APPLICATION FOR BIOSOLIDS PERMIT
LAND APPLICATION OF RESIDUAL SOLIDS

CAMPBELL COUNTY

PREPARED BY:
NUTRI-BLEND, INC.
P. O. BOX 38060
2353 CHARLES CITY RD.
RICHMOND, VIRGINIA 23231

January 29, 2004

Nutri-Blend, Inc.
Biosolids Land Application

P.O. Box 38060
2353 Charles City Road
Richmond, VA 23231
Tel: (804) 222-7514 • Fax: (804) 222-0835
E-Mail: nbinc1@aol.com

January 29, 2004

VDH-OWP
Division of Wastewater Engineering
109 Governor Street, 5th Floor
Richmond, VA 23129-2448

Attn: Mr. Charles W. Swanson, P.E.

Re: Permit request for Campbell County.

Dear Mr. Swanson:

Nutri-Blend, Inc. wishes to apply for a biosolids land application permit in Campbell County, Virginia. Attached are 261.2 acres of proposed application sites which should receive 100% of the agronomic nitrogen rate infrequently (1 in 3 years) for cropland fields, and 50% or 70% of the agronomic nitrogen rate annually for permanent cover fields. Possible biosolids sources are listed in the introduction.

I am looking forward to scheduling field inspections for the proposed application sites as soon as your schedule will allow. Please call if you have any questions.

Sincerely,
Nutri-Blend, Inc.

Mary Powell

Mary Powell
Environmental Scientist
Certified Nutrient Management Planner

Attachments

BIOSOLIDS APPLICATION FORM

FINAL REGULATIONS

PROJECT DESCRIPTION:

PERMIT NO.: _____

[ ] INTERIM [ ] FINAL

Date Issued: _____ EXPIRATION DATE: _____

[ ] System [ ] Works Biosolids Source (s): See Nutri-Blend, Inc. Source book VDH-OWP

Location of Operations:

City: Henrico County, City of Richmond, City of Petersburg Counties: Campbell

Total Acerage Involved: 261.2

Total Annual Amount Of Biosolids From Each Source: See Nutri-Blend, Inc. source book on file with VDH-OWP

Type of Treatment For Pathogen Control For Each Source (if Applicable)

See Nutri-Blend, Inc. source book on file with VDH-OWP

Process Description Including Supernatant Management: N/A Land Application

Treatment Certification: See Vector and Pathogen Section of Nutri-Blend, Inc. Biosolids Source Book

Owner (s) Of Biosolids Source / Treatment Works:

Phone No.: _____

Street or Mailing Address: _____

City: _____ State: _____ Zip Code: _____

[ ] Yes [ ] No A statment indicating that a proper class of Biosolids treatment will be provided this project has been issued by the owner(s) of the Biosolids Source/Treatment Works and is attached (Biosolids Use Regulation).

_____

(Name, Title and Signature Of Official Representative Of Applicant)

APPLICATION FOR A BIOSOLIDS USE CONSTRUCTION OR OPERATION PERMIT

FOR DEPARTMENT USE ONLY

Commonwealth Of Virginia
Department of Health
Environmental Engineering Field Office:

Health Department
Identification No.:
Date Received:

Type Of System Or Works [ ] NEW [ ] UPGRADE [X] MODIFICATIONS

Owner:
Name: NUTRI-BLEND, INC.
Street or Mailing Address: P.O. BOX 38040
City: Richmond State: Virginia Zip Code: 23231
Phone No.: (804) 222-7514
Area Code

Authorized Representative:
Name: Mr. John J. Simons
Street or Mailing Address: P.O. BOX 38040
City: Richmond State: Virginia Zip Code: 23231
Phone No.: (804) 222-7514
Area Code

Consulting Engineer:
Name:
Street or Mailing Address:
City: State: Zip Code:
Phone No.: ( )
Area Code

INTRODUCTION

INTRODUCTION

NUTRI-BLEND, INC. (NB, Inc.) proposes to permit 261.2 acres of private farmland in Campbell County, Virginia for land application purposes. NB, Inc. proposes the frequent application at 70% of agronomic rates for permanent cover crops and infrequent application at 100% of agronomic rates for row crops according to Virginia Department of Health Use Regulations (VDHBUR). NB, Inc. also reserves the right to apply biosolids frequently at 50% of the agronomic rates for permanent cover crops. The proposed biosolids sources for this land are:

- City of Richmond WWTW;
- Henrico County WWTW;
- Chesterfield County WWTW;
- City of Petersburg WWTW;
- City of Danville WWTW;
- City of Alexandria WWTW;
- District of Columbia (Blue Plains WWTW);
- Atlantic WWTW;
- Town of Farmville WWTW;
- Dale City WWTW;
- Arlington County WWTW;
- Patapsco (City of Baltimore) Maryland WWTW;
- Piscataway Maryland WWTW;
- Valley Forge, PA WWTW;
- Metropolitan New York City WWTW;
- Bergen County WWTW;
- Joint Meeting WWTW;

- Back River (Baltimore) MD WWTW;
- Aquia & Little Falls Run WWTW
- Annapolis Naval Academy WWTW;
- Cox Creek WWTW;
- Culpeper WWTW;
- Fredericksburg WWTW;
- Little Patuxent WWTW;
- Lower Potomac WWTW;
- Mattawoman WWTW;
- Middlesex WWTW;
- Parkway WWTW;
- Philadelphia WWTW;
- Rock Hall WWTW;
- Upper Occaquan WWTW;
- Warrenton WWTW;
- York WWTW and,
- Tappahannock WWTW.

FIELD OPERATIONS

Following loading at the WWTW, the biosolids will be transported to the application sites using the most direct primary and secondary state highways. The drivers will be instructed to avoid residential areas where possible.

Prior to initiating field operations, the farm operator will be contacted relative to available fields, specific field conditions, and anticipated cropping schedule. Field conditions will be deemed acceptable only when both the farm operator and the field superintendent concur. Daily field records will be kept by the field superintendent utilizing a voucher ticket system to keep track of biosolids delivered and applied at the application site.

