Thurman Jessup 6/16/97

ELEVATION 93.9 = 27,186 c.y.
(27,018 cy needed for Feces, Urine, 270 DAYS Excess water
Treatment volume and sludge storage volume)

Normal Rainfall less evaporation = 0.7'

93.9 + 0.7' = 94.6 ← START PUMP

25 yr storm 0.5'
Freeboard (22") 1.8' 1.0'
Partial Hurricane 0.3' (Not really required since existing structure)
Top of DAM → 96.4
(See Pete Crawford's (Eng) Drawing Showing Volume Estimates to Elevations)

Anaerobic Treatment 391,500 cu Ft
Sludge Volume 97,875 cu Ft.
489,375 cu Ft. = 18,125 cu yds

ELEV. 91.9 = 19,703 c.y.
ELEV. 91.4 = 17,872

91.5 = 18,254

91.5 ← Stop Pump

Thurman Jessup 5/6/97 Revised 6-10-97

2900 Swine (Feeder to Finish)

## Anaerobic LAGOON VOLUME CALCULATIONS
(MINIMUM 60 DAYS)

1) FECES, URINE, AND EXCESS Wash Water = 2.3 gals/DAY

2.3 gals/DAY X 2900 hogs = 6670 gals/DAY

6670 gals/DAY X ~~60~~ 270 days = ~~400,200~~ 1,800,900 gals / ~~60~~ 270 DAYS

7½ gals = 1 cubic foot ~~400,200~~ / 7.5 = ~~53,360~~ 240,120 cu FT per ~~60~~ 270 days

2) Anaerobic Treatment VOLUME : 1 cu Ft per pound

2900 hogs X 135 lbs (Av weight) x 1 cu Ft = 311,500 cu Ft

3) Sludge Stor Volume : .25 cu. Ft per pound

2900 hogs X 135 x .25 cu. Ft. (97,875 cu Ft)

(1 - 3) TOTAL : ~~542,735~~ cu. Ft

729,495 / 27 = 27,018 cu. yds

Assuming No Outside Drainage Area

4) Normal Rainfall Less Evaporation

0.13"/DAY - 0.10" evaporation = 0.03"/DAY

0.03"/DAY X 270 60 days = 1.8" / 12 = ~~0.2'~~ 0.7'

5) 25 yr Storm 6" (on structure) = 0.5'

6) Freeboard = 1.0'

7) HEAVY RAIN 0.5 0.3

1.8' (22")

HEAVY RAIN factor not required

P.2

Thurman Jessup 5/6/97

Using Waste Mgmt 703-1 TABLE (Capacities of Earth Stor)

2900 Hogs

see p. 1

1, 2, 3: FECES, URINE, Excess Wash Water, Anaerobic Treatment Vol &

& Sludge stor vol = 542,735 cu. Ft. Needed

4, 5, 6: Normal rain less evap, 25 yr Storm & Freeboard = 1.7' (21") = 20,101 CY

---

Chart: 550,000 cu. Ft.

Would Need:

[Data assumes 1' freeboard with 2½:1 inside slopes]

150' X 573 X 10' deep

200' X 417 X 10'

300' X 274 X 10'

400' X 207 X 10'

(Or equivalent)

will provide 24" instead of 21"

(Use 2:1 inside slopes) = 10'-8' = 2' x 4' = 200 - 8' = 282

VOLUME = $\frac{\text{depth}}{6}$ [(area at Top) + (area at bottom) + (4 (area Midsection)

(8' x 4') = 32

$\frac{8'}{6}$ (282' x 282') + (250 x 250) + (4 x 266 x 266)

Good!

$\frac{8}{6}$ 79,524 + 62,500 + 283,024 = 566,731 cu. Ft.

290' x 290' 10' depth to top of DAM

Need this OR: EQUIVALENT

(I): Irrigated

# SUMMARY OF FIELDS USED FOR WASTE DISPOSAL (PMR-12/18/96)

OPERATION/ LAND USER Thurman Jessup – Owns T- 5949, 9420, 166, 168, 6270 DATE 4/21/97 AST. BY BW

| TRACT | FIELD # | ACRES | SOIL TYPE | CROPS | BMP's | SOIL LOSS B A |
|---|---|---|---|---|---|---|
| T-5949 | ✓ 1 | 1.0 | Randolph 45C ~~48C~~ | Pasture | | |
| (Home) | 2 | 1.5 ~~1.9~~ | 45C ~~48C~~ | | 0.4 Buffer | |
| Thurman Jessup Owner | 3 | 11.5 13.0 | 45C ~~48C~~ | | [illegible] Buffer | |
| | 4 | 2.9 ~~3.6~~ | 50 B | | 0.7 Buffer | |
| | 5 | 5.8 | 50 B | | | |
| | 6 | 4.6 | 45C ~~48C~~ | | | |
| | 7 | 18.0 | 50B | | | |
| | 8 | 1.5 | 50C | | | |
| | 9 | 4.2 | 41C | | | |
| | | 53.6 | | | | |
| T-9420 | ✓ 1 | 17.6 18.7 | Randolph 41 B | Pasture | 1.1 Buffer | |
| T-166 | 1 (I) | 6.2 | Chatham 130B | HAY | | |
| | 2 (I) | 4.1 | 130B | | | |
| | 3 (I) | 2.1 | 525B | | | |
| | | 12.4 | | | | |
| T-168 | (*) 1 (I) | 2.1 | Chatham 525B | HAY | | |
| | 2 (I) | 4.0 ? ~~5.0~~ | 525B | | 1.0 Buffer | |
| T-6270 | ✓ 1 | ? 3.0 | Randolph 45B | HAY | | |
| (Around 3 chicken houses on dirt road) | | | | | | |
| T-166 | 4 (I) | 26 | Chatham 130B | HAY proposed | | |
| (In process of clearing woodland) | | | | | | |
| | Total | ~~120.8~~ 116.1 | | | | |

