

Arkansas Department of Environmental Quality
No-Discharge Section Permit Application
Liquid Animal Waste Management Systems

Permit No.: (Office Use Only)	AFIN: (Office Use Only)	SIC Code:	NAICS Code:
-----------------------------------------	-----------------------------------	------------------	--------------------

1. Permit Action and Type (Please check one of the following):

Operator Type: <input checked="" type="checkbox"/> Corporation (State of Incorporation: <u>AR</u>)	<input type="checkbox"/> Limited Liability Company (State of LLC: _____)
<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole Proprietorship/Private
<input type="checkbox"/> Public Entity (Type: _____)	
<input checked="" type="checkbox"/> New Permit	<input type="checkbox"/> Renewal
<input type="checkbox"/> Modification of Permit, Describe: _____	
<input type="checkbox"/> Cattle Feedlot	<input checked="" type="checkbox"/> Swine
<input type="checkbox"/> Dairy	<input type="checkbox"/> Poultry
<input type="checkbox"/> Other _____	

2. Permittee Legal Name and Mailing Address: (Must Match Arkansas's Secretary of State)

Owner Name: <u>C + H Hog Farms, Inc.</u>			
Address: <u>HC 72 Box 2</u>		Phone Number: <u>870-434-5004</u>	
City: <u>Vendor</u>	State: <u>AR</u>	Zip Code: <u>72683</u>	
Contact Person: <u>(Mr./Mrs./Ms.) Jason Henson</u>		Email: _____	
Title: <u>President</u>	Phone Number: <u>870-434-5004</u>	Cell Number: _____	

3. Facility Location (physical address is required; NO P.O. BOX):

Facility Name: <u>C + H Hog Farms, Inc.</u>			
Address (911 Address): <u>HC 72 Box 2</u>		Phone Number: <u>870-434-5004</u>	
City: <u>Vendor</u>	State: <u>AR</u>	Zip Code: <u>72683</u>	
1/4 Sec.: _____	Section: <u>26</u>	Township: <u>15 North</u>	Range: <u>20 West</u>
Latitude: <u>35 Deg 55 Min 30.47Sec. N</u>		Longitude: <u>93 Deg 4 Min 18.42Sec. W</u>	
County: <u>Newton</u>		Nearest Town: <u>Mount Judea, AR</u>	
Nearest Stream: _____		Distance: _____ (ft)	Stream Segment: _____

4. Consultant Information:

Name: <u>Pat Bass</u>	Consulting Firm: _____
Email: <u>+bass33@comcast.net</u>	Phone Number: <u>501-834-7785</u>
Address: <u>1609 Newoka Drive</u>	Cell Number: _____
City: <u>North Little Rock</u>	State: <u>AR</u>
	Zip Code: <u>72116</u>

Please read the following carefully and sign below.

I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, which may include fines and/or imprisonment.

SIGNATORY REQUIREMENTS:

The information contained in this form must be certified by a **responsible official** as defined below:

Corporation: principal officer at least the level of vice president (must be an officer or register agent with the secretary of state)

Partnership: a general partner

Sole Proprietorship: the proprietor/owner

Municipal, state, federal, or other public facility: principal executive officer, or ranking elected official

Responsible Official: Jason Henson Title: President

Responsible Telephone: 870-434-5004 Email: _____

Responsible Signature: Jason Henson Date: 4-6-16

Cognizant Official is an individual that is given signature authority from the Responsible Official

Cognizant Official: _____ Title: _____

Cognizant Telephone: _____ Email: _____

Cognizant Signature: _____ Date: _____

PERMIT REQUIREMENT VERIFICATION (Please check the following to verify the completion of permit requirements.)

- | Yes | No | |
|-------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Submittal of Complete Application
Does the Organization name match the Secretary of State (Corporation or Limited Liability Company)?
Does the Responsible Official match the Secretary of State? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Submittal of Nutrient Management Plan |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Submittal of Disclosure Statement (completed and executed)
Not required for public entity |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Submittal of Land use Contract/Deed/Lease |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Arkansas Department of Health notification letter (letter transmitting documents to ADH)
(New permits or modified permits) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Adjacent Landowner Notifications |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Provide Certificate of Good Standings with the Arkansas Secretary of State
(If foreign corporation, provide Certificate of Good Standings from the state of Origin) |

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK / ARKANSAS 72118-5317 / TELEPHONE 501-682-0744 / FAX 501-682-0880

www.adeq.state.ar.us

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY DISCLOSURE STATEMENT

Instructions for the Completion of this Document:

- A. Individuals, firms or other legal entities with no changes to an ADEQ Disclosure Statement, complete items 1 through 5 and 18.
- B. Individuals who never submitted an ADEQ Disclosure Statement, complete items 1 through 4, 6, 7, and 16 through 18.
- C. Firms or other legal entities who never submitted an ADEQ Disclosure Statement, complete 1 through 4, and 6 through 18.

If Not Submitting by ePortal, Mail Original to:

ADEQ
DISCLOSURE STATEMENT
[List Proper Division(s)]
5301 Northshore Drive
North Little Rock, AR 72118-5317

1. APPLICANT: (Full Name)

C + H Hog Farms, Inc.

2. MAILING ADDRESS (Number and Street, P.O.Box Or Rural Route) :

HC 72 Box 2

3. CITY, STATE, AND ZIPCODE:

Vendor, AR 721083

4a. Applicant Type:

Individual Corporate or Other Entity

4b. Reason for Submission:

Permit License Certification Operational Authority

New Application Modification Renewal Application (If no changes from previous disclosure statement, complete number 5 and 18.)

4c. Division:

Air Water Hazardous Waste Regulated Storage Tank Mining Solid Waste

5. Declaration of No Changes:

The violation history, experience and credentials, involvement in current or pending environmental lawsuits, civil and criminal, have not changed since the last Disclosure Statement that was filed with ADEQ on 6-5-12

6. Describe the experience and credentials of the Applicant, including the receipt of any past or present permits, licenses, certifications or operational authorization relating to environmental regulation. (Attach additional pages, if necessary.)

7. List and explain all civil or criminal legal actions by government agencies involving environmental protection laws or regulations against the Applicant * in the last ten (10) years including:

- 1. Administrative enforcement actions resulting in the imposition of sanctions;**
- 2. Permit or license revocations or denials issued by any state or federal authority;**
- 3. Actions that have resulted in a finding or a settlement of a violation; and**
- 4. Pending actions.**

(Attach additional pages, if necessary.)

*** Firms or other legal entities shall also include this information for all persons and legal entities identified in sections 8-16 of this Disclosure Statement.**

8. List all officers of the Applicant. (Add additional pages, if necessary.)

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

9. List all directors of the Applicant. (Add additional pages, if necessary.)

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

10. List all partners of the Applicant. (Add additional pages, if necessary.)

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

11. List all persons employed by the Applicant in a supervisory capacity or with authority over operations of the facility subject to this application.

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

12. List all persons or legal entities, who own or control more than five percent (5%) of the Applicant's debt or equity.

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

13. List all legal entities, in which the Applicant holds a debt or equity interest of more than five percent (5%).

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

14. List any parent company of the Applicant. Describe the parent company's ongoing organizational relationship with the Applicant.

NAME: _____

STREET: _____

CITY, STATE, ZIP: _____

Organizational Relationship:

15. List any subsidiary of the Applicant. Describe the subsidiary's ongoing organizational relationship with the Applicant.

NAME: _____

STREET: _____

CITY, STATE, ZIP: _____

Organizational Relationship:

16. List any person who is not now in compliance or has a history of noncompliance with the environmental laws or regulations of this state or any other jurisdiction and who through relationship by blood or marriage or through any other relationship could be reasonably expected to significantly influence the Applicant in a manner which could adversely affect the environment.

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

NAME: _____ TITLE: _____

STREET: _____

CITY, STATE, ZIP: _____

17. List all federal environmental agencies and any other environmental agencies outside this state that have or have had regulatory responsibility over the Applicant.

18. VERIFICATION AND ACKNOWLEDGEMENT

The Applicant agrees to provide any other information the director of the Arkansas Department of Environmental Quality may require at any time to comply with the provisions of the Disclosure Law and any regulations promulgated thereto. The Applicant further agrees to provide the Arkansas Department of Environmental Quality with any changes, modifications, deletions, additions or amendments to any part of this Disclosure Statement as they occur by filing an amended Disclosure Statement.

DELIBERATE FALSIFICATION OR OMISSION OF RELEVANT INFORMATION FROM DISCLOSURE STATEMENTS SHALL BE GROUNDS FOR CIVIL OR CRIMINAL ENFORCEMENT ACTION OR ADMINISTRATIVE DENIAL OF A PERMIT, LICENSE, CERTIFICATION OR OPERATIONAL AUTHORIZATION.

COMPLETE THIS SECTION ONLY IF SUBMITTING OTHER THAN BY EPORTAL:

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

APPLICANT

SIGNATURE: Jason Henson

TITLE: President

DATE: 4-6-16



**Arkansas Secretary of State
Mark Martin**

State Capitol Building ♦ Little Rock, Arkansas 72201-1094 ♦ 501-682-3409

Certificate of Good Standing

I, Mark Martin, Secretary of State of the State of Arkansas, and as such, keeper of the records of domestic and foreign corporations, do hereby certify that the records of this office show

C & H HOG FARMS, INC.

authorized to transact business in the State of Arkansas as a For Profit Corporation, filed Articles of Incorporation in this office March 26, 2012.

Our records reflect that said entity, having complied with all statutory requirements in the State of Arkansas, is qualified to transact business in this State.



In Testimony Whereof, I have hereunto set my hand and affixed my official Seal. Done at my office in the City of Little Rock, this 6th day of April 2016.

Mark Martin

Mark Martin

Secretary of State

Online Certificate Authorization Code: fd24c0b8aa04a47

To verify the Authorization Code, visit sos.arkansas.gov

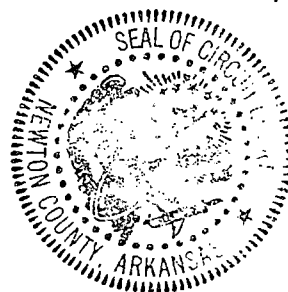
Please Return To:

Lenders Title Company
303 North Walnut
Harrison AR, 72601
Phone: 870-741-5640
Fax: 870-741-8537

File Number: 15-011783-850

Approved as to form by:
J. Mark Spradley, Attorney-at-Law
Transactional data completed by Lenders Title Company

Warranty Deed - Trustee (Letter).rtf



FILED
OFFICE OF THE CIRCUIT CLERK
NEWTON COUNTY ARKANSAS

SEP 25 2010

A.M. 138 P.M.
BOOK 126A PAGE 53
DONNIE DAVIS

FOR RECORDER'S USE ONLY

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

That, **Donnia S. Smith, Trustee of the Donnia S. Smith Trust, dated August 23, 2010, surviving joint tenant of Marie Holt, deceased, Grantor**, for and in consideration of the sum of ---TEN AND 00/100--- DOLLARS---(\$10.00)---and other good and valuable consideration in hand paid by C & H Hog Farms Inc., Grantee(s), the receipt and sufficiency of which is hereby acknowledged, does hereby grant, bargain, sell and convey unto the Grantee(s), and its successors and assigns forever, the following lands lying in the County of Newton and the State of Arkansas to-wit:

The SE 1/4 of the NE 1/4 of Section 25, Township 15 North, Range 20 West, containing 40 acres, more or less.

Also, Beginning at the 1/4 Section Corner of the line between Section 24 and 25, running South 80 rods; thence East 40 rods for a beginning place; thence South 160 rods; thence East 24 chains and 21 links to dry branch; thence North with meandering of said branch 3.38 chains to the mouth of Seab Wright Branch; thence in an Easterly direction with the center of main channel of said branch 6.69 chains to the East line of Section 25; thence North with said Section line 15.40 chains to the 1/4 Section corner on said East line of Section 25; thence West 16.36 chains; thence North 20 chains; thence West 13 chains and 64 links to the Place of Beginning. Same being a part of the South 1/2 of the NE 1/4 and a part of the North 1/2 of the SE 1/4 of Section 25, Township 15 North, Range 20 West, containing 75 acres, more or less.

Also the South 1/2 of the West 1/2 of the NW 1/4 of the SE 1/4 of Section 25, Township 15 North, Range 20 West, containing 10 acres, more or less.

Less and Except:

A part of the NW 1/4 of the SE 1/4 of Section 25, Township 15 North, Range 20 West, containing 46/100 of an acre, more or less, and more particularly described as follows: Beginning at the point where the West Right-of-Way of the County Road joins Hwy #74 in the NW 1/4 of the SE 1/4; thence with the Westerly Right-of-Way of the County Road, run

South 200 feet; thence leaving the County Road Right-of-Way, run West 100 feet; thence North 200 feet, more or less to the Southerly Right-of-Way line of Highway No. 74; thence with the southerly Right-of-Way of Hwy. No. 74, run East 100 feet back to the junction of the County Road and Highway No. 74, being the Point of Beginning.

ALSO, A part of the NE 1/4 of the SE 1/4 of Section 25, Township 15 North, Range 20 West, more particularly described as beginning at the SE corner of above described forty, run thence East on forty line 5.79 chains to Dry Branch; thence in Northerly direction with meanderings of Dry Branch 3.38 chains to the mount of Seab Wright Branch; thence in an Easterly direction with the meandering of Seab Wright Branch 6.69 chains to the East line of said forty; thence South 4.60 chains to the Place of Beginning, containing 3.38 acres.

Subject to any recorded: assessments, building lines, easements, mineral reservations and/or conveyances, and restrictions, if any.

TO HAVE AND TO HOLD the above described lands unto the Grantee(s) and unto its successors and assigns forever, with all tenements, appurtenances, and hereditaments thereunto belonging.

And the Grantor hereby covcnants with the Grantee(s) that it will forever warrant and defend the title to the above described lands against all claims whatsoever.

WITNESS our hand(s) and seal(s) on this 22nd day of September, 2015.

I certify under penalty of false swearing that documentary stamps or a documentary symbol in the legally correct amount has been placed on this instrument. Exempt or no consideration paid if none shown.

GRANTEE OR AGENT: Phily Campbell
C & H Hog Farms, Inc.

GRANTEE'S ADDRESS: HC 72 Box 132
Mt Judea, AR 72655
Vendor, AR 72683

Donnia S. Smith Trust, dated August 23, 2010

By: Donnia S. Smith
Donnia S. Smith, Trustee

April 4, 2016

Arkansas Department of Health
Engineering Division, Slot #37
4815 West Markham
Little Rock, Arkansas 72205

RE: C & H Hog Farms, Inc, Newton County, AR
Latitude 35° 55' 30.47"N Longitude 93° 4' 18.42"W
Section 26, Township 15 North, Range 20 West

Dear Madam or Sir:

C & H Hog Farms, Inc. has made an application to administratively change from a Regulation 6 permit to a Regulation 5 permit with the Arkansas Department of Environmental Quality. The only change in operational management will be the addition of more land to be proactive in environmental protection.

Please find the attached map package showing the waste application sites.

Thank you,

Jason Henson

Jason Henson


Jason Henson
C & H Hog Farms, Inc
HC 72 Box 2
Vendor, AR 72683

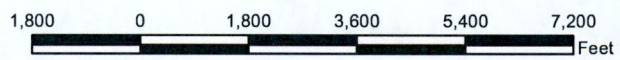
cc: Arkansas Department of Environmental Quality

County Road Map Overview



Legend

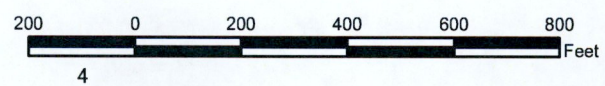
- road_tanw_l_ar101
-  Correct Field Boundaries



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







- Legend**
- Field Boundaries
 - Pond
 - Occupied House
 - Unoccupied House
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer
 - Steep Slope Buffer

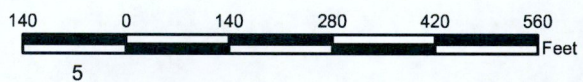


Buffered Field Map
Field 4
Jason Henson
T15N, R20W, S36
Mt. Judea Quad










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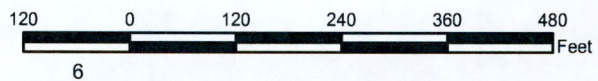
-  Field Boundaries
-  Pond
-  Occupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



