel	From 12 ft; To 29 ft

7. **Explain Method of placement of Material:**

Gravity Filled well in with washed (clean) gravel from bottom to 12 ft. from ground surface.
Gravity Filled Bentonite from 12 ft. to 2½ ft of ground surface.
Formed up a 5'×5'×6" pad and poured cement.

* Well & Formation Diagram: Sketch a diagram showing depths of well, formations, casing (if present), grouting materials &




Old Shed
Well
Old White House
County Road

From:	Arnold Drilling & Pump, Inc.
To:	chhogfarmsinc@outlook.com
Subject:	well abandonment form
Date:	Thursday, December 21, 2017 3:36:45 PM
Attachments:	img20171221_14583519.pdf img20171221_15011910.pdf

---

Your message is ready to be sent with the following file or link attachments:

img20171221_14583519.pdf
img20171221_15011910.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.