Preliminary Data for WUP. 4/22/97

Waiting on:

1) Survey crew to measure lagoons capacity

2) Soils info from Ashboro F.O. called Bart P (Ashboro) on 4/22/97 – to send soils info to us

(*) ~~This field is within 500' of a residen~~

~~Ordinance requires waste not be apply~~

Applies to operative [illegible]

SUMMARY OF FIELDS USED FOR WASTE DISPOSAL (PMR-12/18/96)

OPERATION/ LAND USER Thurman Jessup (Leased Tracts) T-5981, 142, 5960 DATE 4/21/97 AST. BY BW

| TRACT | FIELD # | ACRES | SOIL TYPE | | CROPS | BMP's | SOIL LOSS B | SOIL LOSS A |
|---|---|---|---|---|---|---|---|---|
| T-5981 | 1 | 8.0 | Randolph | 50B | Pasture (Hes) | | | |
| Son owns | 2 | 1.6 | | 50B | HAY | | | |
| Reggie Jessup | 3 | 1.6 | | 50B | HAY | | | |
| | | 11.2 | | | | | | |
| (South East of Home Farm on paved road) | | | | | | | | |
| T-142 | 1 | 9.4 ~~10.2~~ | Chatham | 525B | HAY | D.S. Buffer | | |
| Owned | 2 | 8.7 | | 130B | | | | |
| By | 3 | 1.8 | | 130B | | | | |
| Clyde | 4 | 1.6 | | 130B | | | | |
| Hicks | | 22.3 | | | | | | |
| T-5960 | 1 | 3.5 | Randolph | 41B | HAY | | | |
| Owned | 2 | 4.4 | | 41B | | | | |
| By | 3 | 0.9 | | 41B | | | | |
| Ella Allred | 4 | 2.3 ~~3.1~~ | | 41B | | D.S. Buffer | | |
| | | 11.9 | | | | | | |
| | Total | 45.4 | | | | | | |
| | | 43.8 | | | | | | |

Thurman Jessup
4/21/97

Owned Acres: (Preliminary)

| | | | | |
|---|---|---|---|---|
| Hayland: | 48.7 Acres | X | 200 lbs N = | 9740 lbs. |
| Pasture: | 72.3 Acres | X | 150 lbs N = | 10845 lbs. |
| TOTAL: | 121 Acres | | | 20,585 lbs. N needed |

Leased Acres:

| | | | | |
|---|---|---|---|---|
| Hayland: | 37.4 Acres | X | 200 lbs N = | 7480 lbs. |
| Pasture: | 8.0 Acres | X | 150 lbs N = | 1200 lbs. |
| TOTAL: | 45.4 Acres | | | 8680 lbs of N needed |

Looks like Ample level is Available
BW

TOTAL: 29,265 lbs N Needed

2900 hogs (Feeder to Finish) X 2.3 Irrigated X 2.1 Broadcast = 6380 lbs.

65,000 Broilers
house cake
39 lbs N/1000
65 X 39 = 2535
House Whole
195 lbs N/1000
65 X 195 = 12,675

Est Available N → 19,053

Thurman Jessup 5/20/97

2900 Hogs (Feeder to Finish)

(PAN) PLANT AVAILABLE Nitrogen Produced per YEAR:

6,670 lbs (2900 hogs x 2.3 lbs (PAN) / Hog / YEAR)

(*) RATES OF PAN per Acre VARY according to soil type and land use.

**Worst CASE:** 135 lbs PAN Per Acre
(Note: CAN Be As high as 240 lbs/Acre)

$$\frac{6670 \text{ lbs. PAN produced/Yr}}{135 \text{ lbs. / Acre (lowest rate)}} = 49 \text{ Acres Needed}$$