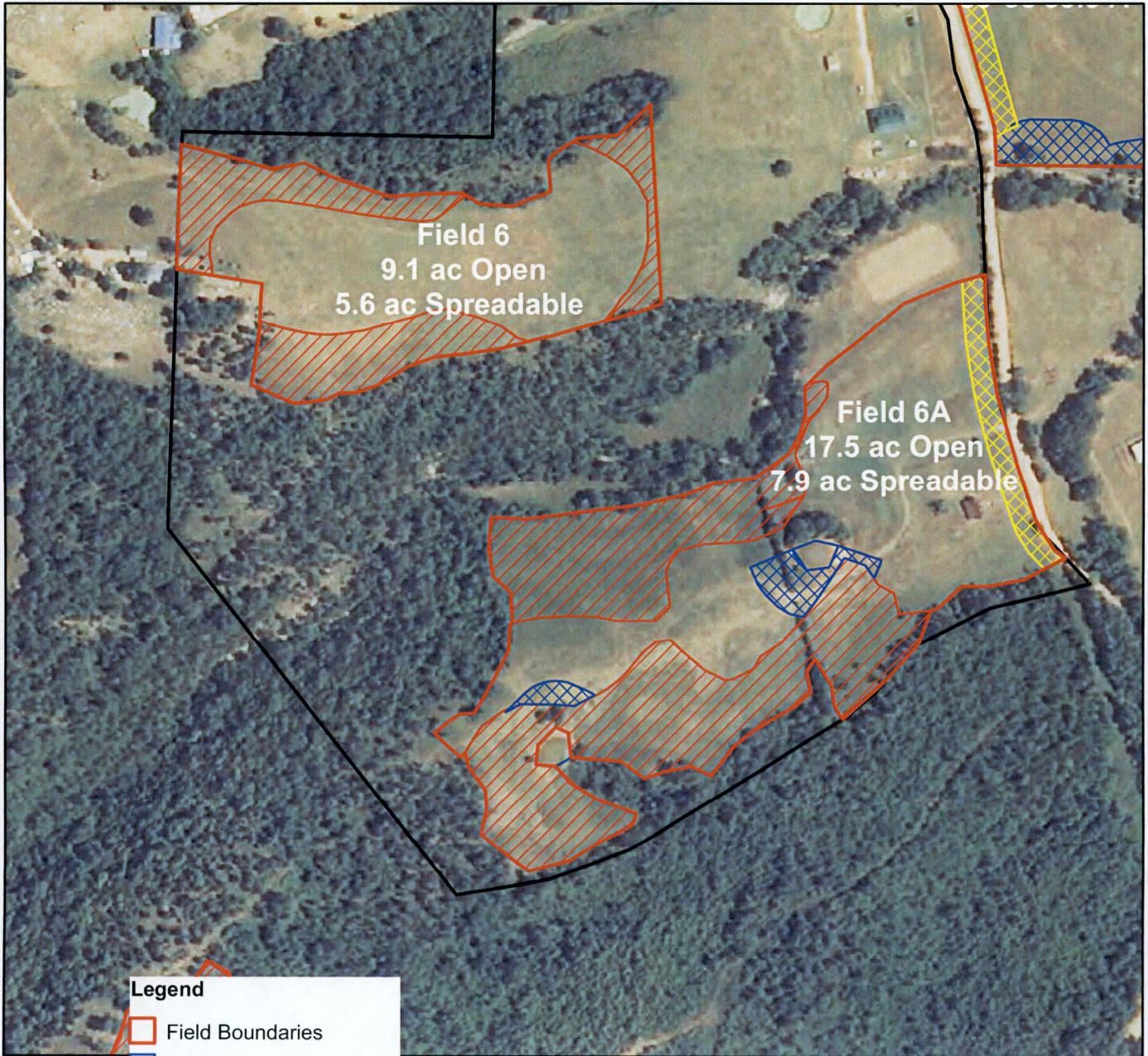
Buffered Field Map
Field 5
Louetta/Glen Ricketts
T15N, R20W, S23
Mt. Judea Quad











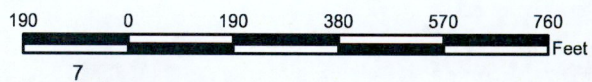
- Legend**
-  Field Boundaries
 -  Unoccupied House
 -  Property Line
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 -  100 Ft Buffer
 -  500 Ft Buffer
 -  Steep Slope Buffer



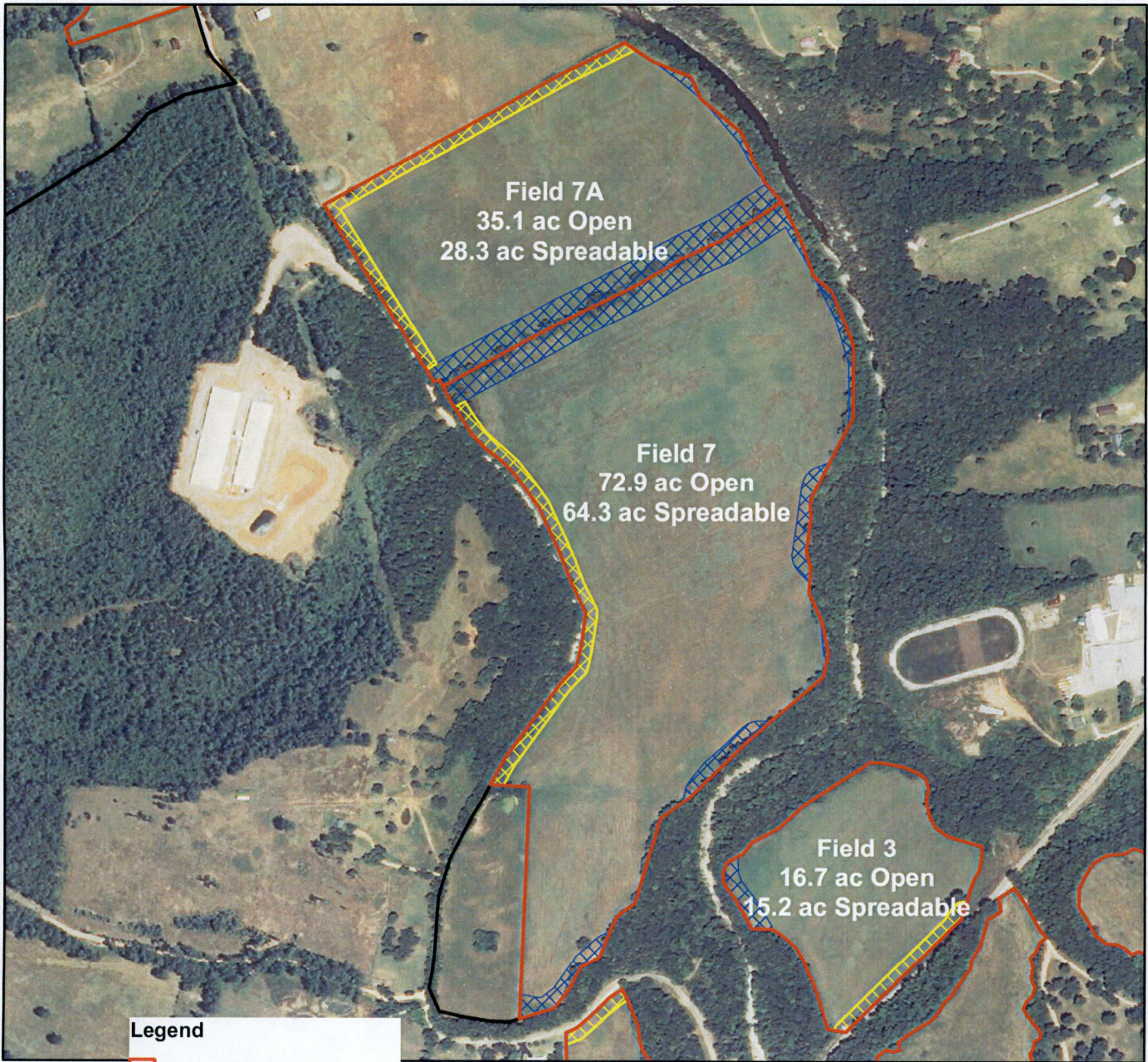
Buffered Field Map
Field 6 Louetta/Glen Ricketts
Field 6A Shawn Ricketts
T15N, R20W, S26
Mt. Judea Quad









- Legend**
-  Field Boundaries
 -  Pond
 -  Unoccupied House
 -  Property Line
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 -  100 Ft Buffer
 -  500 Ft Buffer
 -  Steep Slope Buffer

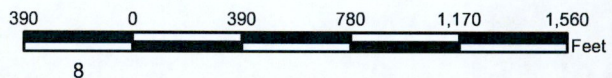


Buffered Field Map
Fields 7 and 7A
E. G. Campbell
Field 3 Charles Campbell
T15N, R20W, S25 and 26
Mt. Judea Quad



Legend

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



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

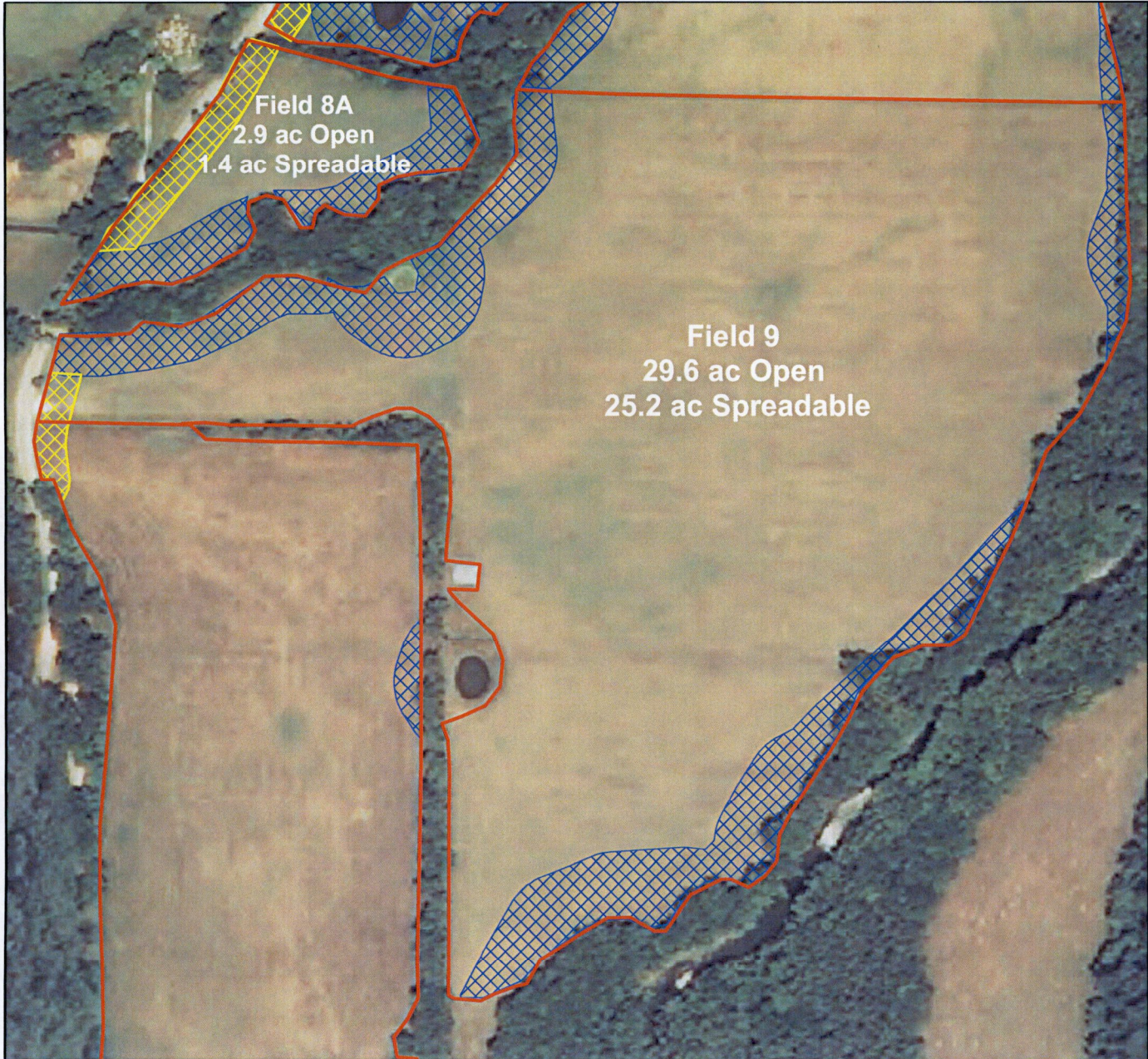


Legend

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

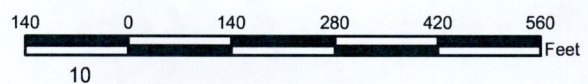


Buffered Field Map
Charles Campbell
Fields 8A and 9
T15N, R20W, S35
Mt. Judea Quad

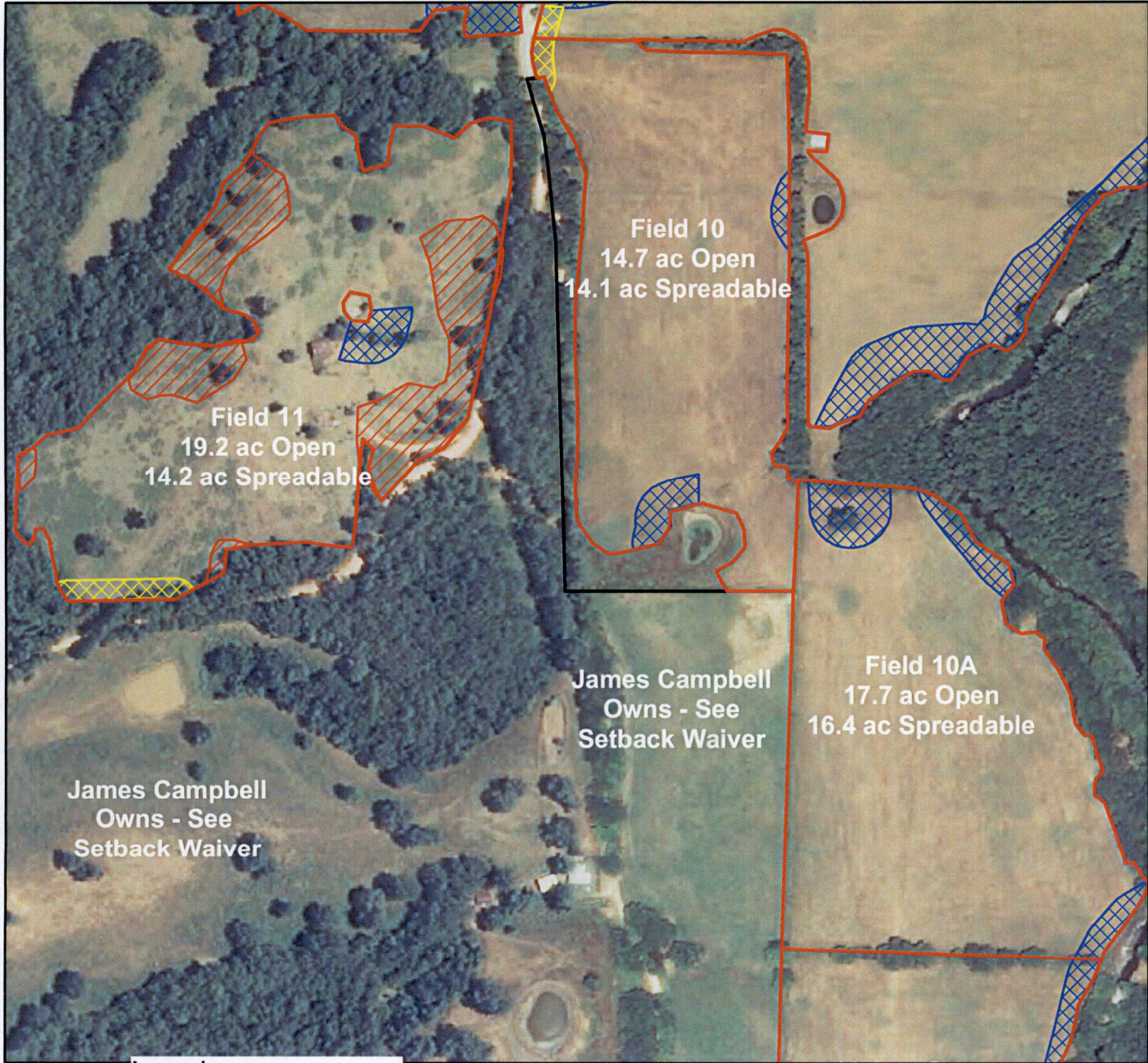


Legend

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-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope buffer

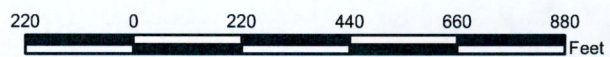


Buffered Field Map
Fields 10 and 11 Fayma Dickey
Field 10A Billy F. Cheatham
T15N, R20W, S35
Mt. Judea Quad

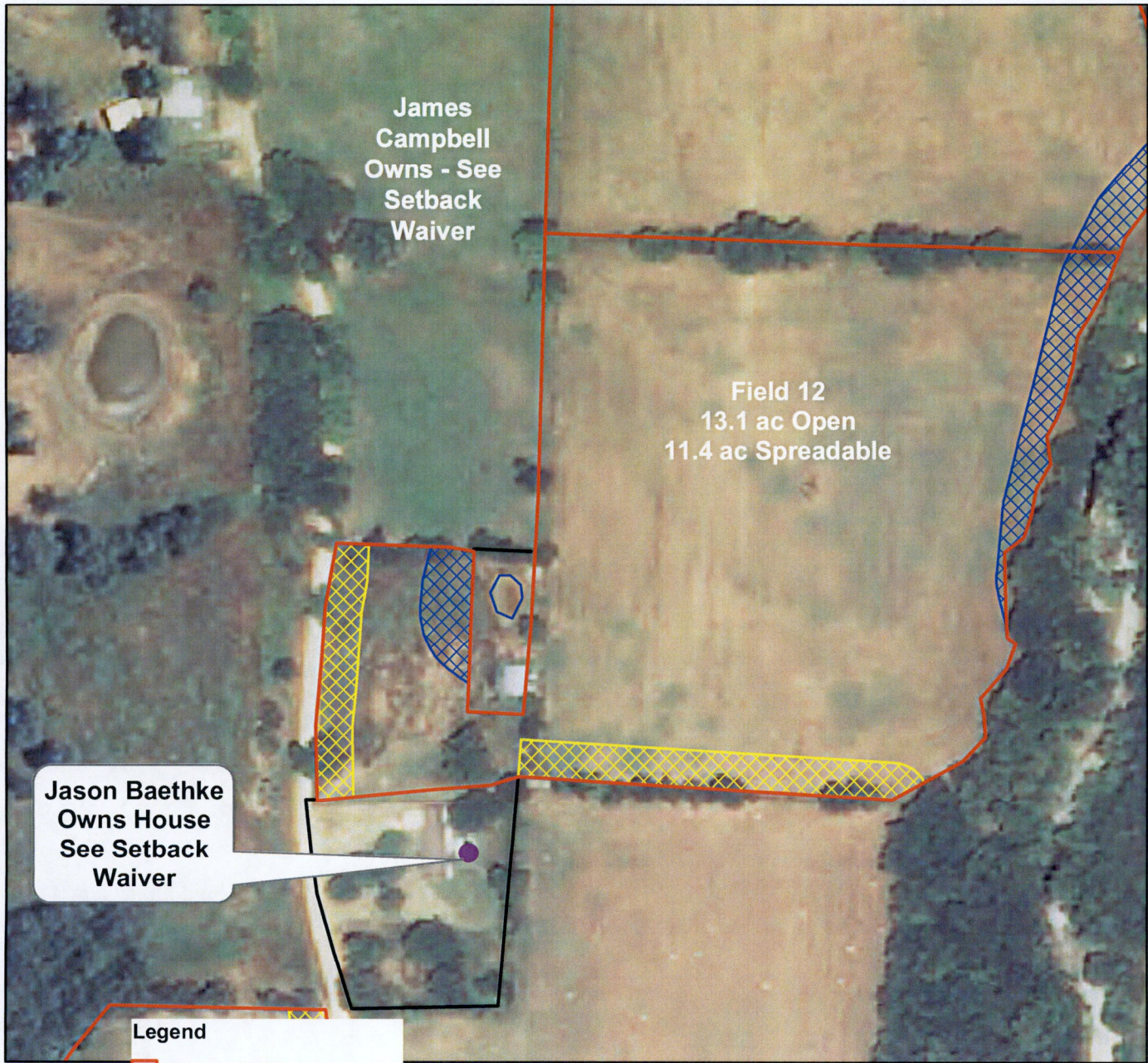


Legend

-  Field Boundaries
-  Property Line
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