Trucks will be unloaded in the field at designated staging areas. To minimize field compaction by applicator and truck traffic, the staging areas will be selected in regard to buffer restrictions, topography, access, farm management concerns, and soil conditions. Although several staging areas will be required for the typical field, all efforts will be made to minimize the number of staging areas.

Cake biosolids will be removed from the staging area with the use of a Catapillar 950 rubber-tired front end loader equipped with a 4 cu yd bucket or similar front end loader. Next the biosolids will be loaded into a Knight Proslinger spreader box with a side discharge, applicator, or onto similar applicator. The spreader box will be pulled by a Ford TW farm tractor or similar farm tractor which will provide the power take off for the spreader box ram and beaters.

Following biosolids application the biosolids will be incorporated into the soil if the cropping system allows. In most cases the biosolids will be incorporated within 72 hour period unless special circumstances require modifying the incorporation time.

Prior to leaving the application site, the transportation trucks will be scraped along wheels, mud flaps, tailgate, etc., to minimize tracking mud onto state highways. The drivers will be instructed on the importance of preventing mud from being tracked onto state roads relative to public perception of site activities and safety considerations.

Once an area of the farm has received the design application rate, the sludge application operation will relocate and phase out the staging area. Each staging area will be inspected by the field superintendent who will direct the phase out. Biosolids, including some small amounts of soil, in the staging areas will be collected with the front end loader and then land applied in the normal manner.

APPLICATION RATES

Application rates will be based on the agronomic utilization of the biosolids as a nutrient source and a soil amendment. The maximum application rate is normally based on the plant available nitrogen (PAN) in the biosolids. PAN application rates will not exceed the nitrogen loading rates established by the Virginia Department of Health Biosolids Use Regulations (VDHBUR) and nutrient management criteria established by the Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation (VDCR-DSWC).

NUTRI-BLEND, INC.
CAMPBELL COUNTY
MAXIMUM PLANT AVAILABLE NITROGEN REQUIREMENTS (pounds/acre)

Productivity Class	CROPS										
	Corn	FS Soybeans	DC Soybeans	Wheat	Barley	Alfalfa	Hay	Pasture	Rye	Oats	Bermuda
Ia	180	180	160	100	90	300	250	120	75	80	300
Ib	170	170	150	100	90	300	250	120	75	80	300
IIa	160	160	140	90	80	300	250	120	75	80	300
IIb	150	150	130	90	80	300	250	120	75	80	300
IIIa	140	140	120	80	80	210	200	100	75	80	260
IIIb	130	130	110	80	80	210	200	100	75	80	260
IVa	120	120	100	60	60	150	160	80	75	60	210
IVb	105	105	85	60	60	150	160	80	75	60	210
V	85	85	65	60	60	150	160	60	75	60	210

Productivity Class	FREQUENT BELOW AGRONOMIC RATES ON PERMANT COVER CROPS						
	Tallgrass hay 70%	Tallgrass hay 50%	Pasture frequent	Alfalfa 70%	Alfalfa 50%	Bermuda Hay 70%	50%
Ia	175	125	60	210	150	210	150
Ib	175	125	60	210	150	210	150
IIa	175	125	60	210	150	210	150
IIb	175	125	60	210	150	210	150
IIIa	140	100	60	147	105	180	130
IIIb	140	100	60	147	105	180	130
IVa	112	80	60	105	75	147	105
IVb	112	80	60	105	75	147	105
V	112	80	60	105	75	147	105

NEW FARM SITE PACKAGES

Nutri-Blend, Inc.
Campbell County

OWNER/OPERATOR	FSA TRACT NUMBER	APPROXIMATE NET ACRES
G. D. Gilliam	2597 2410	131.2 130.0
TOTAL		**261.2**

G. D. GILLIAM FARM

NUTRI-BLEND, INC.
Land Application Program

OWNER / OPERATOR AGREEMENT

This owner/operator agreement is made on February 7, 2001 between Glover D. Gilliam referred to hereafter as "landowner", and **Nutri-blend, Inc.**, referred to hereafter as "permittee".

Landowner is the owner of agricultural land shown on the map attached and designated there as _____ ("landowner's land). Permittee agrees to accept the application of biosolids on landowners land in amounts and in a manner authorized by permit number which is held by permittee.

Landowner acknowledges that the appropriate application of biosolids will be beneficial in providing fertilizer and soil conditioning to his property. Moreover, landowner acknowledges that he has been expressly advised that, in order to protect public health:

1. Public access to landowner's land upon which biosolids has been applied should be controlled for at least 30 days following any application of biosolids and no biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols.

2. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil, or 38 months when the biosolids remain on the land surface for a period of less than four (4) months prior to incorporation. Other food crops, feed crops and fiber crops shall not be harvested for 30 days after the application of biosolids.

3. Following biosolids application to pasture or hayland sites, meat-producing livestock should not be grazed or fed chopped foliage for 30 days and lactating dairy animals should be similarly restricted for a minimum of 60 days. Other animals should be restricted from grazing for 30 days.

4. Supplemental commercial fertilizer or manure applications should be coordinated with the biosolids application such that the total crop needs for nutrients are not exceeded as identified on the nutrient management plan approved by the Virginia Department of Conservation and Recreation to be supplied to the landowner by the permittee at the time of biosolids to a specific permitted site.

5. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three (3) years following the application of biosolids borne cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

6. Turf grown on land where biosolids are applied shall not be harvested for one (1) year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or lawn, unless otherwise specified by the permitting authority.

7. Landowner/operator agrees to notify **Nutri-blend, Inc.** of the sale, exchange, lease or change of possession of any treated lands owned or operated by landowner/operator, and further agrees to provide the name and address (where different from address stated below) of purchasers or new possessors.