AVAILABLE LAND

| | | | | (*) Rate/Ac | | TOTAL PAN PER Field | |
|---|---|---|---|---|---|---|---|
| Mr. Jessup has: | T-166 | F.1 | 6.2 Acs. | x 240 lbs | = | 1488 lbs. | 18.5 Ac 4194 LBS. |
| | | F.2 | 4.1 Acs. | x 240 lbs | = | 984 lbs. | |
| | | F.3 | 2.1 Acs. | x 210 lbs | = | 441 lbs. | |
| | T-168 | F.1 | 2.1 Acs. | x 210 lbs | = | 441 lbs. | |
| | | F.2 | 4.0 Acs. | x 210 lbs | = | 840 lbs. | |
| In process of Clearing → | T-166 | F.4 | 26.0 Acs. | x 240 lbs | = | 6240 lbs | |
| | sub total: | | 44.5 Acs | | | 10,434 lbs. | |
| owned by Clyde Hicks HAY → | T-142 | F.1 | 9.4 Acs. | x 210 lbs | = | 1974 lbs. | |
| | | F.2 | 8.7 Acs. | x 240 lbs | = | 2088 lbs. | |
| | | F.3 | 1.8 Acs. | x 240 lbs | = | 432 lbs. | |
| | | F.4 | 1.6 Acs. | x 240 lbs | = | 384 lbs. | |
| | | | 21.5 Acs | | | 4878 lbs. | |
| | Grand TOTAL: | | 66.0 Acs. | | | 15,312 lbs. | |

owned By Mr. Jessup HAY

JOINS Thurman Jessup's property on his North Boundary.

# Summary

6670 lbs. OF PAN Produced PER YEAR

— 9072 lbs. OF PAN NEEDED FOR LAND
That is currently Available (hay land)
( 4194 lbs. + 4878 lbs )

Jessup's LAND 18.5 Acs — + — Clyde Hicks LAND 21.5 Acs = 40 Acs Available

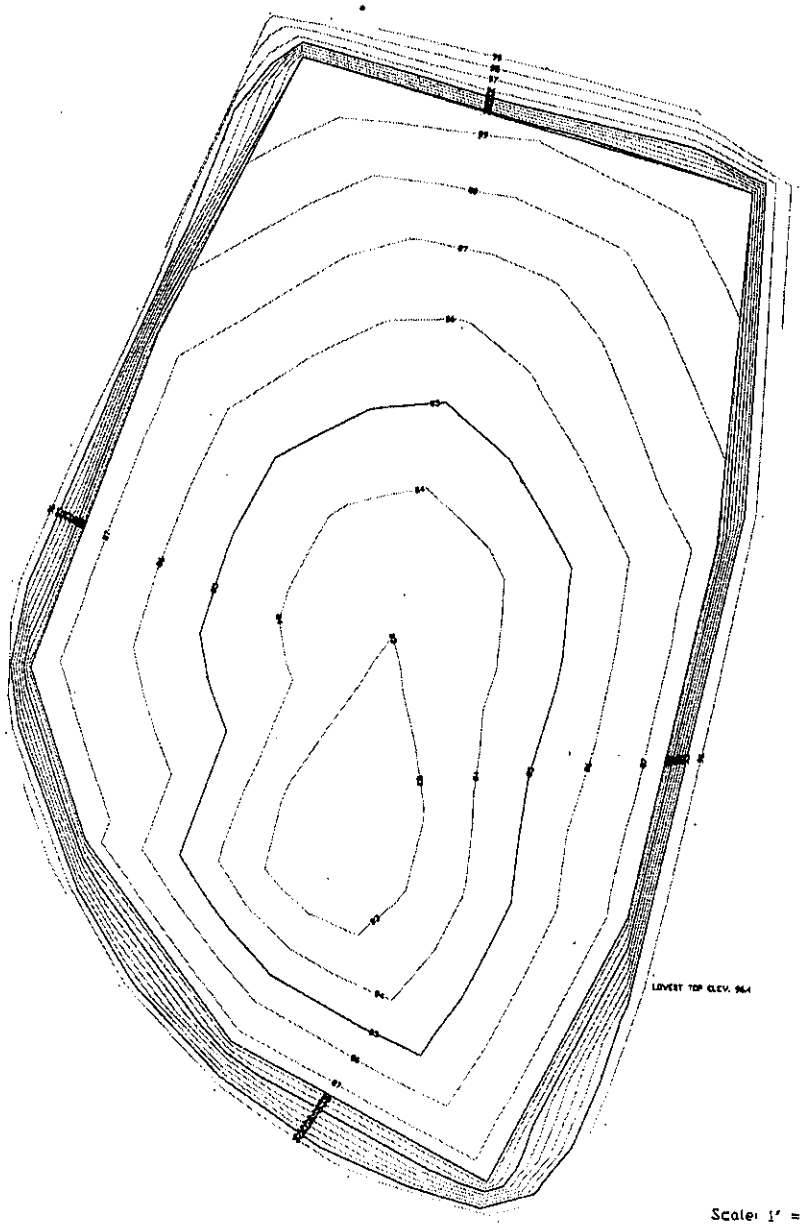
— 2402 lbs

Deficit (this is good)

— 6240 lbs OF PAN NEEDED FOR LAND
in process of being cleared
for Hay land.