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



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

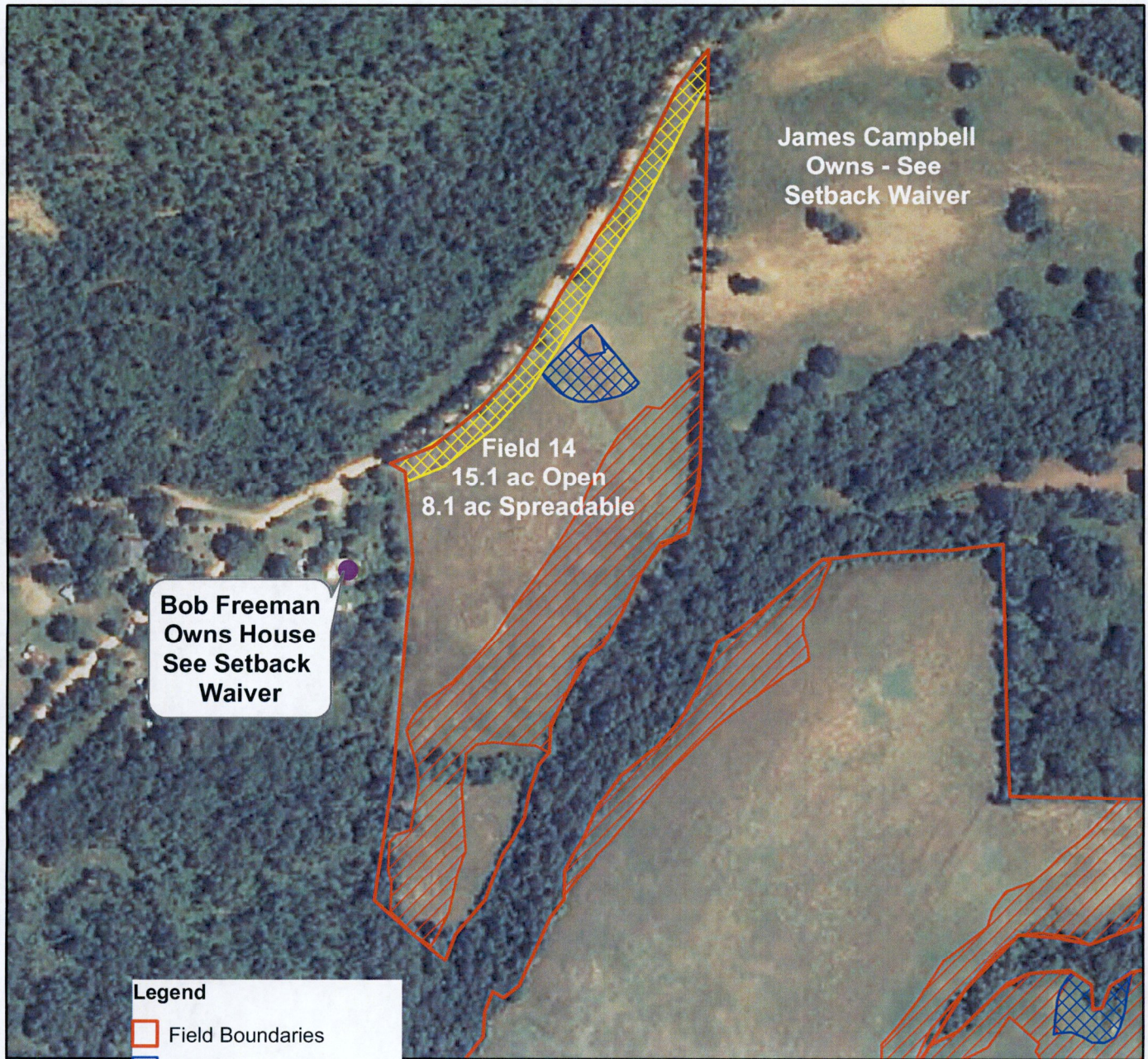


Legend

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











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

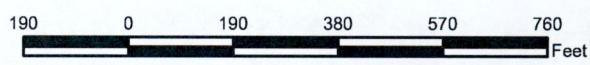


**Bob Freeman
Owns House
See Setback
Waiver**

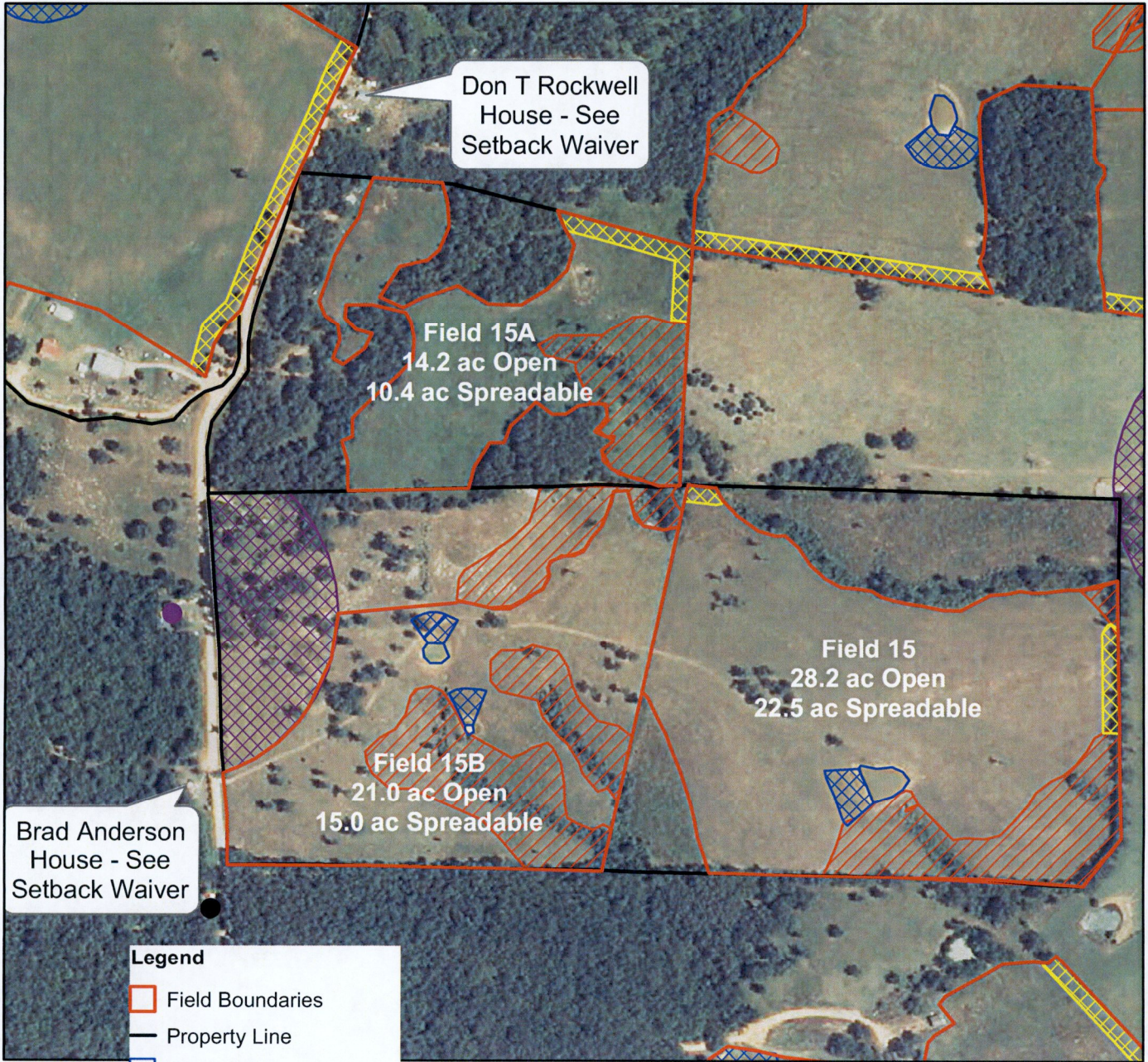
**James Campbell
Owns - See
Setback Waiver**

**Field 14
15.1 ac Open
8.1 ac Spreadable**










- Legend**
-  Field Boundaries
 -  Pond
 -  Occupied House
 -  Property Line
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer
 -  Steep Slope Buffer

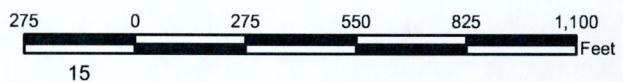


Buffered Field Map
 Fields 15, 15A, 15B
 Clayel Criner
 T14N, R20W, S2
 Mt. Judea Quad



Legend

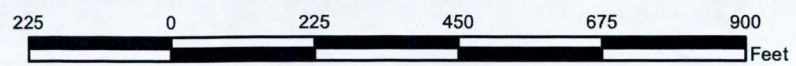
-  Field Boundaries
-  Property Line
-  Pond
-  Unoccupied House
-  Occupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



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



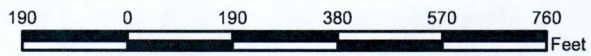
- Legend**
- Field Boundaries
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer
 - Steep Slope buffer



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



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

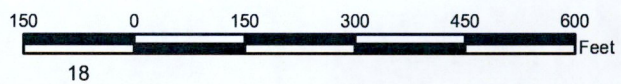


Buffered Field Map
Field 18
Murl Bryant
T15N, R20W, S25
Mt. Judea Quad



Legend

-  Pond
-  Field Boundaries
-  Occupied House
-  Unoccupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer



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



Legend

-  Pond
-  Field Boundaries
-  Occupied House
-  Unoccupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer



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

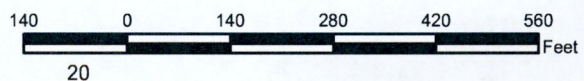


Field 20
24.8 ac Open
21.6 ac Spreadable

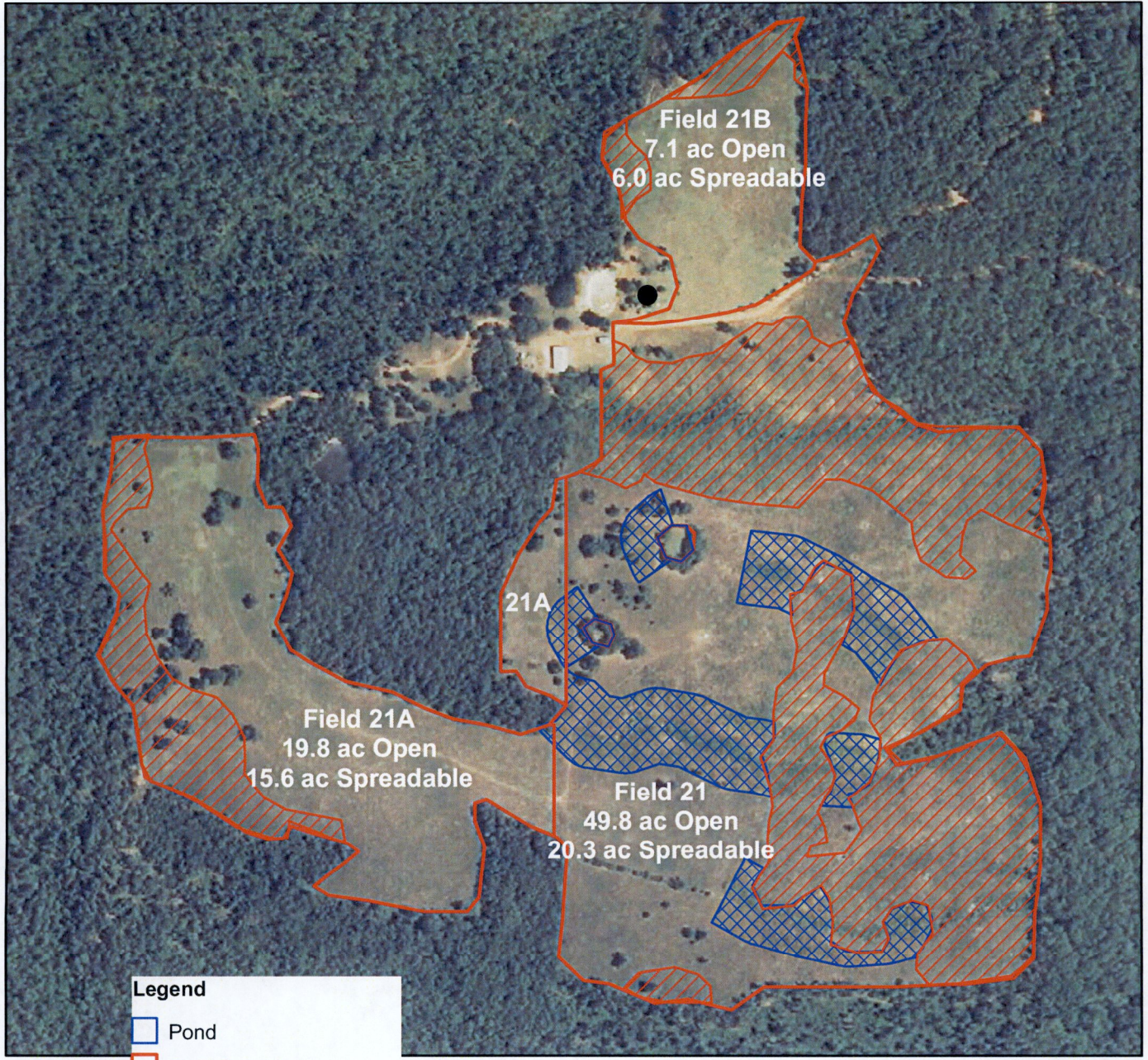
Charles Campbell Owns

Legend

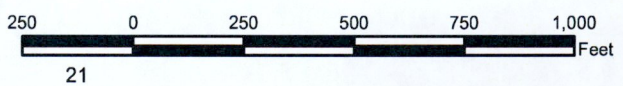
-  Pond
-  Field Boundaries
-  Occupied House
-  Unoccupied House
-  Steep Slope Buffer
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer



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



- Legend**
- Pond
 - Field Boundaries
 - Occupied House
 - Unoccupied House
 - ▨ Steep Slope Buffer
 - ▨ 50 Ft Buffer
 - ▨ 100 Ft Buffer
 - ▨ 500 Ft Buffer



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



Legend

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



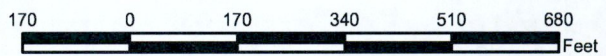
Buffered Field Map
Greg Grice
Field 23
T15N, R20W, S22
Mt. Judea Quad



Field 23
33.8 ac Open
28.1 ac Spreadable

Legend

-  Pond
-  Field Boundaries
-  Water Well
-  Occupied House
-  Unoccupied House
-  Steep Slope Buffer
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer

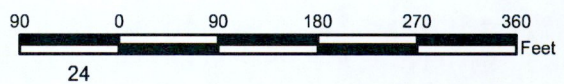


Buffered Field Map
Field 24
Donald Haddock
T15N, R20W, S23
Mt. Judea Quad







Legend

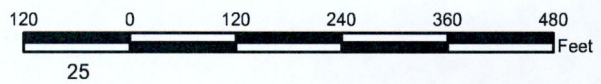
-  Field Boundaries
-  Unoccupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



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



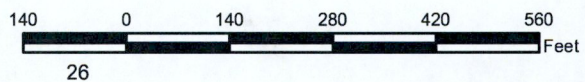
- Legend**
-  Pond
 -  Field Boundaries
 -  Occupied House
 -  Unoccupied House
 -  Steep Slope Buffer
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer



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



- Legend**
- Pond
 - Field Boundaries
 - Occupied House
 - Unoccupied House
 - Steep Slope Buffer
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer



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



- Legend**
- Field Boundaries
 - Pond
 - Occupied House
 - Unoccupied House
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer
 - Steep Slope Buffer



April 4, 2016

To: Adjacent Landowners

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

Dear Neighbor,

Please be aware that we are requesting from the Arkansas Department of Environmental Quality (ADEQ), a change in our permit. Currently the farm is operating under a Regulation 6 permit, an application is being made to administratively change to a Regulation 5 permit. Part of the liquid waste permit regulations require that we give notice to adjacent land owners when we change our permit type or add spreadable acres. Please contact Philip Campbell, Richard Campbell or Jason Henson at 870-434-5004 if you have any questions.

The legal description for land that is to be applied on is, part of: Sections 22, 23, 25, 26, 34, 35 and 36, Township 15 North, Range 20 West and part of Sections 2 and 3, Township 14 North, Range 20 West all in Newton County, Arkansas. Spreading on this acreage will be seasonal, and not on a day to day basis.