8. In the event that the landowner/operator terminates this agreement before land application of biosolids, but after soil testing had been undertaken, the landowner/operator agrees to pay **Nutri-blend, Inc.** the costs of such soil testing.

9. Owner/operator agrees **NOT** to enter into any other land application program agreements for 2 years after signing and without giving at least thirty (30) days prior notice to the permittee in writing.

Permittee agrees to notify landowner, or landowner's designee, of his proposed schedule for biosolids application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the addresses specifies below.

Landowner: Glover D Gillian

Mailing Address:

Route 2 Box 154-A
Concord, VA 24538

Phone: 804 993-2935

Operator:

Mailing Address:

Phone: ( )

Permittee: Nutri-blend, Inc.

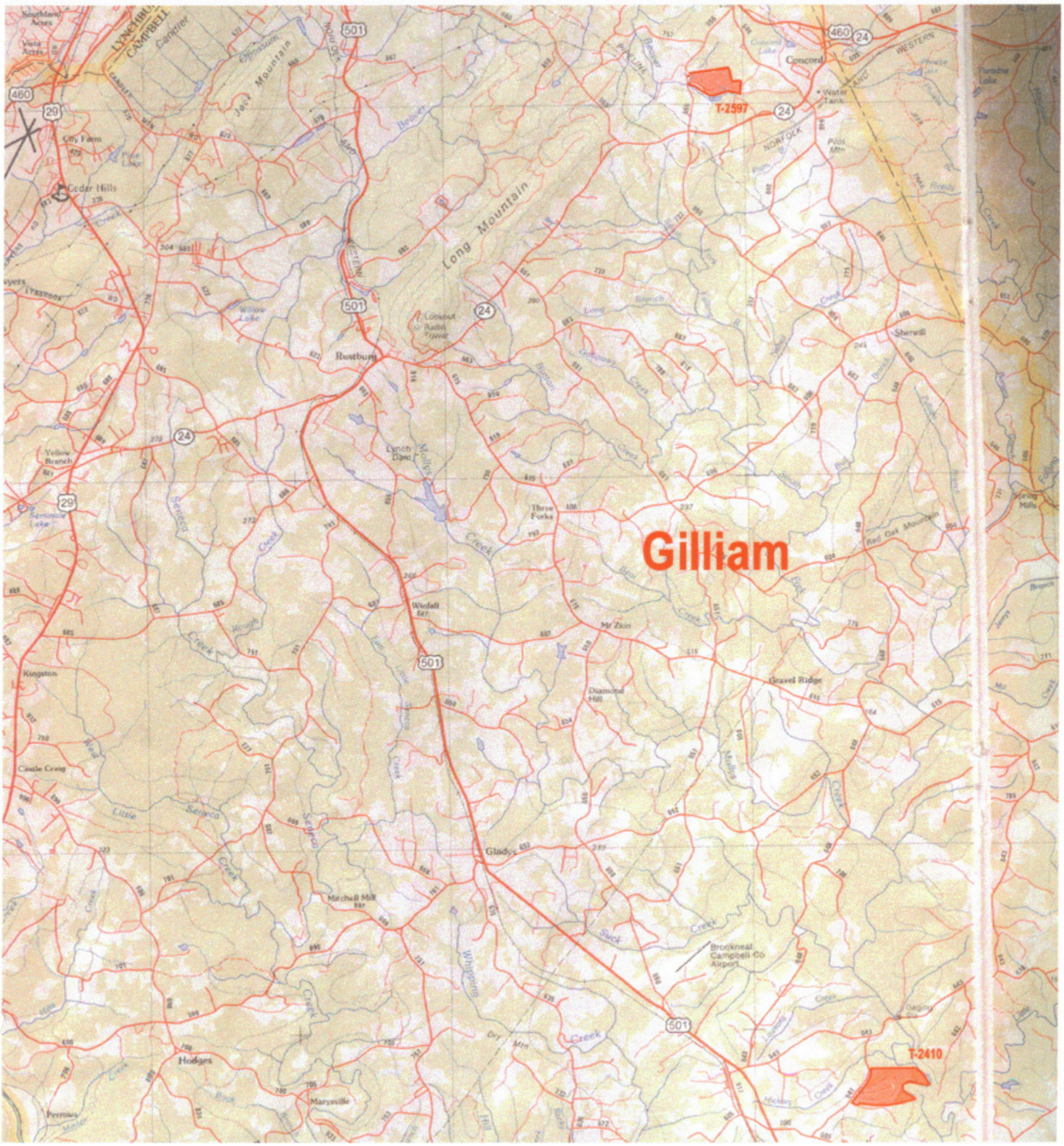
By: William M. Burnett

Mailing Address:

P.O. Box 38060
2353 Charles City Road
Richmond, VA 23231
(804) 222-7514 phone
(804) 222-0835 fax