— 8642

Deficit (ONCE 26 Acres cleared and in hayland)




Scale: 1" = 50'

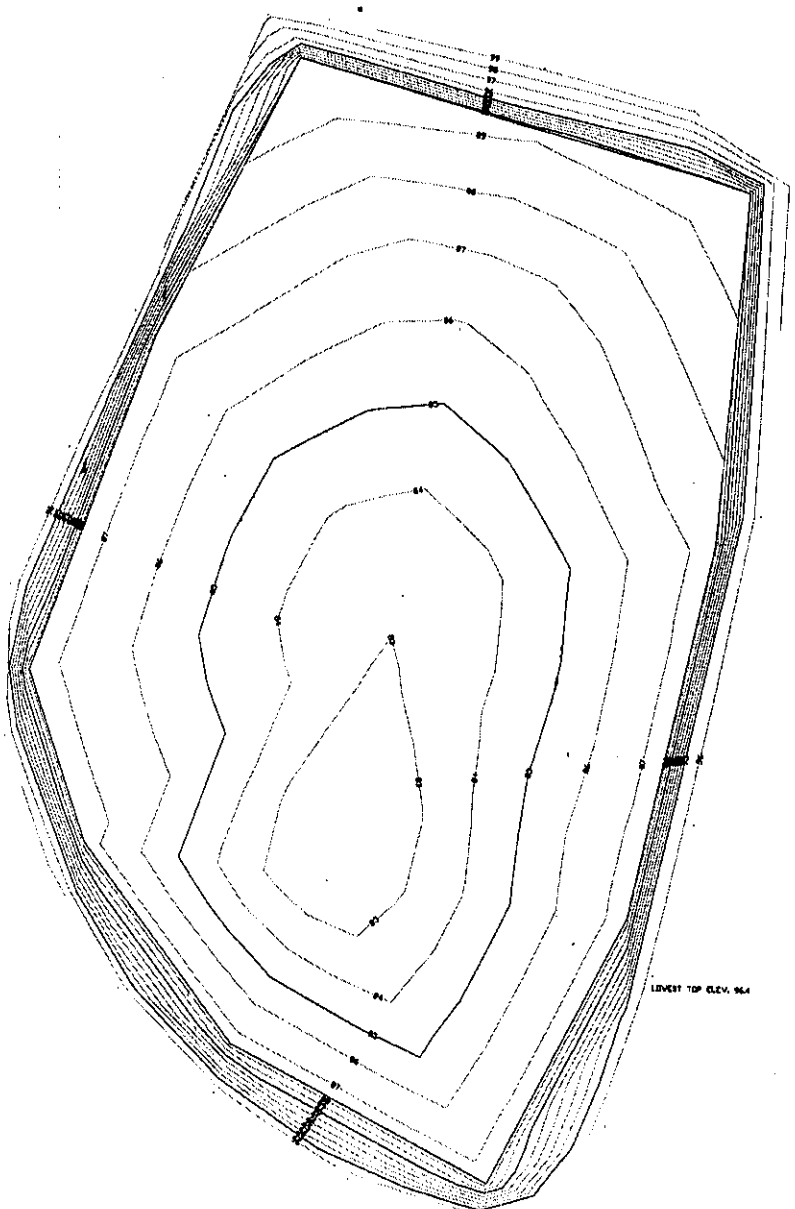
## VOLUME BY SLICE METHOD

LIST OF VOLUMES BETWEEN 0.5-FOOT INTERVALS.
SUM SLICES TO COMPUTE CUMULATIVE VOLUMES.