Thank you,

Jason Henson

Jason Henson
C&H Hog Farms

Letters have been sent to or else personnel contact has been made to the following individuals:

Murl Bryant
Regina Cross
Ronnie Martin
James Carl Campbell
Laura Hefley
Gary Nichols
Council Rock
Sue Cheatham
Farron Campbell
Kent Meyer
Robert Campbell
Cliff Middleton
Ronnie Campbell
Joe Ricketts
Ricky Middleton
Joe Ricketts

Rocky Nichols
Jack Hamm
Frankie Bonner
E. Karen Brister
Bob Freeman
D.L. Thomason
Glen Campbell
Don Rockwell
Ruthie Nichols
Donnie Campbell
Jerry Smith
Jewel Fowler
Tena Bryant
James Henson
Kenny Smith
Jessica Wheeler

James Henson
Tommie Wheeler
Thomas Bonner
Jason Baethke
Earl Freeman
Doris Anderson
U.S Forest Service
Bill Shatwell
Gary Johnson
Cameron Bolin
Donna Sue Smith
Aubrey Criner
Sonny Moening
Kevin Laffolette
Gary Nichols
Effie Smith

Buddy Campbell
Jackie Ricketts
Terry Middleton
Delores Moening
J.C. Freeman
Donald Miller
Bobby Noss
Richard Hudson
Duborah Waggoner
Calmus Campbell
Steven Martin
Darren Criner
Brad Anderson
Darlene Kent
Twillla Smith

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: 35° 55' 30.47"N **Longitude:** 93° 4' 18.42"W

Newton County, Arkansas



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

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PREPARED BY T. P. BASS, PE; REVIEWED BY DENNIS CARMEN, PE

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Existing Facility Design Review
Sizing of Facilities and Manure Volume Calculations
Existing Facility Storage Availability
Volume of Storage Requirements for 180 day Wet Period Operation
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Farm Overview

Title Page

Signature Page

Location and Contact Information

Operation and Maintenance

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.

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: 4125

Title: Pat Bass

Signature: Pat Bass Date: 4-3-2016

Name: Dennis Carmen Certification No: 7670

Title: Dennis Carmen, P.E. PROFESSIONAL ENGINEER

Signature: Dennis Carmen P.E. 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

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.

Section 1

- 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.

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

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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.adeg.state.ar.us/downloads/WebDatabases/PermitsOnline/NPDES/PermitInformation/ARG590001_Maps_20120613.pdf

As Built Engineering Plan Sheets

http://www.adeg.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 accessible 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 ft² 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 ft²) into the holding ponds. The red inner boundary denotes area of the top of the free board for holding Pond 1 (16,999 ft²) and Pond 2 (34,618 ft²).



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.

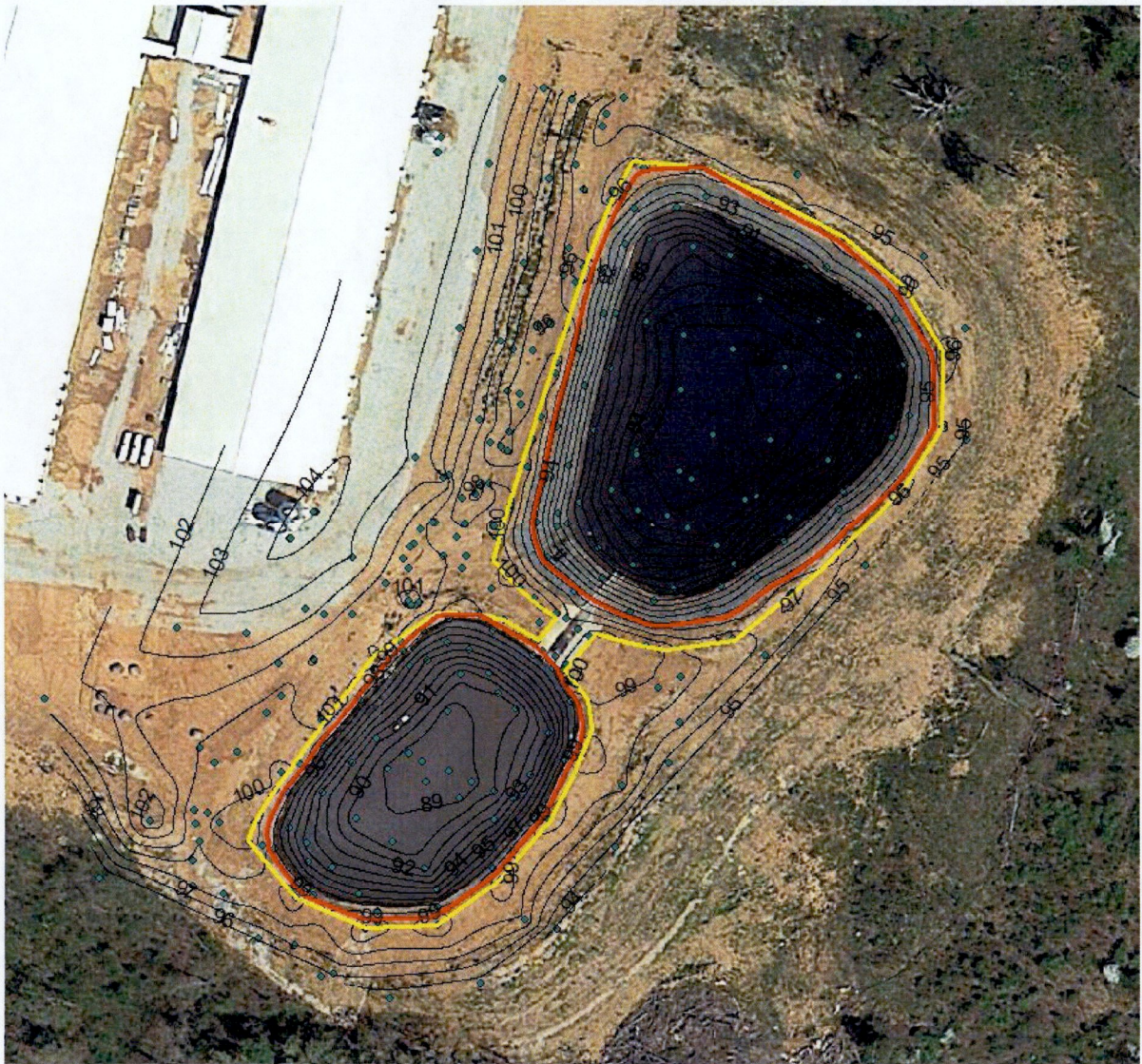


Figure2. Holding Pond Contours (Survey by Big Creek Research & Extension Team)

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
P205	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	Total for time	Per Animal	% of Manure Vol
	(gal)	(gal)	gal/hd/day	%
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
					0.91

25-yr, 24-Hr Storm **7** in
0.58 ft

Rain Catch Area **59,457** ft²
1.36 ac

Precipitation Accumulation for Time Period Accumulation (in/12) X Rain Catch Area (ft²)

	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

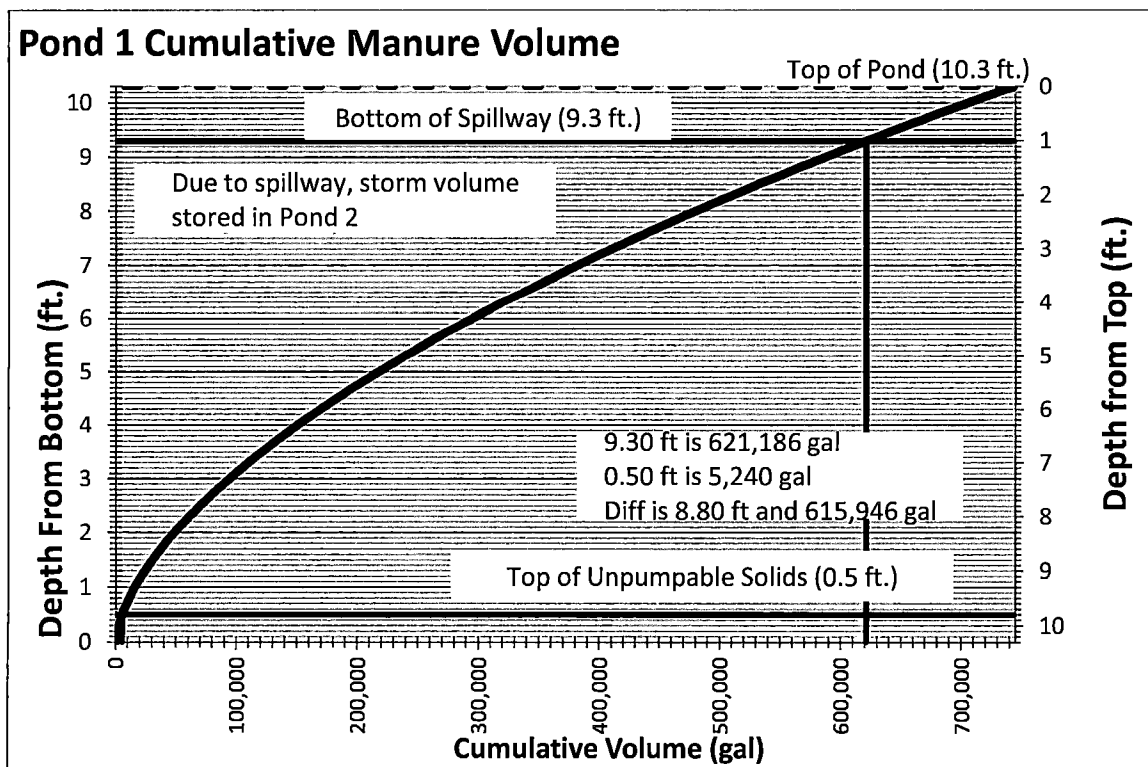
The manure and wash water collection operation consist of an intermittent flow through system from the housing structures to pond 1 then into pond 2. Each pond will maintain a 1.0 foot freeboard. All outside runoff from the surrounding area plus direct rainfall into the ponds along with a volume equal 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

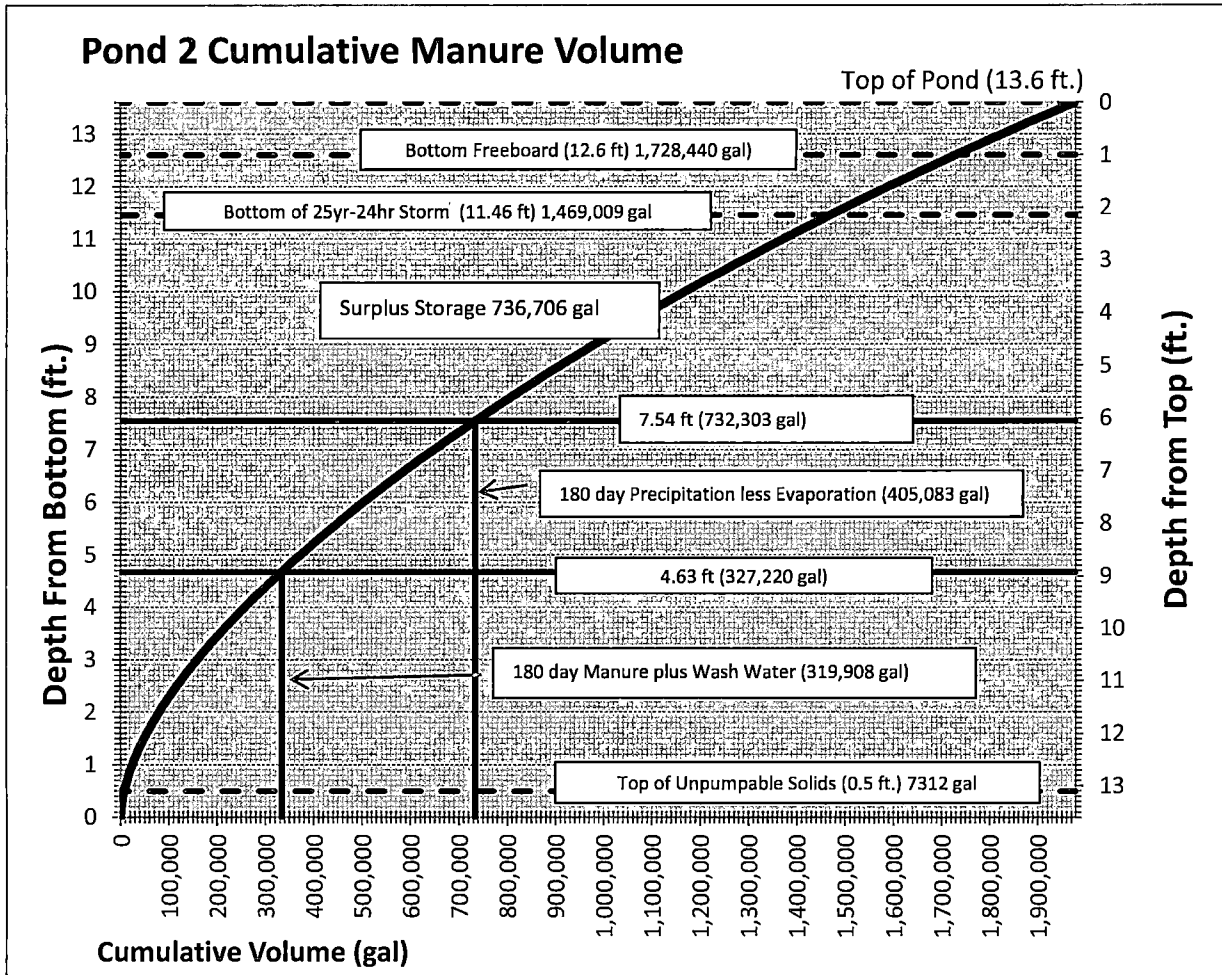
Storm Storage = 259,431 gals. (To maintain empty and available at all times for storm events)

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 ft²

The 270 day daily runoff = $59,457 \text{ ft}^2 \times 1.05 \text{ ft.} \times 7.48 \text{ gal/ft}^3 / 270 \text{ days} = 1728 \text{ gal/day}$

Volume Accumulation for Sept through May = $(4270+929+1728) \times 270 = \underline{1,870,290}$ 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 = $207,353 \text{ gals} / 5199 \text{ gals / day} = \underline{40 \text{ days}}$

Maximum Days of Storage = $270 + 40 = \underline{310 \text{ days}}$

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)

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	8.4	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	7.9	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	25.2	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	14.1	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	14.2	93°4'22.582"W	35°54'33.004"N
12	Robert Flud	Existing	35	15N	20W	11.4	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	30.7	93°4'35.599"W	35°53'59.62"N
13B	Charles Campbell	Existing	35	15N	20W	8.6	93°4'20.307"W	35°54'3.407"N
14	Charles Campbell	Existing	35	15N	20W	8.1	93°4'38.516"W	35°54'22.791"N
15	Clayel Criner	Existing	2	14N	20W	22.5	93°5'2.342"W	35°53'43.551"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	15.0	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

2

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	31.9	93°5'3.665"W	35°53'55.374"N
*18	Murl Bryant	New	25	15N	20W	22.6	93°3'27.778"W	35°55'32.715"N
*19	Murl Bryant	New	25	15N	20W	10.3	93°3'34.212"W	35°55'37.349"N
*20	Rondal Campbell	New	35	15N	20W	21.6	93°4'17.971"W	35°54'45.772"N
*21	Rondal Campbell	New	35	15N	20W	20.3	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	4.0	93°5'16.715"W	35°56'32.636"N
*34	Rondal Campbell	New	26	15N	20W	13.5	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	9.3	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	0.5+0.1	6.5	2.2	8.4	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	0.6	0	8.2	7.9	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	0	25.2	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+0.4	0	0	14.1	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	0.4	0	1.1+2.3+0.7+0.1+0.1	14.2	Rotational	Mixed
12	Robert Flud	13.1	0.6 + 0.4	0.5 + 0.2	0	0	11.4	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	0.5	0	1.7+2.4+0.6	30.7	Rotational	Mixed
13B	Charles Campbell	15.5	0.9	0.2+0.2+0.4	0	2.0+3.2	8.6	Rotational	Mixed
14	Charles Campbell	15.1	1.3	0.4	0	5.3	8.1	Rotational	Mixed
15	Clayel Criner	28.2	0.1+0.4	0.3	0	4.7+0.2	22.5	Rotational	Mixed
15A	Clayel Criner	14.2	0.7	0	0	3.1	10.4	Rotational	Mixed
15B	Clayel Criner	21.0	0	0.2+0.1	0	4.1+1.6	15.0	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	0.6+1.4	0	0	31.9	Rotational	Mixed
18*	Murl Bryant	29.6	1.3+0.1+0.7	0.5	4.4	0	22.6	Rotational	Mixed
19*	Murl Bryant	13.3	1.0	2.0	0	0	10.3	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	1.0+1.1+0.8	0	0.2	21.6	Rotational	Mixed
21*	Rondal Campbell	49.8	0	2.9+1.7+0.5+0.5+0.3+1.8	0	10.1+11.4+0.3	20.3	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	1.2+0.3	0	0	4.0	Rotational	Mixed
34*	Rondal Campbell	16.5	0.5	0.4	0	1.1+0.1+0.6+0.3	13.5	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	0.5+0.3	0	0.8+0.5+0.7	9.3	Rotational	Mixed
Total Open Acres:		831.2				Total Spreadable Acres:	630.0		

*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, agree to allow C&H Hog Farms, Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 21.6 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	8.4
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 2-19-16
Permittee's Signature Date

Jason Henson 2-19-16
Landowner Signature Date

LAND USE CONTRACT

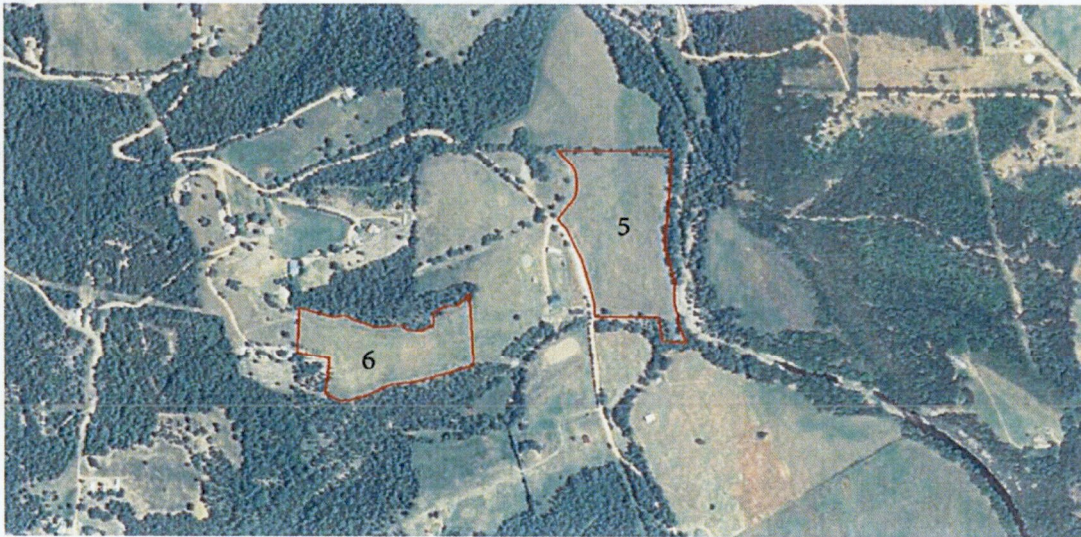
I, Louetta Ricketts, agree to allow C+H Hog Farms Inc.
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 15.3 acres of my property located in Newton County.
Total Acreage Available County of Application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

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.