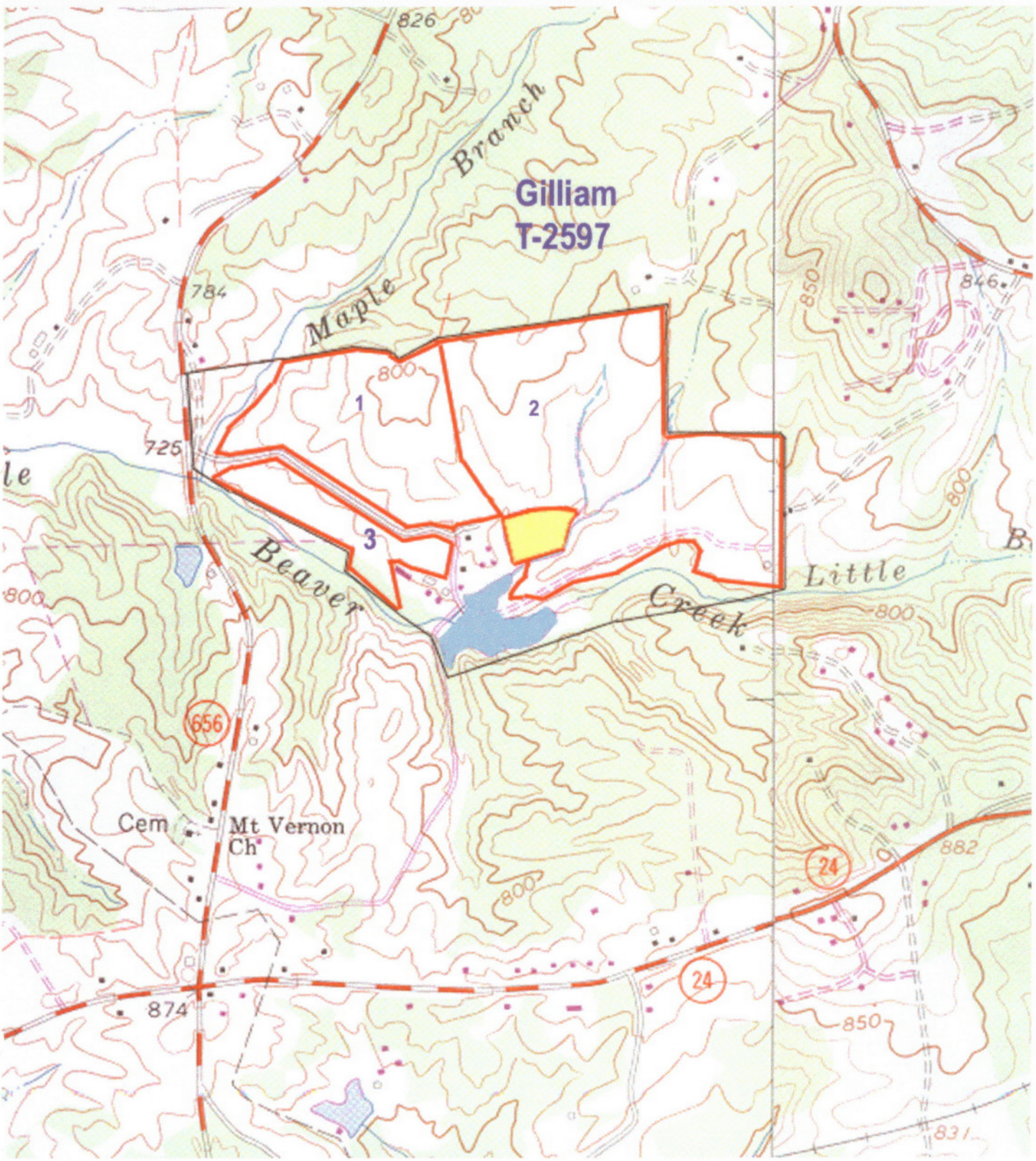
NutriBlend

BIOSOLIDS LAND APPLICATION



NutriBlend

BIOSOLIDS LAND APPLICATION



NutriBlend