| | |
|---|---|
| SLICE INTERVAL | 1 (AT BOTTOM) |
| STARTING ELEVATION | 82.40 FT |
| ENDING ELEVATION | 82.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 0.00 CY |
| SLICE INTERVAL | 2 |
| STARTING ELEVATION | 82.90 FT |
| ENDING ELEVATION | 83.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 3.37 CY |
| SLICE INTERVAL | 3 |
| STARTING ELEVATION | 83.40 FT |
| ENDING ELEVATION | 83.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 34.45 CY |
| SLICE INTERVAL | 4 |
| STARTING ELEVATION | 83.90 FT |
| ENDING ELEVATION | 84.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 133.47 CY |
| SLICE INTERVAL | 5 |
| STARTING ELEVATION | 84.40 FT |
| ENDING ELEVATION | 84.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 252.17 CY |
| SLICE INTERVAL | 6 |
| STARTING ELEVATION | 84.90 FT |
| ENDING ELEVATION | 85.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 346.96 CY |
| SLICE INTERVAL | 7 |
| STARTING ELEVATION | 85.40 FT |
| ENDING ELEVATION | 85.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 584.36 CY |
| SLICE INTERVAL | 8 |
| STARTING ELEVATION | 85.90 FT |
| ENDING ELEVATION | 86.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 971.96 CY |
| SLICE INTERVAL | 9 |
| STARTING ELEVATION | 86.40 FT |
| ENDING ELEVATION | 86.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1135.10 CY |
| SLICE INTERVAL | 10 |
| STARTING ELEVATION | 86.90 FT |
| ENDING ELEVATION | 87.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1269.62 CY |
| SLICE INTERVAL | 11 |
| STARTING ELEVATION | 87.40 FT |
| ENDING ELEVATION | 87.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1430.08 CY |
| SLICE INTERVAL | 12 |
| STARTING ELEVATION | 87.90 FT |
| ENDING ELEVATION | 88.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1526.22 CY |
| SLICE INTERVAL | 13 |
| STARTING ELEVATION | 88.40 FT |
| ENDING ELEVATION | 88.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1578.16 CY |
| SLICE INTERVAL | 14 |
| STARTING ELEVATION | 88.90 FT |
| ENDING ELEVATION | 89.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1647.39 CY |
| SLICE INTERVAL | 15 |
| STARTING ELEVATION | 89.40 FT |
| ENDING ELEVATION | 89.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1690.61 CY |
| SLICE INTERVAL | 16 |
| STARTING ELEVATION | 89.90 FT |
| ENDING ELEVATION | 90.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1721.18 CY |
| SLICE INTERVAL | 17 |
| STARTING ELEVATION | 90.40 FT |
| ENDING ELEVATION | 90.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1772.61 CY |
| SLICE INTERVAL | 18 |
| STARTING ELEVATION | 90.90 FT |
| ENDING ELEVATION | 91.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1794.90 CY |
| SLICE INTERVAL | 19 |
| STARTING ELEVATION | 91.40 FT |
| ENDING ELEVATION | 91.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1810.62 CY |
| SLICE INTERVAL | 20 |
| STARTING ELEVATION | 91.90 FT |
| ENDING ELEVATION | 92.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1830.44 CY |
| SLICE INTERVAL | 21 |
| STARTING ELEVATION | 92.40 FT |
| ENDING ELEVATION | 92.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1852.13 CY |
| SLICE INTERVAL | 22 |
| STARTING ELEVATION | 92.90 FT |
| ENDING ELEVATION | 93.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1879.65 CY |
| SLICE INTERVAL | 23 |
| STARTING ELEVATION | 93.40 FT |
| ENDING ELEVATION | 93.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1920.31 CY |
| SLICE INTERVAL | 24 |
| STARTING ELEVATION | 93.90 FT |
| ENDING ELEVATION | 94.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1937.55 CY |
| SLICE INTERVAL | 25 |
| STARTING ELEVATION | 94.40 FT |
| ENDING ELEVATION | 94.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1938.74 CY |
| SLICE INTERVAL | 26 |
| STARTING ELEVATION | 94.90 FT |
| ENDING ELEVATION | 95.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1939.87 CY |
| SLICE INTERVAL | 27 |
| STARTING ELEVATION | 95.40 FT |
| ENDING ELEVATION | 95.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1954.46 CY |
| SLICE INTERVAL | 28 (AT TOP OF DAM) |
| STARTING ELEVATION | 95.90 FT |
| ENDING ELEVATION | 96.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 2015.08 CY |

734,022 cu. ft

THURMAN JESSUP - EXISTING LAGOON
VOLUME ESTIMATIONS
USDA Natural Resources Conservation Service 5-20-97




Scale: 1" = 50'

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LIST OF VOLUMES BETWEEN 0.5-FOOT INTERVALS.
SUM SLICES TO COMPUTE CUMULATIVE VOLUMES.

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| FILL VOLUME | 3.37 CY |
| SLICE INTERVAL | 3 |
| STARTING ELEVATION | 83.40 FT |
| ENDING ELEVATION | 83.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 34.45 CY |
| SLICE INTERVAL | 4 |
| STARTING ELEVATION | 83.90 FT |
| ENDING ELEVATION | 84.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 133.47 CY |
| SLICE INTERVAL | 5 |
| STARTING ELEVATION | 84.40 FT |
| ENDING ELEVATION | 84.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 252.17 CY |
| SLICE INTERVAL | 6 |
| STARTING ELEVATION | 84.90 FT |
| ENDING ELEVATION | 85.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 346.96 CY |
| SLICE INTERVAL | 7 |
| STARTING ELEVATION | 85.40 FT |
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| FILL VOLUME | 584.36 CY |
| SLICE INTERVAL | 8 |
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| FILL VOLUME | 1135.10 CY |
| SLICE INTERVAL | 10 |
| STARTING ELEVATION | 86.90 FT |
| ENDING ELEVATION | 87.40 FT |
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| FILL VOLUME | 1578.16 CY |
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| SLICE INTERVAL | 23 |
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| SLICE INTERVAL | 24 |
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| SLICE INTERVAL | 28 (AT TOP OF DAM) |
| STARTING ELEVATION | 95.90 FT |
| ENDING ELEVATION | 96.40 FT |
| CUT VOLUME | 0.00 CY |
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734,022 cu. ft