Tyson/Henson
Permittee's Signature

11-18-15
Date

Louetta Ricketts
Landowner Signature

10-25-15
Date

LAND USE CONTRACT

I, Shawn Ricketts, agree to allow C+H Hog farms Inc
Name of Landowner Name of Permittee
to land apply swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 7.9 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	7.9

*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 Heason
Permittee's Signature

11-16-15
Date

Shawn Ricketts
Landowner Signature

10-25-15
Date

LAND USE CONTRACT

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

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	NESE	26	15 N	20 W	64.3
7A	NE	26	15 N	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, agree to allow C & H Hog Farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 59.3 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	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

11-11-15
Date

Charles Campbell
Landowner Signature

10-23-15
Date

LAND USE CONTRACT

I, Fayma Dickey, agree to allow C & H Hog farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 28.3 acres of my property located in Newton County.
Total Acreage Available County of Application Site
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	15 N	20W	14.1
11	NW/NE	35	15 N	20W	14.2

*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

Fayma Dickey 10-28-15
Landowner Signature Date

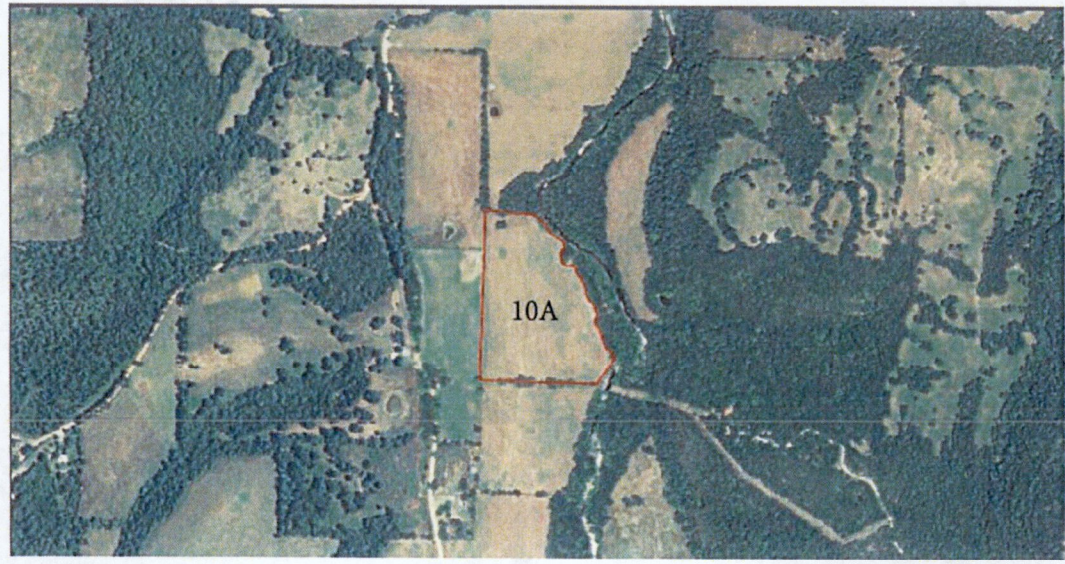
LAND USE CONTRACT

I, Billy F. Cheatham, agree to allow C&H Hog farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 16.4 acres of my property located in Newton County.
Total Acreage Available County of Application Site
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 11-10-15 Billy F. Cheatham 10-27-15
Permittee's Signature Date Landowner Signature Date

LAND USE CONTRACT

I, Robert Flud, agree to allow C+H Hog farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 11.4 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	11.4

*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

Robert Flud
Landowner Signature

10-27-15
Date

LAND USE CONTRACT

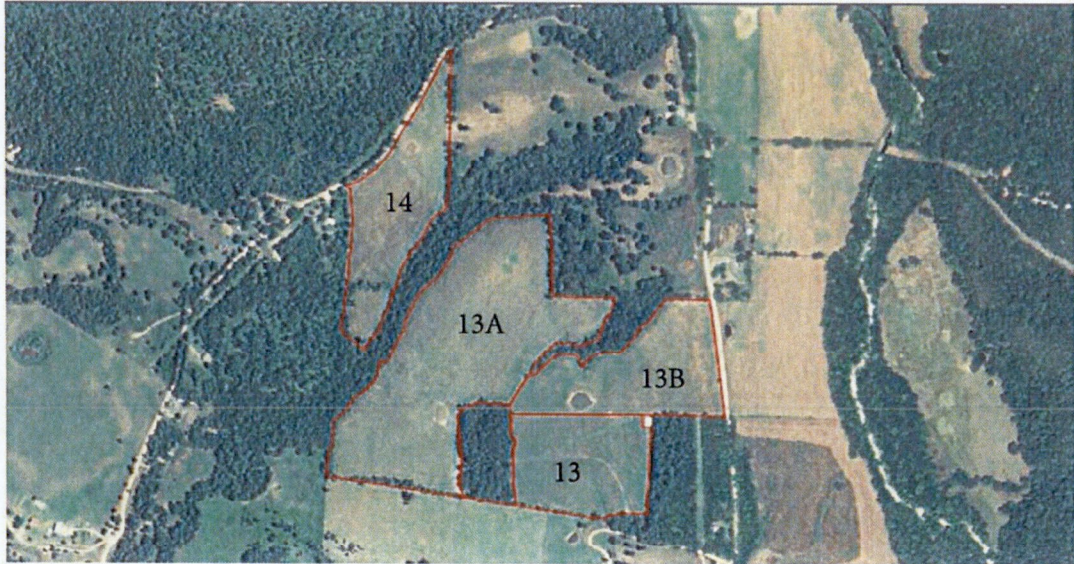
I, Charles Campbell, agree to allow C + H Hog Farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 59.0 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	15N 14N	20W	30.7
13B	SE	35	15N	20W	8.6
14	SW	35	15N	20W	8.1

*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

Charles Campbell
Landowner Signature

10-23-15
Date

LAND USE CONTRACT

I, Clayel Criner, agree to allow C+H Hog Farms Inc.
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 47.9 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	22.5
15A	nw	2	14N	20W	10.4
15B	nw	2	14N	20W	15.0

*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 Henjar
Permittee's Signature

11-10-15
Date

Clayel Criner 11-10-15
Landowner Signature Date

LAND USE CONTRACT

I, Barbara Helley, agree to allow CHH Hog Farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 15.2 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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 Helley 11/9/15
Landowner Signature Date

LAND USE CONTRACT

I, Jason Criner, agree to allow C+H Hog farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 31.9 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	31.9
	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, agree to allow CHH Hog Farms Inc
Name of Landowner Name of Permittee
to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
County to 32.9 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	15 N	20 W	22.6
19	NW	25	15 N	20 W	10.3

*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

Murl Bryant 10-23-15
Landowner Signature Date

LAND USE CONTRACT

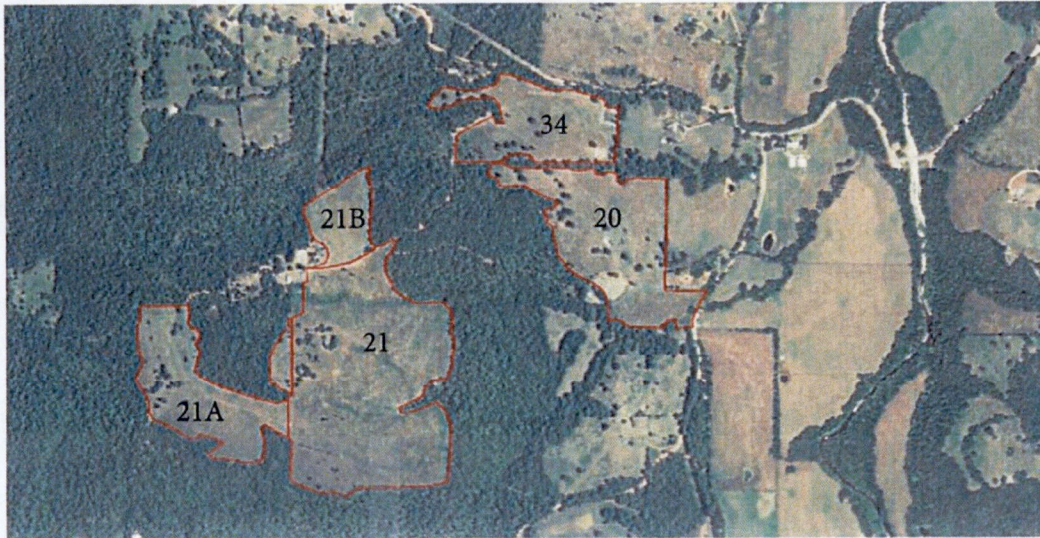
I, Rondal Campbell, agree to allow C+H Hog Farms Inc
Name of Landowner Name of Permittee
 to land apply Swine waste from his/her operation located in the Newton
Type of Waste County of Operation
 County to 77.0 acres of my property located in Newton County.
Total Acreage Available County of Application Site

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	21.6
21	NW	35	15N	20W	20.3
21A+B	NE NW	34 35	15N	20W	21.6
34	SW	26	15N	20W	13.5

*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

Rondal Campbell
 Landowner Signature

10-7-15
 Date

LAND USE CONTRACT

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

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

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.



Jerson Henson
Permittee's Signature

11-10-15
Date

[Signature]
Landowner Signature

11-10-15
Date

LAND USE CONTRACT

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

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 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 14.0, 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*
32	NE	22	15N	20W	10.0
33	NE	22	15N	20W	4.0

*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

11-18-15
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

Landowner Signature

2-18-16

Date

Jason Henson

C & H Hog Farms, Inc. Representative

2-18-16

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
Landowner Signature

2/18/16
Date

Jason Henson
C & H Hog Farms, Inc. Representative

2-18-16
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

5-4-15
Date

Jason Henson
C & H Hog Farms, Inc. Representative

5-4-15
Date

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.

Don T. Rockwell

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

10-24-15
Date

Richard Campbell
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
Landowner Signature

2-18-16
Date

Jason Henson
C & H Hog Farms, Inc. Representative

2-18-16
Date

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

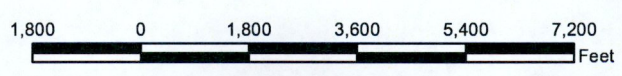
Manure Analysis

County Road Map Overview



Legend


- road_tanw_l_ar101
-  Correct Field Boundaries

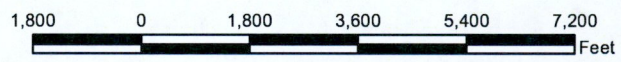


Correct Field Boundaries











Legend

 Correct Field Boundaries



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










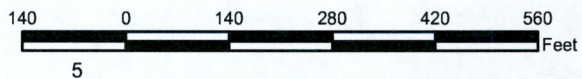
- Legend**
-  Correct Field Boundaries
 -  Pond
 -  Occupied House
 -  Unoccupied House
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer
 -  Steep Slope Buffer

200 0 200 400 600 800
Feet

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



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



Legend

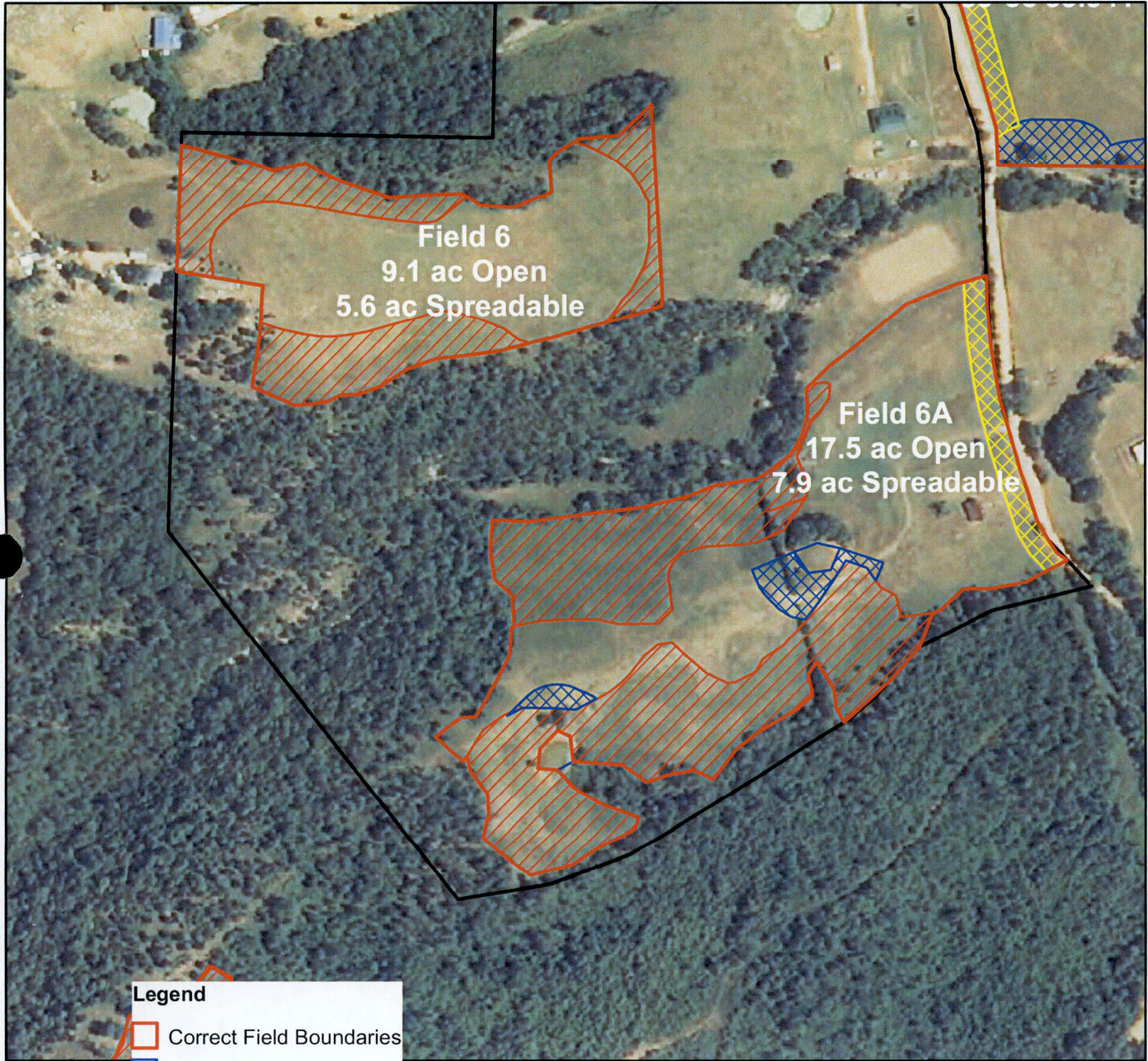
-  Correct Field Boundaries
-  Unoccupied House
-  Property Line
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