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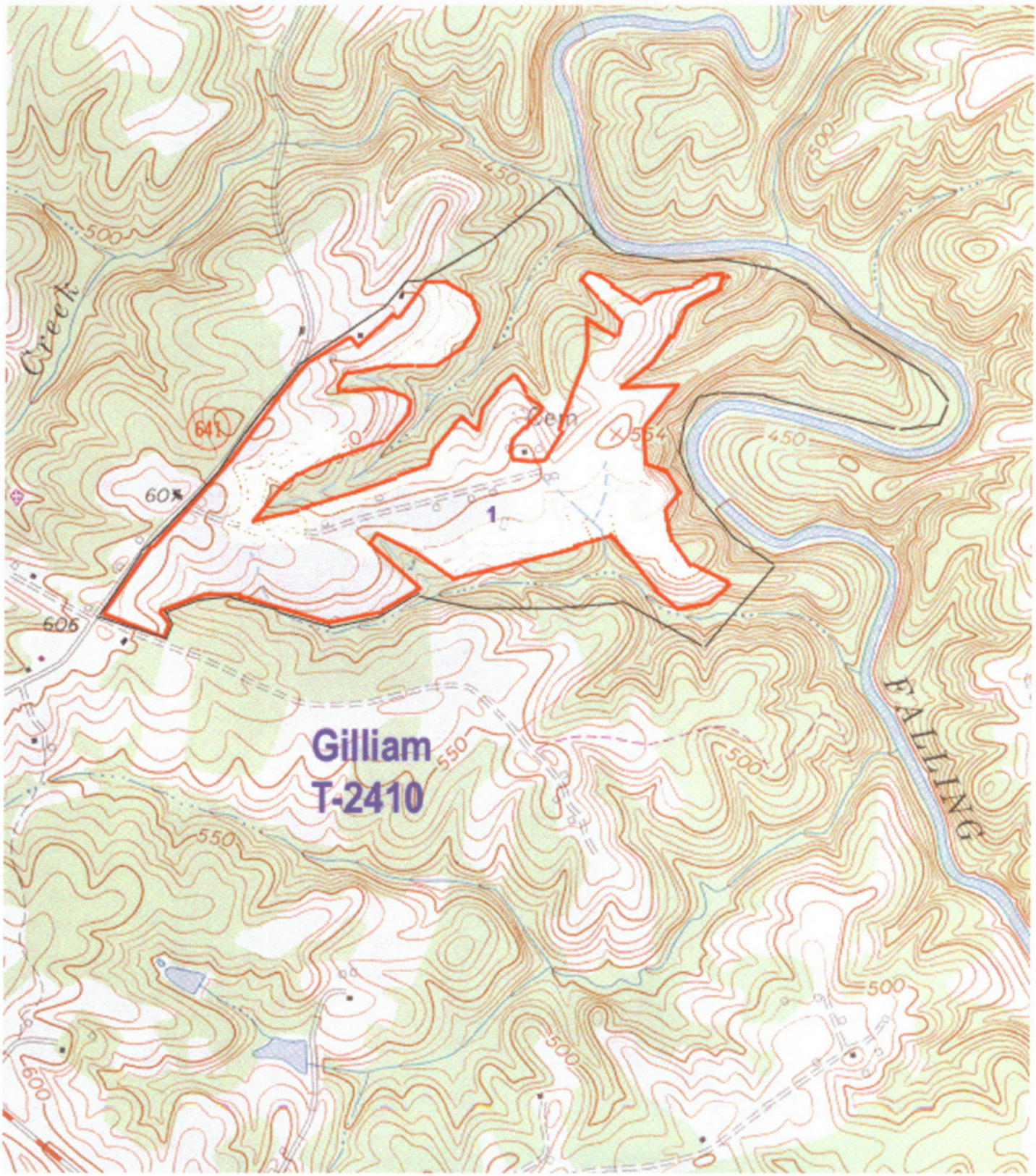
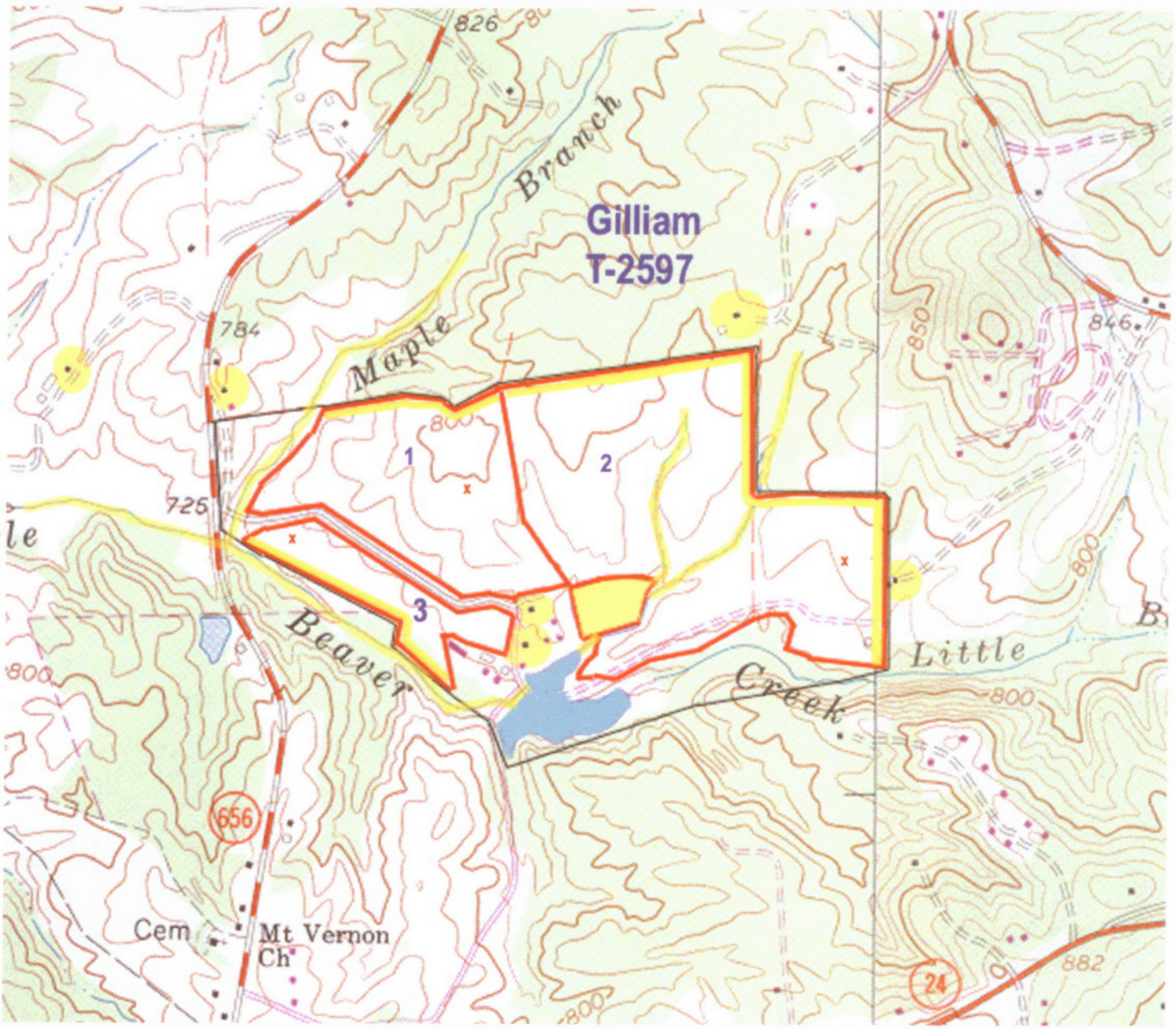