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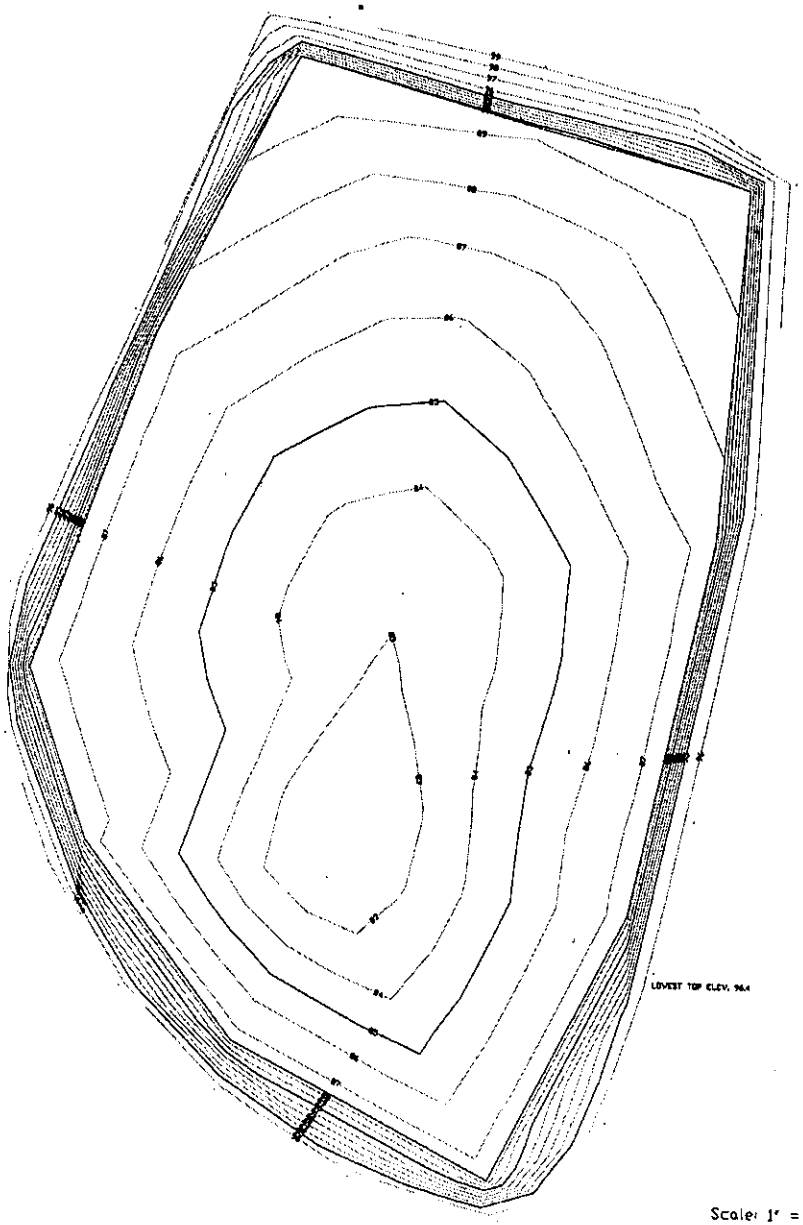


Scale: 1" = 50'

## VOLUME BY SLICE METHOD

LIST OF VOLUMES BETWEEN 0.5-FOOT INTERVALS.
SUM SLICES TO COMPUTE CUMULATIVE VOLUMES.