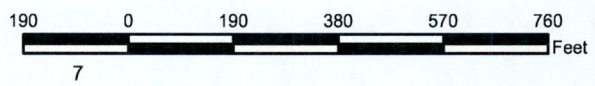
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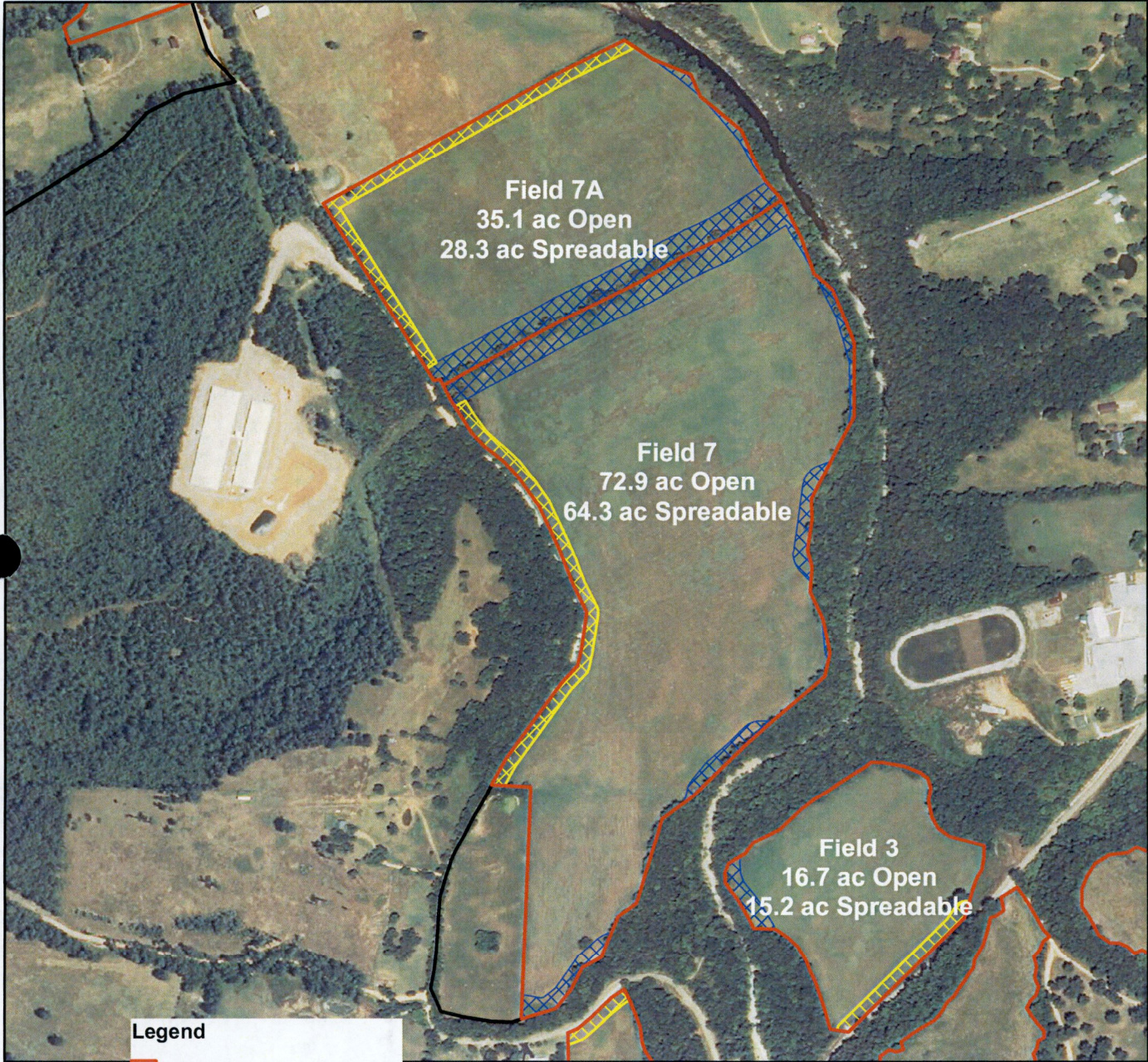
Buffered Field Map
Field 6 Louetta/Glen Ricketts
Field 6A Shawn Ricketts
T15N, R20W, S26
Mt. Judea Quad



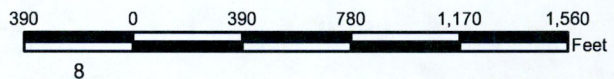
- Legend**
- Correct Field Boundaries
 - Pond
 - Unoccupied House
 - Property Line
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer
 - Steep Slope Buffer



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

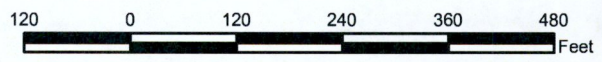


Buffered Field Map
Charles Campbell
Fields 8 and 9A
T15N, R20W, S26 & S35
Mt. Judea Quad

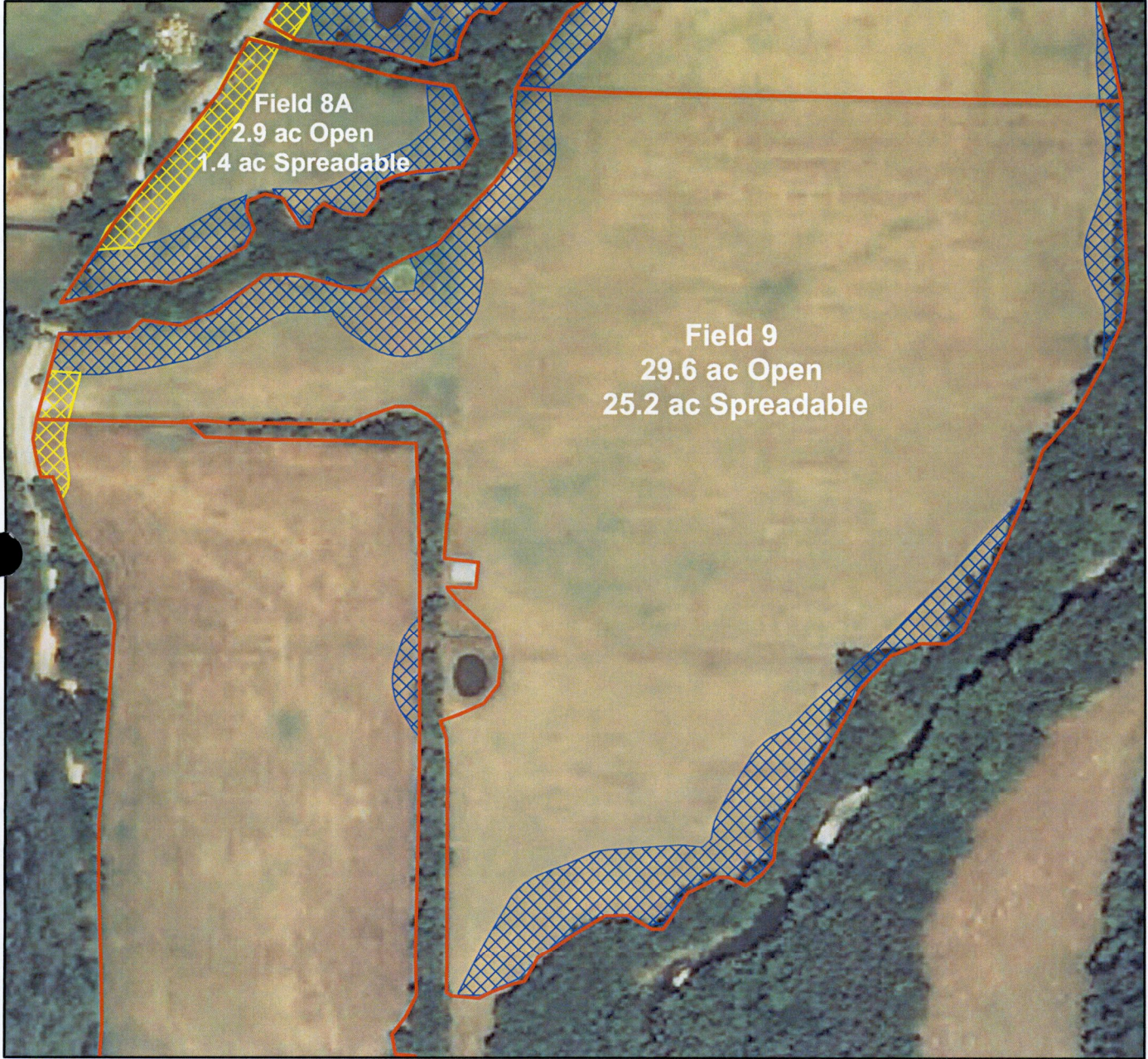


Legend






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

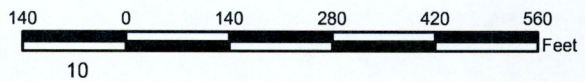


Buffered Field Map
Charles Campbell
Fields 8A and 9
T15N, R20W, S35
Mt. Judea Quad



Legend







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



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



Legend








-  Correct Field Boundaries
-  Property Line
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer

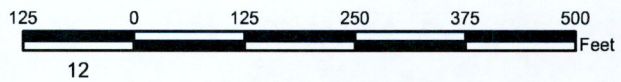


Buffered Field Map
Robert Flud
Field 12
T15N, R20W, S35
Mt. Judea Quad



Legend






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



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



Legend

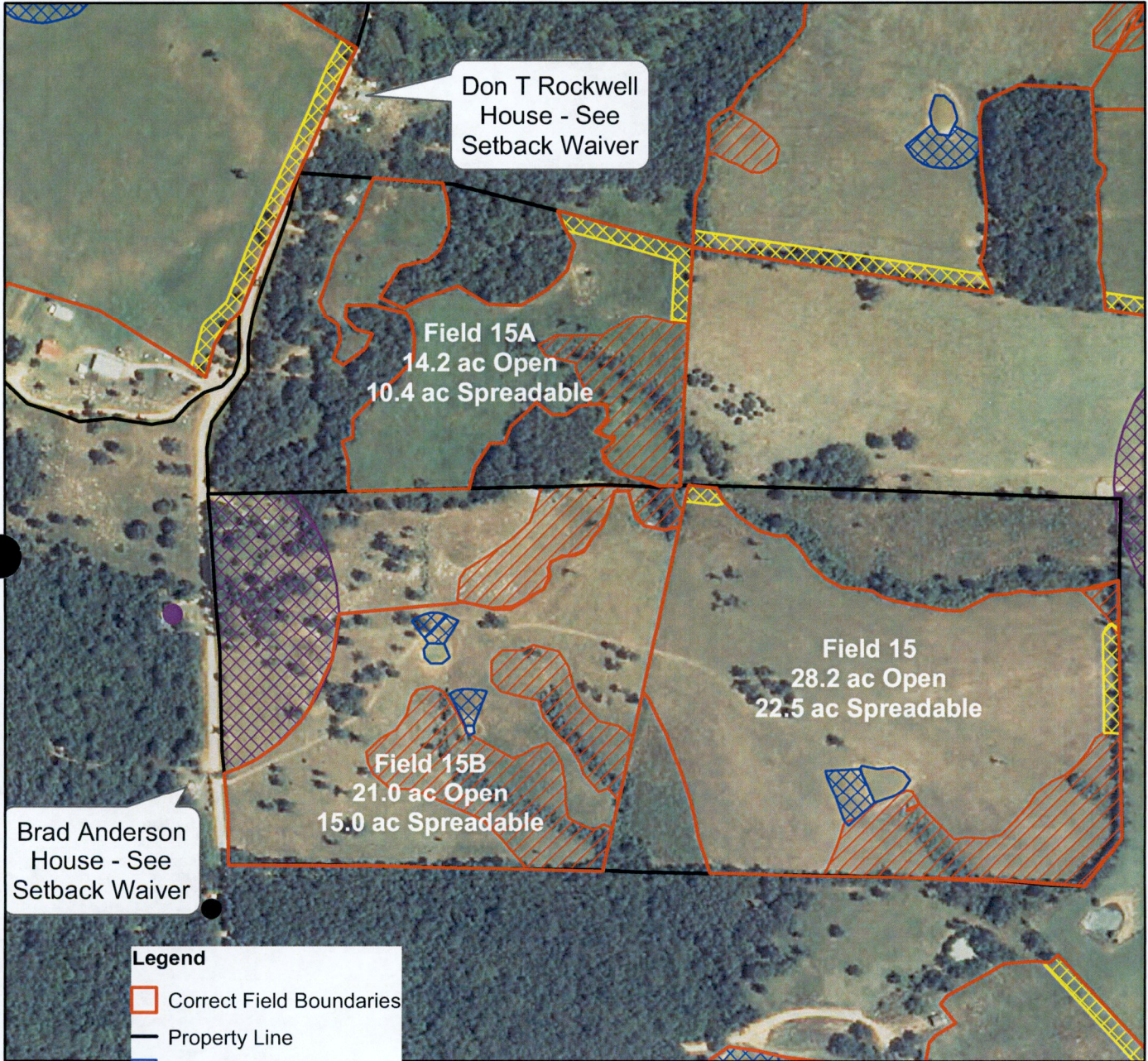
-  Correct Field Boundaries
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope buffer



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



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



Don T Rockwell
House - See
Setback Waiver

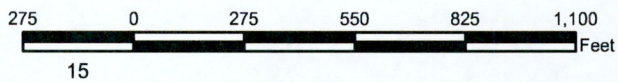
Field 15A
14.2 ac Open
10.4 ac Spreadable

Field 15
28.2 ac Open
22.5 ac Spreadable

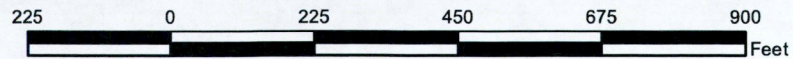
Field 15B
21.0 ac Open
15.0 ac Spreadable

Brad Anderson
House - See
Setback Waiver

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



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

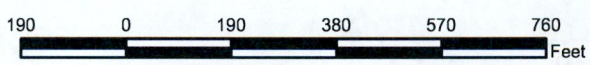


Don T Rockwell
 House - See
 Setback Waiver

Field 17
 36.1 ac Open
 31.9 ac Spreadable

Field 15A
 14.2 ac Open
 10.4 ac Spreadable








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

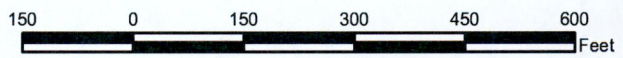


Buffered Field Map
Field 18
Murl Bryant
T15N, R20W, S25
Mt. Judea Quad










Legend

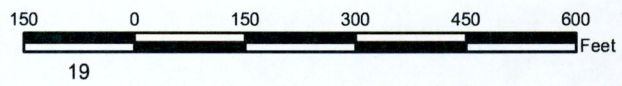
-  Pond
-  Correct Field Boundaries
-  Occupied House
-  Unoccupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer



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











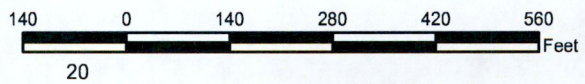
- Legend**
-  Pond
 -  Correct Field Boundaries
 -  Occupied House
 -  Unoccupied House
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer



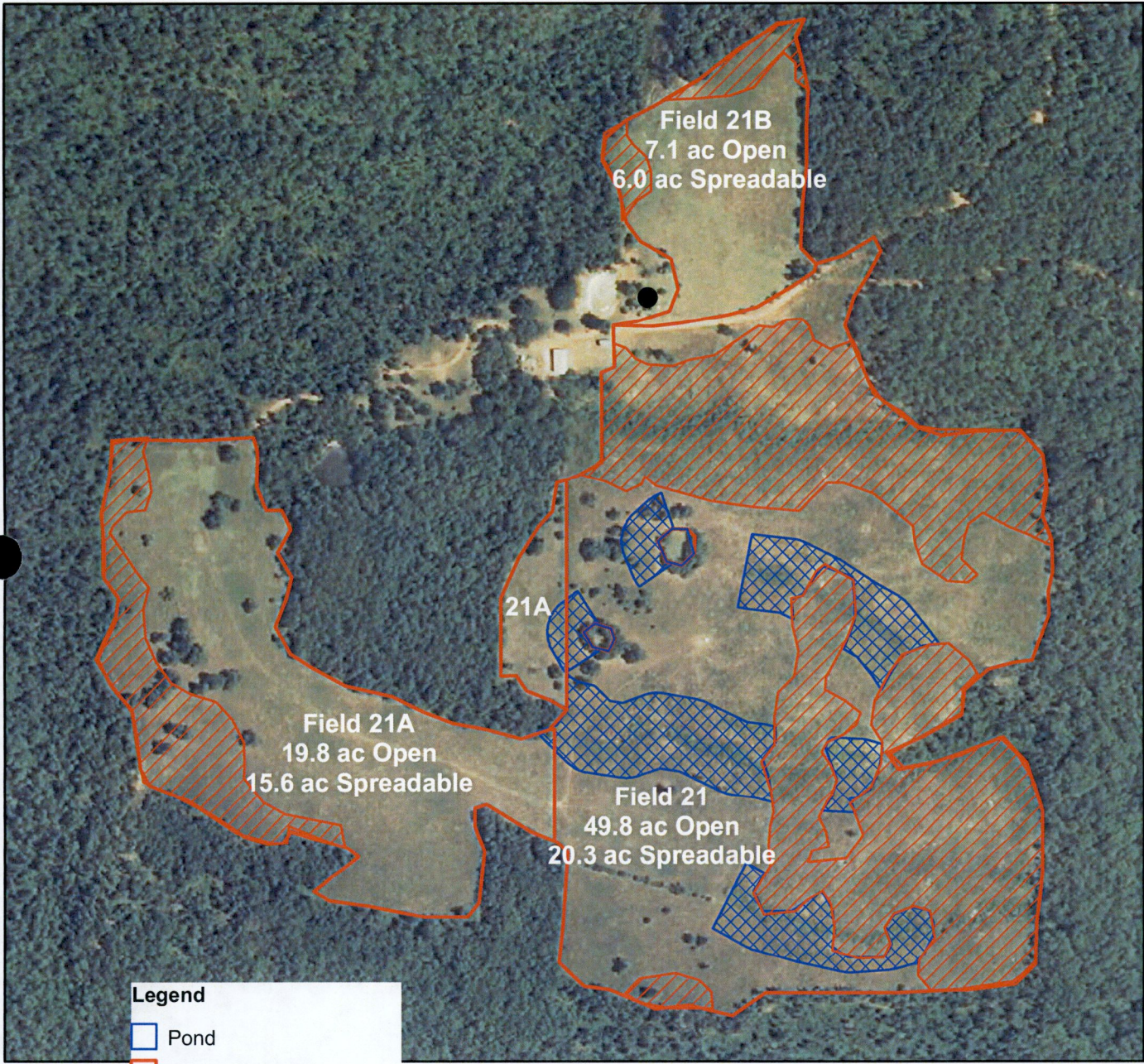
Buffered Field Map
Field 20
Rondal Campbell
T15N, R20W, S35
Mt. Judea Quad