G. D. GILLIAM FARM
TRACT T-2410

NutriBlend

BIOSOLIDS LAND APPLICATION

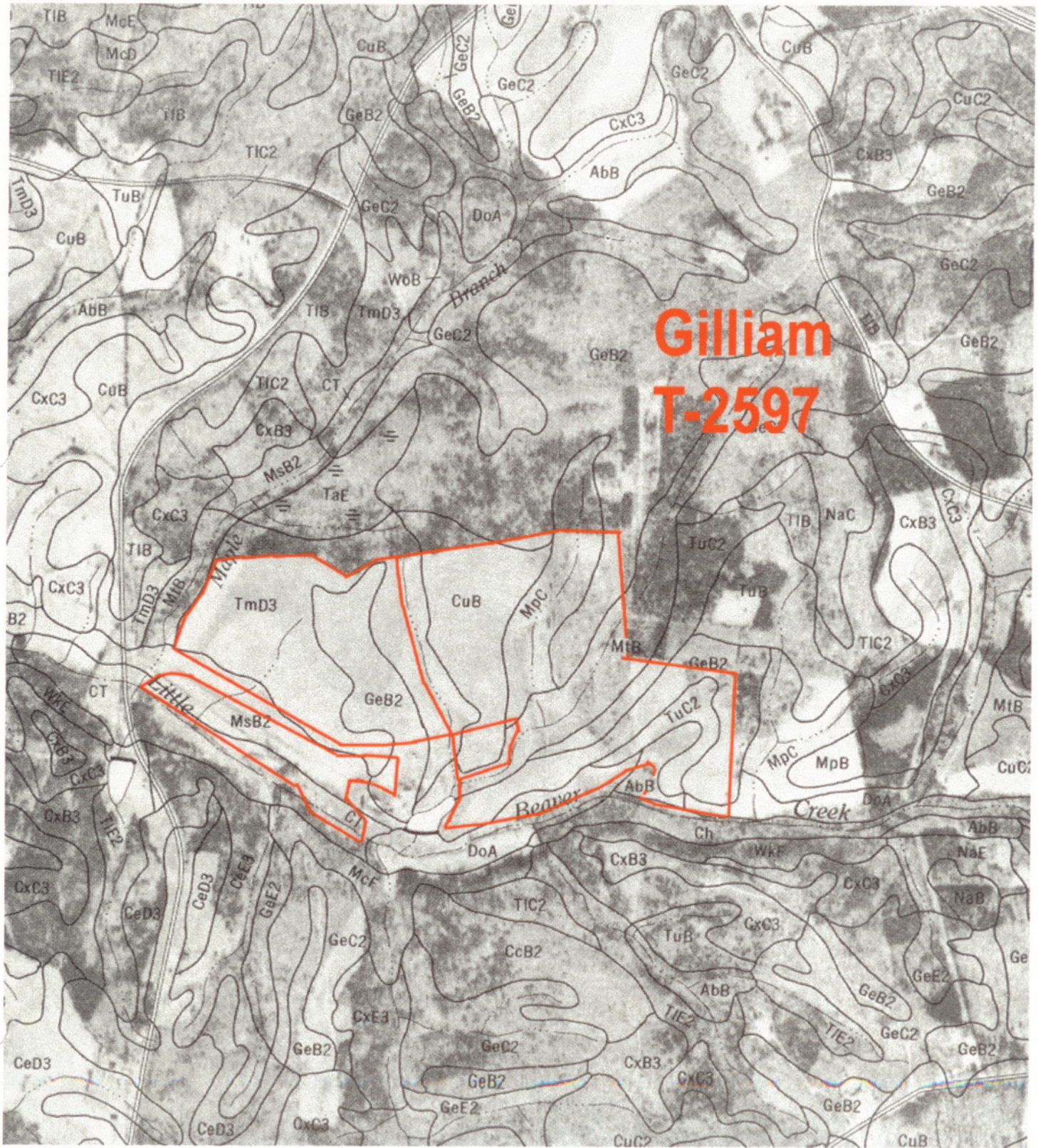


Map not to scale

Buffer Area	Road	Property Line
or Dwelling/Structure	Intermittent stream	Water
X Field Coordinate Location	Undeveloped Road	Wooded Area
	Fence	rck Rock Outcrop

NutriBlend

BIOSOLIDS LAND APPLICATION



GILLIAM FARM
TRACT T-2597
FIELD DATA SHEET

Field	Total Acres	Net Acres	Soil Series	Productivity	
				Corn	Hay
1	42.5	41.0	TmD3* Tatum clay loam, 6-15% slopes GeB2 Georgeville loam, 2-6% slopes	IVa	II
2	80.7	76.0	CuB* Cullen loam, 2-6% slopes TmD3 Tatum clay loam, 6-15% slopes MpC Masada fine sandy loam, 6-15% slopes MtB Masada loam, 0-4% slopes GeB2 Georgeville loam, 2-6% slopes TuC2 Tubeville fine sandy loam, 6-15% slopes AbB Abell fine sandy loam, 0-4% slopes DoA dogue fine sandy loam, 0-2% slopes	IIb	II
3	16.2	14.2	MsB2 Masada loam, 2-6% slopes CT Chewacla-Toccoa complex GeB2 Georgeville loam, 2-6% slopes	IIb	II
SUM	**139.4**	**131.2**			

FIELD	LATITUDE	LONGITUDE
1	37*20.32	79*00.48
2	37*20.28	79*00.08
3	37*20.31	79*00.83

Report Number:
2004-R026-061
Account # 73874

A&L EASTERN AGRICULTURAL LABORATORIES, INC.

7621 Whitepine Road • Richmond, Virginia 23237 • (804) 743-9401
Fax No. (804) 271-6446 • Email: office@al-labs-eastern.com

Send To: NUTRI-BLEND INC
POB 38060
2353 CHARLES CITY RD
RICHMOND, VA 23231

Grower: PO#8212
GILLIAM - T 2597

Samples Submitted By:
MP

SOIL ANALYSIS REPORT

Page: 1 Date Received: 01/23/2004 Date of Analysis: 01/26/2004 Date of Report: 01/29/2004

Analytical Method:
Ammonium Acetate, Bray-P

Sample Number	Lab Number	Organic Matter %	Organic Matter ENR lbs/A	Phosphorus Available ppm	Phosphorus Available Rate	Phosphorus Reserve ppm	Phosphorus Reserve Rate	Potassium K ppm	Potassium K Rate	Magnesium MG ppm	Magnesium MG Rate	Calcium CA ppm	Calcium CA Rate	Sodium NA ppm	Sodium NA Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C. meq/100g
1	13834	2.6	95 M	88	VH	130	VH	100	H	102	VH	480	M			5.5	6.81	1.2	4.7
2	13835	2.8	98 M	72	VH	116	VH	86	M	156	VH	620	M			5.8	6.82	1.1	5.7
3	13836	2.9	96 M	100	VH	172	VH	348	VH	164	VH	1030	M			6.3	6.84	0.9	8.3