| | |
|---|---|
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| ENDING ELEVATION | 82.90 FT |
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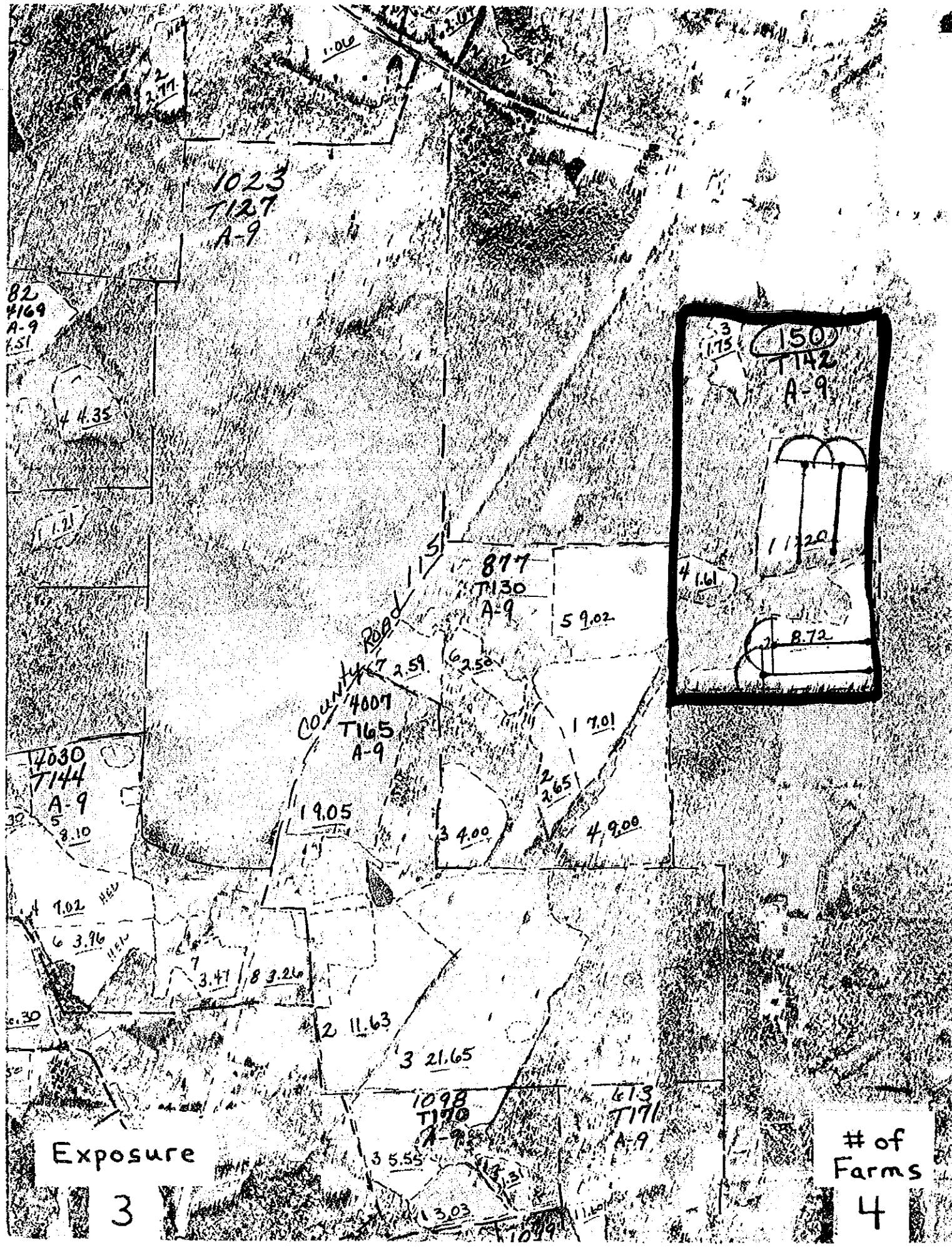
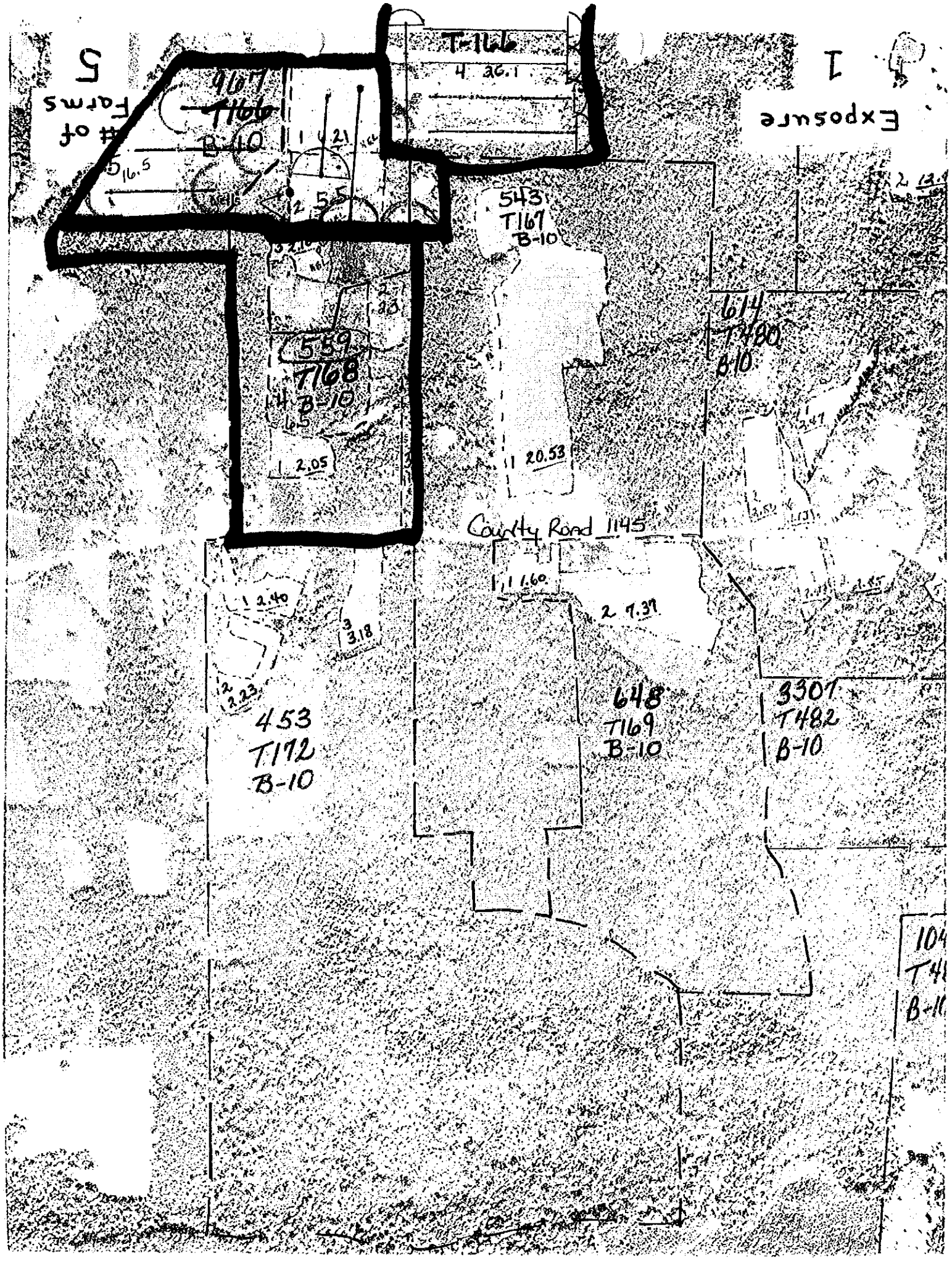
| FILL VOLUME | 0.00 CY |
| SLICE INTERVAL | 2 |
| STARTING ELEVATION | 82.90 FT |
| ENDING ELEVATION | 83.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 3.37 CY |
| SLICE INTERVAL | 3 |
| STARTING ELEVATION | 83.40 FT |
| ENDING ELEVATION | 83.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 34.45 CY |
| SLICE INTERVAL | 4 |
| STARTING ELEVATION | 83.90 FT |
| ENDING ELEVATION | 84.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 133.47 CY |
| SLICE INTERVAL | 5 |
| STARTING ELEVATION | 84.40 FT |
| ENDING ELEVATION | 84.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 252.17 CY |
| SLICE INTERVAL | 6 |
| STARTING ELEVATION | 84.90 FT |
| ENDING ELEVATION | 85.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 346.96 CY |
| SLICE INTERVAL | 7 |
| STARTING ELEVATION | 85.40 FT |
| ENDING ELEVATION | 85.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 584.36 CY |
| SLICE INTERVAL | 8 |
| STARTING ELEVATION | 85.90 FT |
| ENDING ELEVATION | 86.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 971.96 CY |
| SLICE INTERVAL | 9 |
| STARTING ELEVATION | 86.40 FT |
| ENDING ELEVATION | 86.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1135.10 CY |
| SLICE INTERVAL | 10 |
| STARTING ELEVATION | 86.90 FT |
| ENDING ELEVATION | 87.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1269.62 CY |
| SLICE INTERVAL | 11 |
| STARTING ELEVATION | 87.40 FT |
| ENDING ELEVATION | 87.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1430.08 CY |
| SLICE INTERVAL | 12 |
| STARTING ELEVATION | 87.90 FT |
| ENDING ELEVATION | 88.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1526.22 CY |
| SLICE INTERVAL | 13 |
| STARTING ELEVATION | 88.40 FT |
| ENDING ELEVATION | 88.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1578.16 CY |
| SLICE INTERVAL | 14 |
| STARTING ELEVATION | 88.90 FT |
| ENDING ELEVATION | 89.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1647.39 CY |