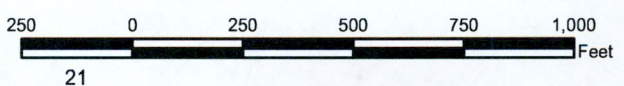
- Legend**
-  Pond
 -  Correct Field Boundaries
 -  Occupied House
 -  Unoccupied House
 -  Steep Slope Buffer
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer



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











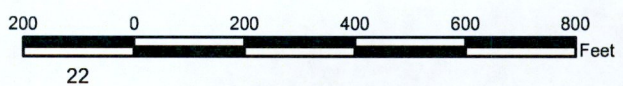
- Legend**
- Pond
 - Correct Field Boundaries
 - Occupied House
 - Unoccupied House
 - ▨ Steep Slope Buffer
 - ▨ 50 Ft Buffer
 - ▨ 100 Ft Buffer
 - ▨ 500 Ft Buffer



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












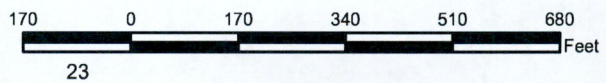
- Legend**
-  Pond
 -  Correct Field Boundaries
 -  Occupied House
 -  Unoccupied House
 -  Steep Slope Buffer
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer



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



- Legend**
-  Pond
 -  Correct Field Boundaries
 -  Water Well
 -  Occupied House
 -  Unoccupied House
 -  Steep Slope Buffer
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer

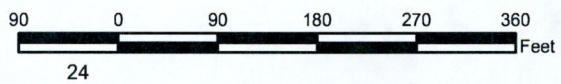


Buffered Field Map
Field 24
Donald Haddock
T15N, R20W, S23
Mt. Judea Quad



Legend

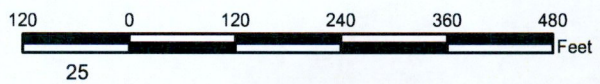
-  Correct Field Boundaries
-  Unoccupied House
-  50 Ft Buffer
-  100 Ft Buffer
-  500 Ft Buffer
-  Steep Slope Buffer



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



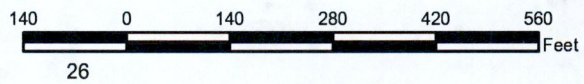
- Legend**
-  Pond
 -  Correct Field Boundaries
 -  Occupied House
 -  Unoccupied House
 -  Steep Slope Buffer
 -  50 Ft Buffer
 -  100 Ft Buffer
 -  500 Ft Buffer



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



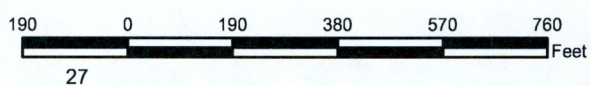
- Legend**
- Pond
 - Correct Field Boundaries
 - Occupied House
 - Unoccupied House
 - Steep Slope Buffer
 - 50 Ft Buffer
 - 100 Ft Buffer
 - 500 Ft Buffer



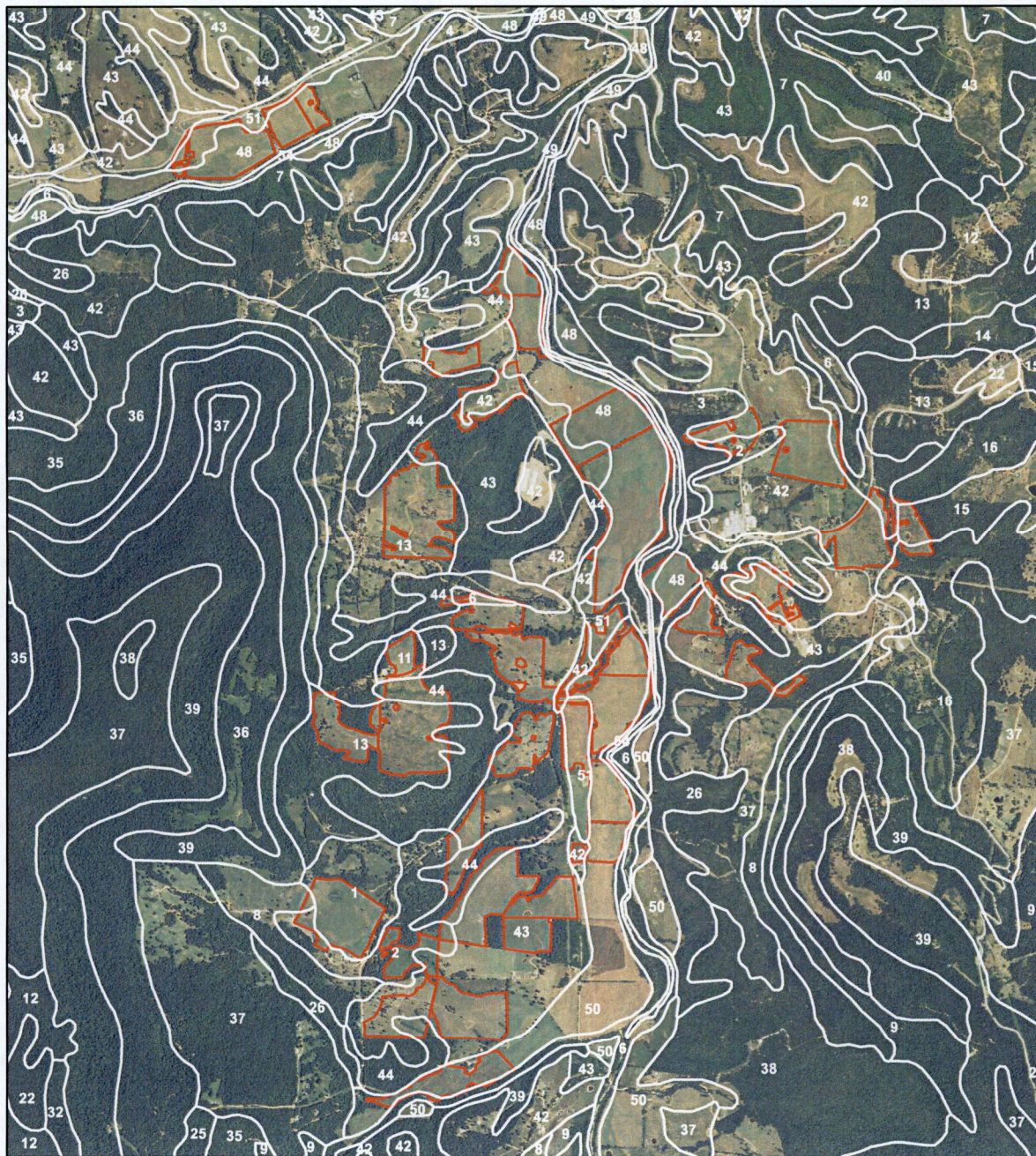
Buffered Field Map
Fields 35 and 36
C & H Hog Farms, Inc.
T15N, R20W, S25
Mt. Judea Quad




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

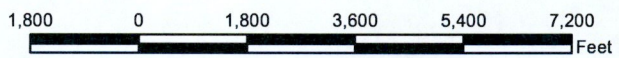


Soils Map Overview



Legend

- Team_1_soils
-  Correct Field Boundaries



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.

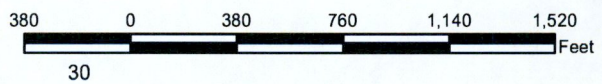
SYMBOL	NAME
1	Arkana very cherty silt loam, 3 to 8 percent slopes
2	Arkana-Moko complex, 8 to 20 percent slopes 1/
3	Arkana-Moko complex, 20 to 40 percent slopes 1/
4	Britwater gravelly silt loam, 3 to 8 percent slopes
5	Ceda cobbly loam, frequently flooded
6	Ceda-Kenn complex, frequently flooded
7	Clarksville 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