Sample Number	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO3-N ppm	Nitrate Rate	Sulfur SO4-S ppm	Sulfur Rate	Zinc ZN ppm	Zinc Rate	Manganese MN ppm	Manganese Rate	Iron FE ppm	Iron Rate	Copper CU ppm	Copper Rate	Boron B ppm	Boron Rate	Soluble Salts ms/cm	Soluble Salts Rate	Chloride CL ppm	Chloride Rate	Aluminum AL ppm	Aluminum Rate
1	5.4	18.0	50.8		25.8																				
2	3.9	22.8	54.3		19.0																				
3	10.8	16.5	62.2		10.6																				

Values on this report represent the plant available nutrients in the soil.
Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High).
ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams).
Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to the sample(s) tested. Samples are retained a maximum of thirty days after testing. Soil Analysis prepared by:
A & L EASTERN AGRICULTURAL LABORATORIES, INC.

by: C. Norman Jones

Report Number:
2004-R026-061

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GILLIAM - T 2597

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MP

Date: 01/29/2004 Page: 1

SOIL FERTILITY RECOMMENDATIONS (lbs/A)

Your Sample Number	Crop	Yield	Amendments			N	P2O5	K2O	Mg	S	Zn	Mn	Fe	Cu	B	Mo
			Lime Tons/A	Gypsum Tons/A	Elemental Sulfur lbs/A	Nitro-gen	Phos-phate	Potash	Mag-nesium	Sulfur	Zinc	Manga-nese	Iron	Copper	Boron	Molyb-denum
1	ADJ pH TO 6.8		1.75													
2	ADJ pH TO 6.8		1.50													
3	ADJ pH TO 6.8		1.00													

Remarks:

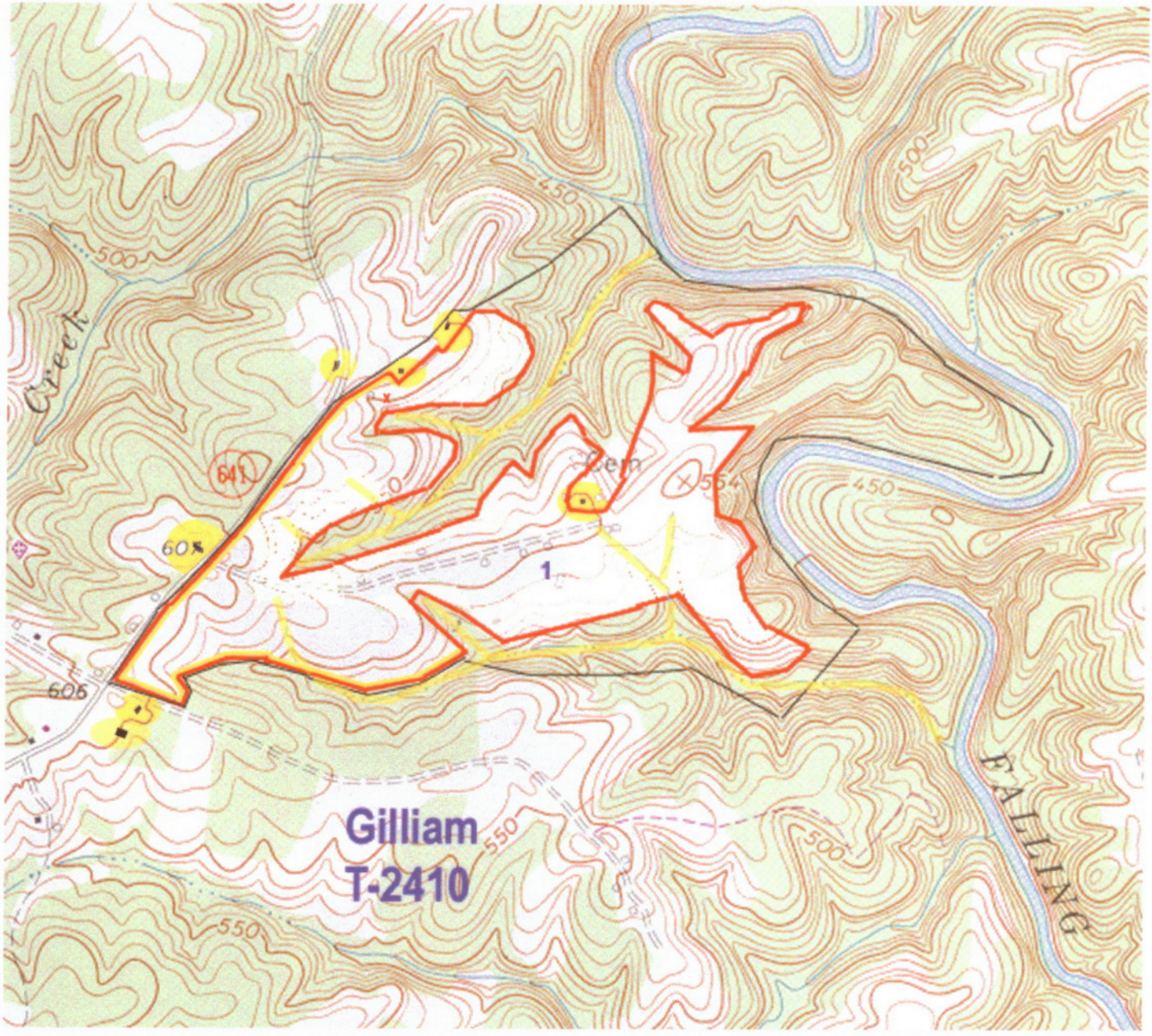
"The recommendations are based on research data and experience, but NO GUARANTEE or WARRANTY expressed or implied, concerning crop performance is made."

A&L EASTERN AGRICULTURAL LABORATORIES, INC.

by: C. Norman Jones

NutriBlend

BIOSOLIDS LAND APPLICATION



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Buffer Area	Road	Property Line
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X Field Coordinate Location	Undeveloped Road	Wooded Area
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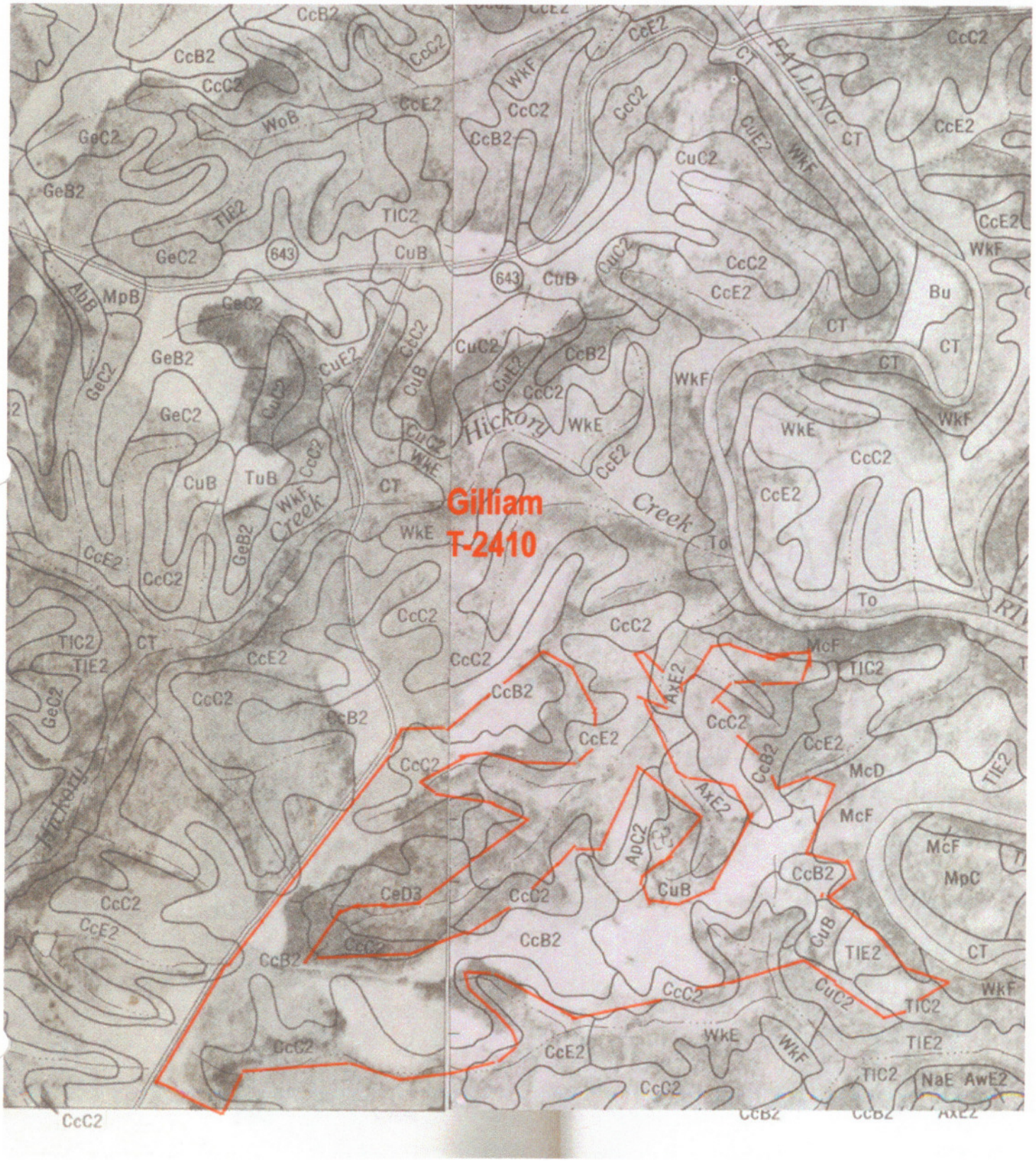
BIOSOLIDS LAND APPLICATION



GILLIAM FARM
TRACT T-2410
FIELD DATA SHEET

Field	Total Acres	Net Acres	Soil Series	Productivity	
				Corn	Hay
1	140.6	130.0	CcB2* Cecil fine sandy loam, 2-6% slopes CcC2 Cecil fine sandy loam, 6-15% slopes ApC2 Appling fine sandy loam, 6-15% slopes CuB Cullen loam, 2-6% slopes TlE2 Tatum loam, 15-25% slopes TlC2 Tatum loam, 6-15% slopes	IVa	II
SUM	**140.6**	**130.0**			

FIELD	LATITUDE	LONGITUDE
1	37*06.86	78*58.01

Report Number:
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1	13833	3.3	107 M	36	H	80	VH	104	M	108	H	850	M			6.0	6.83	1.0	6.4

Sample Number	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO3-N ppm	Nitrate Rate	Sulfur SO4-S ppm	Sulfur Rate	Zinc ZN ppm	Zinc Rate	Manganese MN ppm	Manganese Rate	Iron FE ppm	Iron Rate	Copper CU ppm	Copper Rate	Boron B ppm	Boron Rate	Soluble Salts ms/cm	Soluble Salts Rate	Chloride CL ppm	Chloride Rate	Aluminum AL ppm	Aluminum Rate
1	4.2	14.1	66.4		15.4																				

Values on this report represent the plant available nutrients in the soil.
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			Lime Tons/A	Gypsum Tons/A	Elemental Sulfur lbs/A	Nitro-gen	Phos-phate	Potash	Mag-nesium	Sulfur	Zinc	Manga-nese	Iron	Copper	Boron	Molyb-denum
1	ADJ pH TO 6.8		1.25													

Remarks:

"The recommendations are based on research data and experience, but NO GUARANTEE or WARRANTY expressed or implied, concerning crop performance is made."

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by: C. Norman Jones