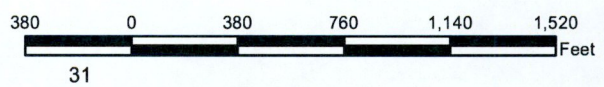


Soils Map



Legend


- Team_1_soils
- Correct Field Boundaries

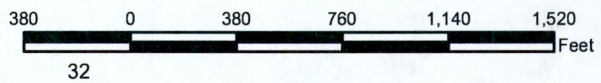


Soils Map



Legend


- Team_1_soils
-  Correct Field Boundaries

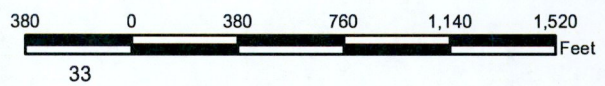


Soils Map



Legend


- Team_1_soils
-  Correct Field Boundaries

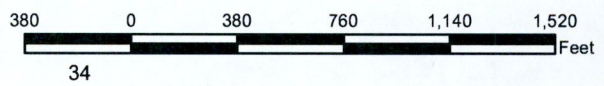


Soils Map



Legend

- Team_1_soils
-  Correct Field Boundaries

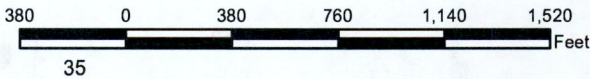


Soils Map



Legend


- Team_1_soils
- Correct Field Boundaries

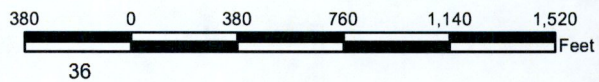


Soils Map

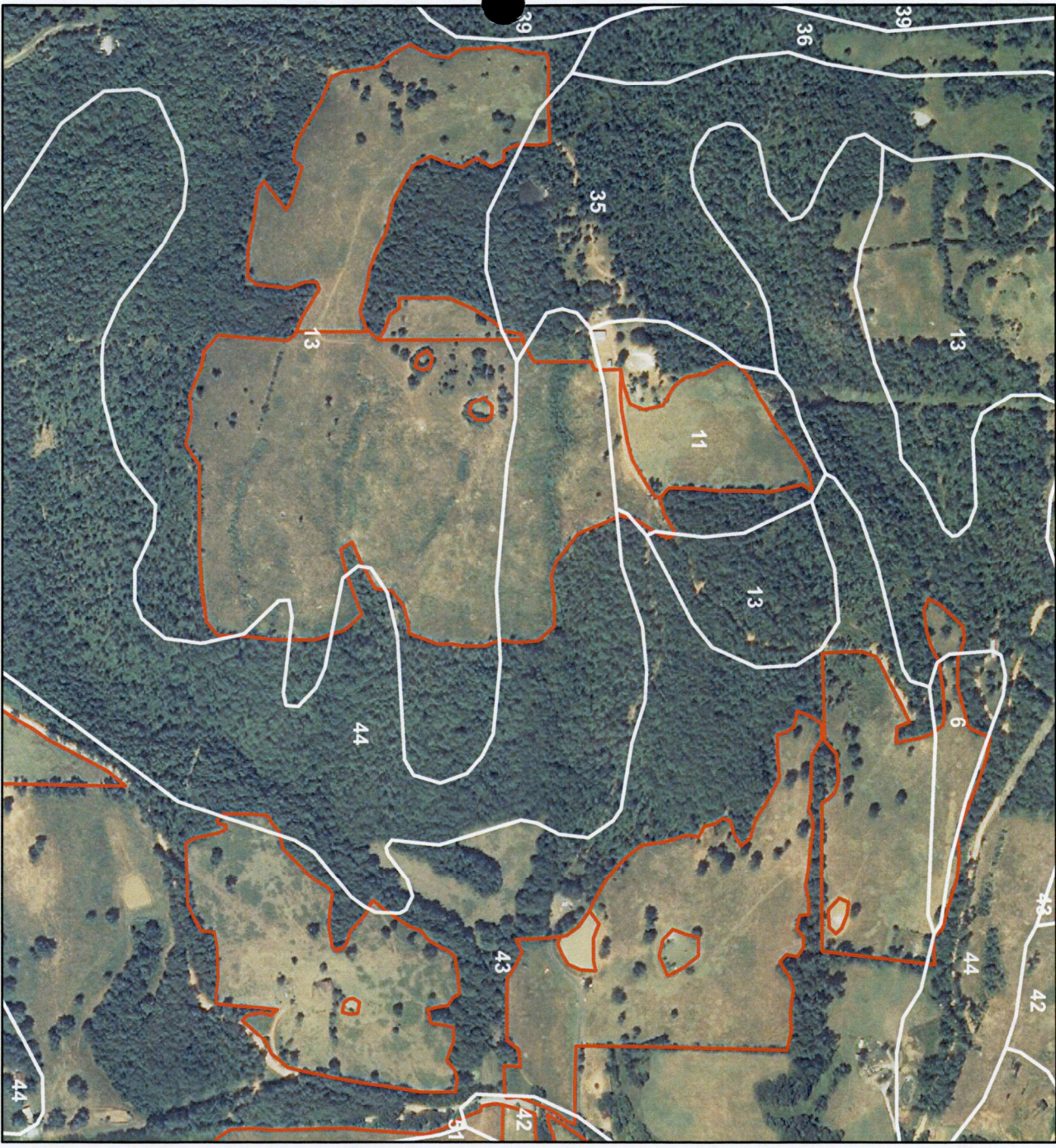


Legend

- Team_1_soils
-  Correct Field Boundaries



Soils Map



Legend


- Team_1_soils
- Correct Field Boundaries

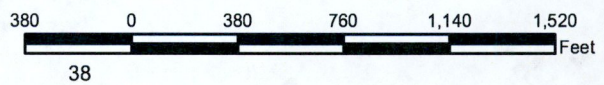


Soils Map

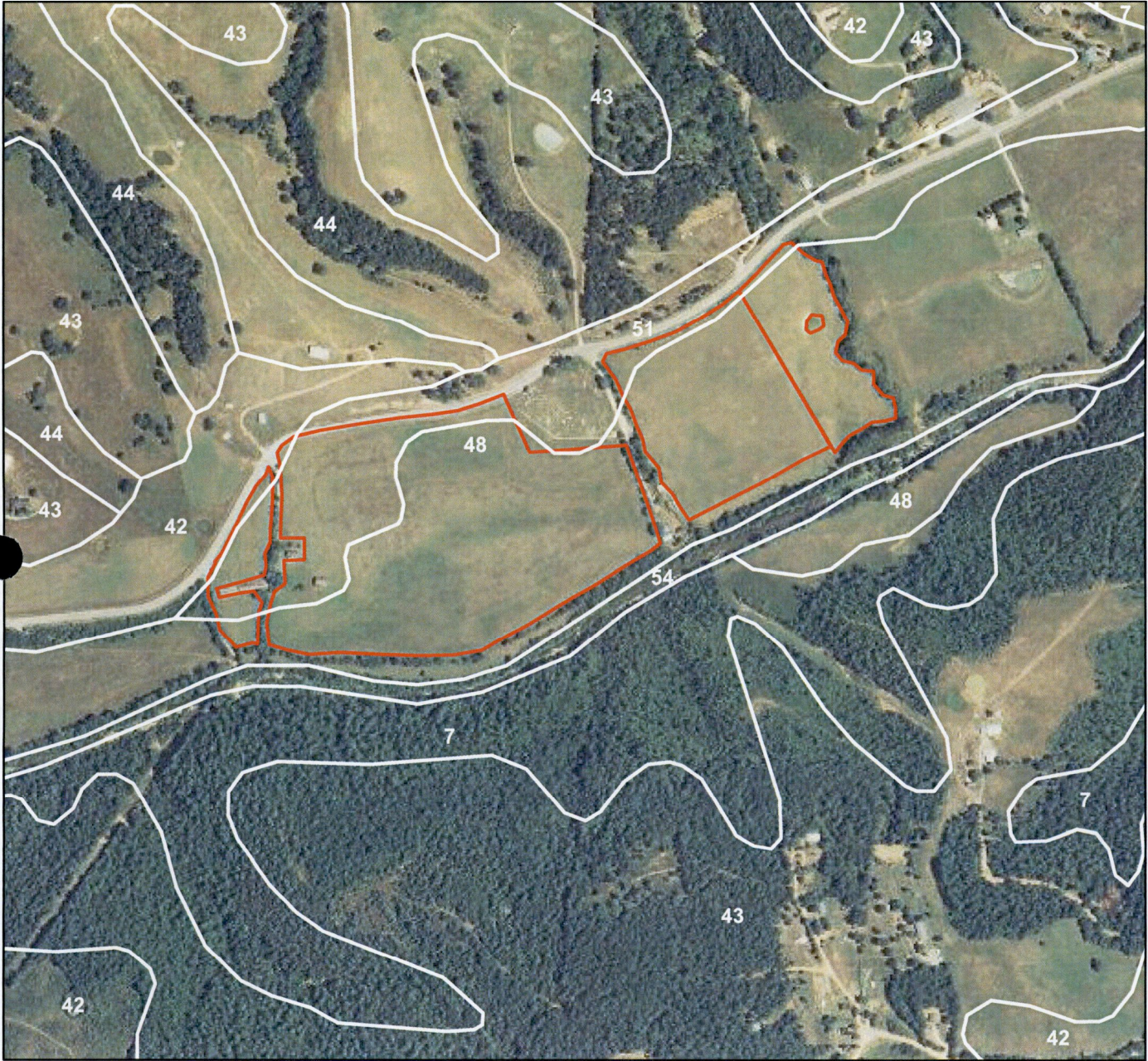


Legend


- Team_1_soils
-  Correct Field Boundaries

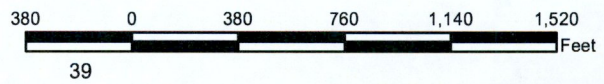


Soils Map

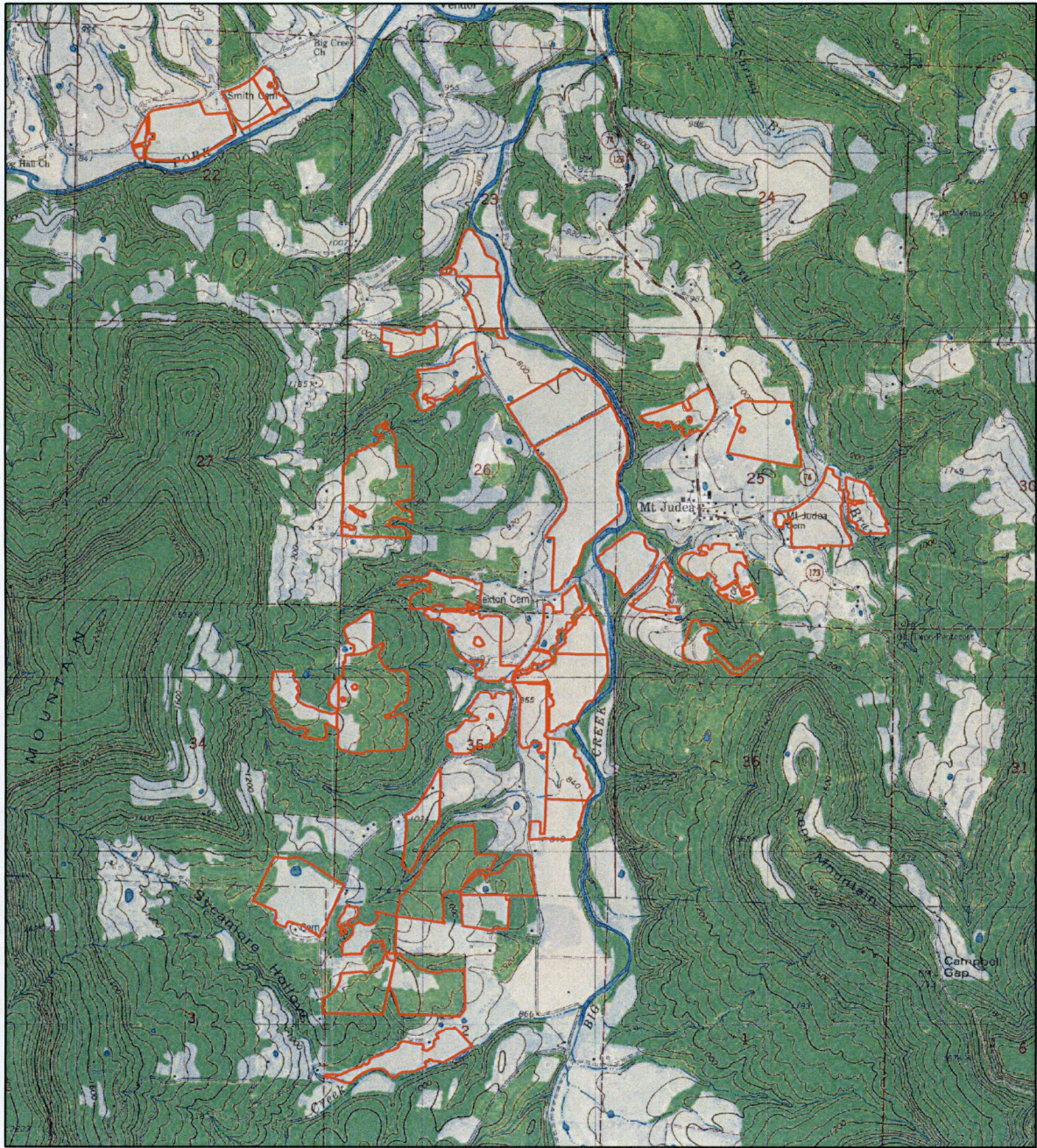


Legend

- Team_1_soils
-  Correct Field Boundaries

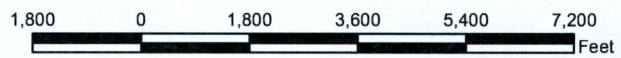


Topo

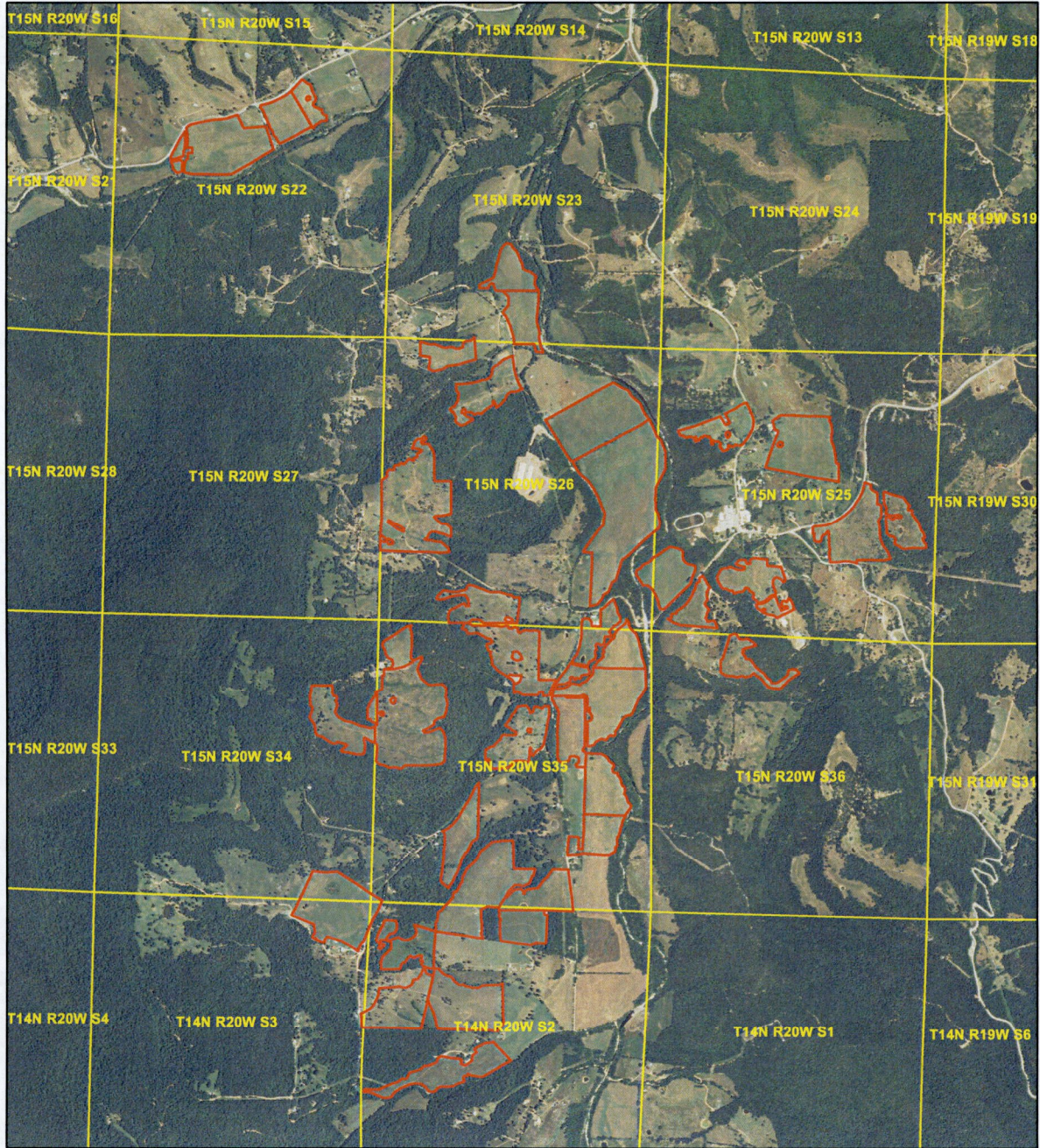


Legend



 Correct Field Boundaries

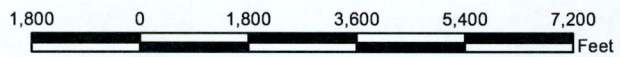


Section, Township, Range Overview Map

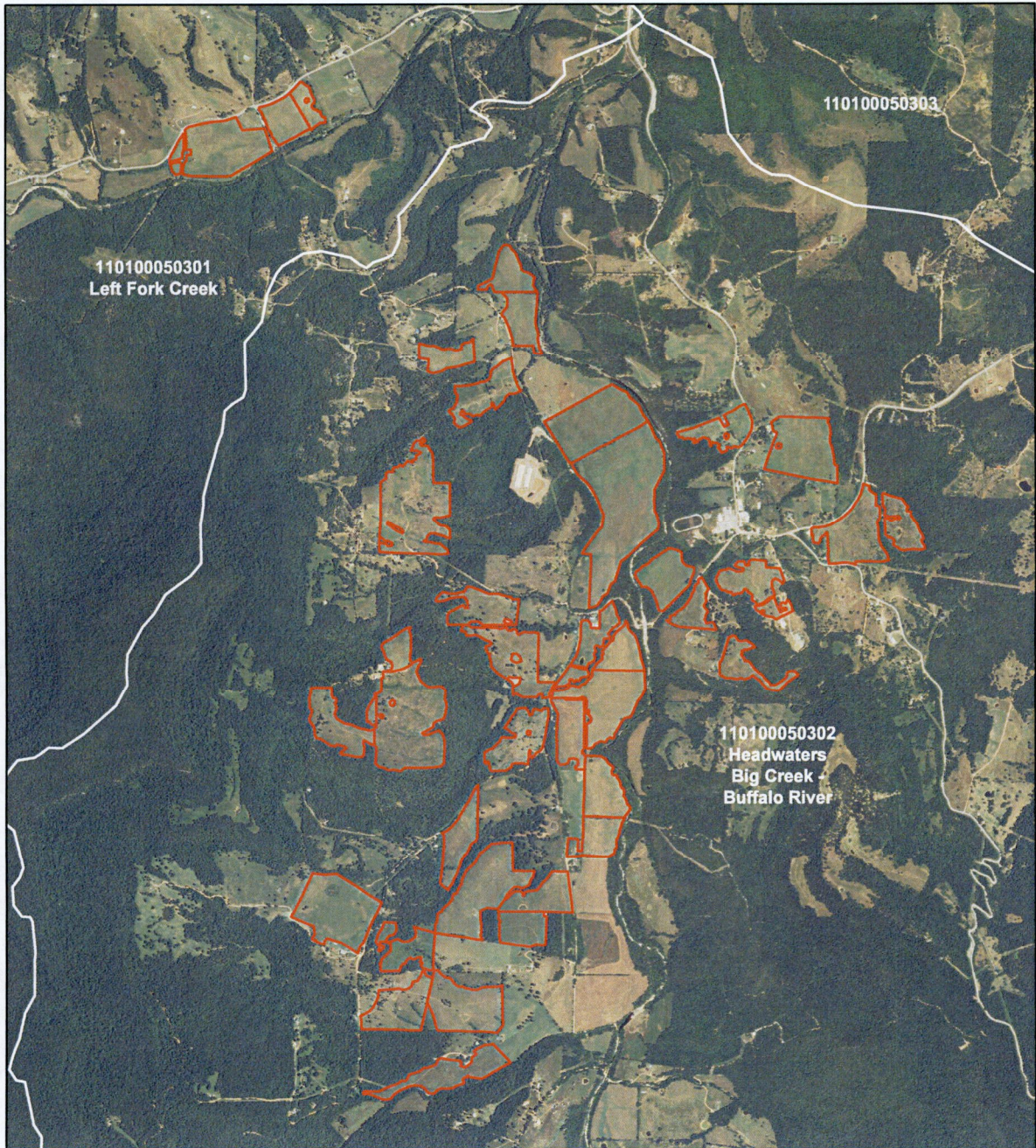


Legend


-  Correct Field Boundaries
-  plss_a_ar_utm15

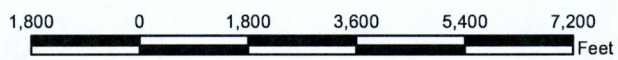


Watershed Overview Map



Legend

-  Correct Field Boundaries
- wbdhu12_a_ar



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

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

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Marianna, AR 72360
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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 JH 2 9 No No Unknown
County: Lab Number: Sample Number:	Pope 154611 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.

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Marianna, AR 72360
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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.

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Marianna, AR 72360
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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 JH 4 11 No No Unknown
County: Lab Number: Sample Number:	Pope 154613 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.

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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.

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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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 EGC 7 73 No No Unknown
County: Lab Number: Sample Number:	Pope 154614 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	160	0	220	0	0	0	5000
Crop 2	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:

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

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

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

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 CC 9A 12 No No Unknown
County: Lab Number: Sample Number:	Pope 154618 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.

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Marianna, AR 72360
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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 FD 10 15 No No Unknown
County: Lab Number: Sample Number:	Pope 154619 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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 FD 11 19 No No Unknown
County: Lab Number: Sample Number:	Pope 154622 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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 CC 13 13 No No Unknown
County: Lab Number: Sample Number:	Pope 154624 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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 CC 13B 16 No No Unknown
County: Lab Number: Sample Number:	Pope 154626 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.

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

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

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

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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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 BH 16 21 No No Unknown
County: Lab Number: Sample Number:	Pope 154631 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.

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 JC 17 36 No No Unknown
County: Lab Number: Sample Number:	Pope 154632 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.

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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.

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

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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.

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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.

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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.

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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.

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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.

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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:

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

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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.

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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:

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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.

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

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JASON HENSON HC 72 BOX 10 MT JUDEA	Client ID: 8706881318 AR 72655
Date Processed: Field ID: Acres: Lime Applied in the last 4 years: Leveled in past 4 years: Irrigation:	12/4/2015 CH 36 12 No No Unknown
County: Lab Number: Sample Number:	Pope 154665 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						
"K2O"	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, 1 hr shake, centrifuged, filtered, acidified, analysis by ICP

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 Management 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 Management Plan

Planner	Monica Hancock
Plan Description	C & H Hog Farms, Inc.
<i>Beta Test Version for Use by Select Planners working with</i>	
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 est	

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 1 - - - -				Application Group 2 - - - - Application Group 2 - - - - Application Group 2 - - - - Application Group 2 - - - -			
50	PI	Nutrient Balance (+/-)			Pasture Use	RUSLE 1 (ton/ac)	RUSLE 2 (ton/ac)	Timing	Appl Method	Nutrient Source	Bulk Rate	Units	N (lb/ac)	P2O5 (lb/ac)	K2O (lb/ac)	Group Sub PI	Group Sub PI Range	Timing	Appl Method	Nutrient Source	Bulk Rate
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	14	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	26	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
Field 12	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
Field 13	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	9.50	1000 gal/ac	143	46	129	26	Low	July-Oct	Surface	Pond 2 M50519	13.50
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 Management Plan

Planner: Monica Hancock
 Plan Description: C & H Hog Farms, Inc
Beta Test Version for Use by Select Planners working with
 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 - - - - Application Group 2 - - - -				Nutrient Application Information - - - - Application Group 3 - - - -				Nutrient Application Information - - - - Application Group 3 - - - -				Soil Test P and Soil Sub PI								
50	Field	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
		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	
Field 12	57	-3	+152	+20	1000 gal/ac	154	107	140	18	Low											March-June	88	117	13	Low	
Field 13	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 (+/-)

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.

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:

PRIORITY[®] ★ MAIL ★

 DATE OF DELIVERY SPECIFIED[^]

 USPS TRACKING[™] INCLUDED*

 INSURANCE INCLUDED[†]

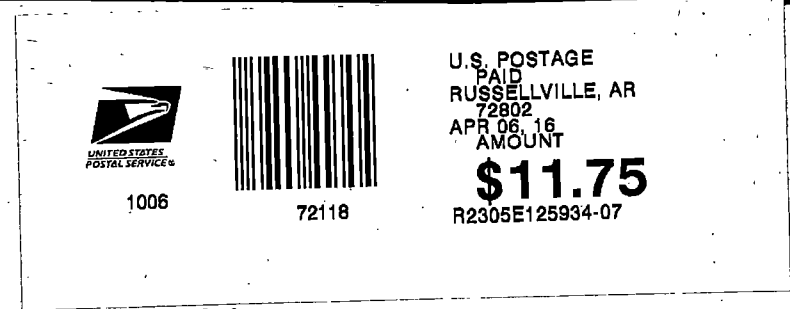
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MAILING
FOR DOMESTIC USE



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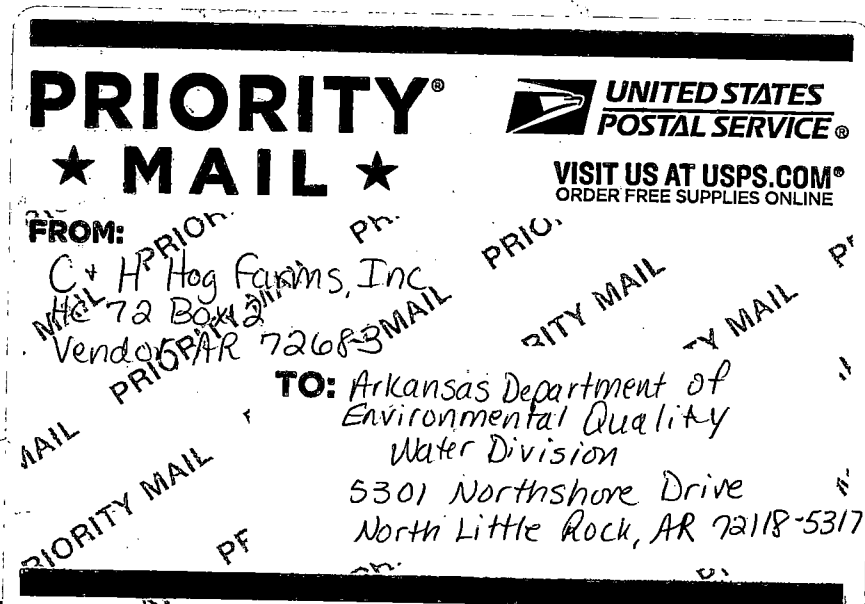


This package is made from post-consumer waste.
Please recycle - again.

[^] Domestic only.

* Tracking outside the U.S. available to many major International destinations.

[†] Limited International indemnity.



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