| SLICE INTERVAL | 15 |
| STARTING ELEVATION | 89.40 FT |
| ENDING ELEVATION | 89.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1690.61 CY |
| SLICE INTERVAL | 16 |
| STARTING ELEVATION | 89.90 FT |
| ENDING ELEVATION | 90.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1721.18 CY |
| SLICE INTERVAL | 17 |
| STARTING ELEVATION | 90.40 FT |
| ENDING ELEVATION | 90.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1772.61 CY |
| SLICE INTERVAL | 18 |
| STARTING ELEVATION | 90.90 FT |
| ENDING ELEVATION | 91.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1794.90 CY |
| SLICE INTERVAL | 19 |
| STARTING ELEVATION | 91.40 FT |
| ENDING ELEVATION | 91.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1810.62 CY |
| SLICE INTERVAL | 20 |
| STARTING ELEVATION | 91.90 FT |
| ENDING ELEVATION | 92.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1830.44 CY |
| SLICE INTERVAL | 21 |
| STARTING ELEVATION | 92.40 FT |
| ENDING ELEVATION | 92.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1852.13 CY |
| SLICE INTERVAL | 22 |
| STARTING ELEVATION | 92.90 FT |
| ENDING ELEVATION | 93.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1879.65 CY |
| SLICE INTERVAL | 23 |
| STARTING ELEVATION | 93.40 FT |
| ENDING ELEVATION | 93.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1920.31 CY |
| SLICE INTERVAL | 24 |
| STARTING ELEVATION | 93.90 FT |
| ENDING ELEVATION | 94.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1937.55 CY |
| SLICE INTERVAL | 25 |
| STARTING ELEVATION | 94.40 FT |
| ENDING ELEVATION | 94.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1938.74 CY |
| SLICE INTERVAL | 26 |
| STARTING ELEVATION | 94.90 FT |
| ENDING ELEVATION | 95.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1939.87 CY |
| SLICE INTERVAL | 27 |
| STARTING ELEVATION | 95.40 FT |
| ENDING ELEVATION | 95.90 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 1954.46 CY |
| SLICE INTERVAL | 28 (AT TOP OF DAM) |
| STARTING ELEVATION | 95.90 FT |
| ENDING ELEVATION | 96.40 FT |
| CUT VOLUME | 0.00 CY |
| FILL VOLUME | 2015.08 CY |

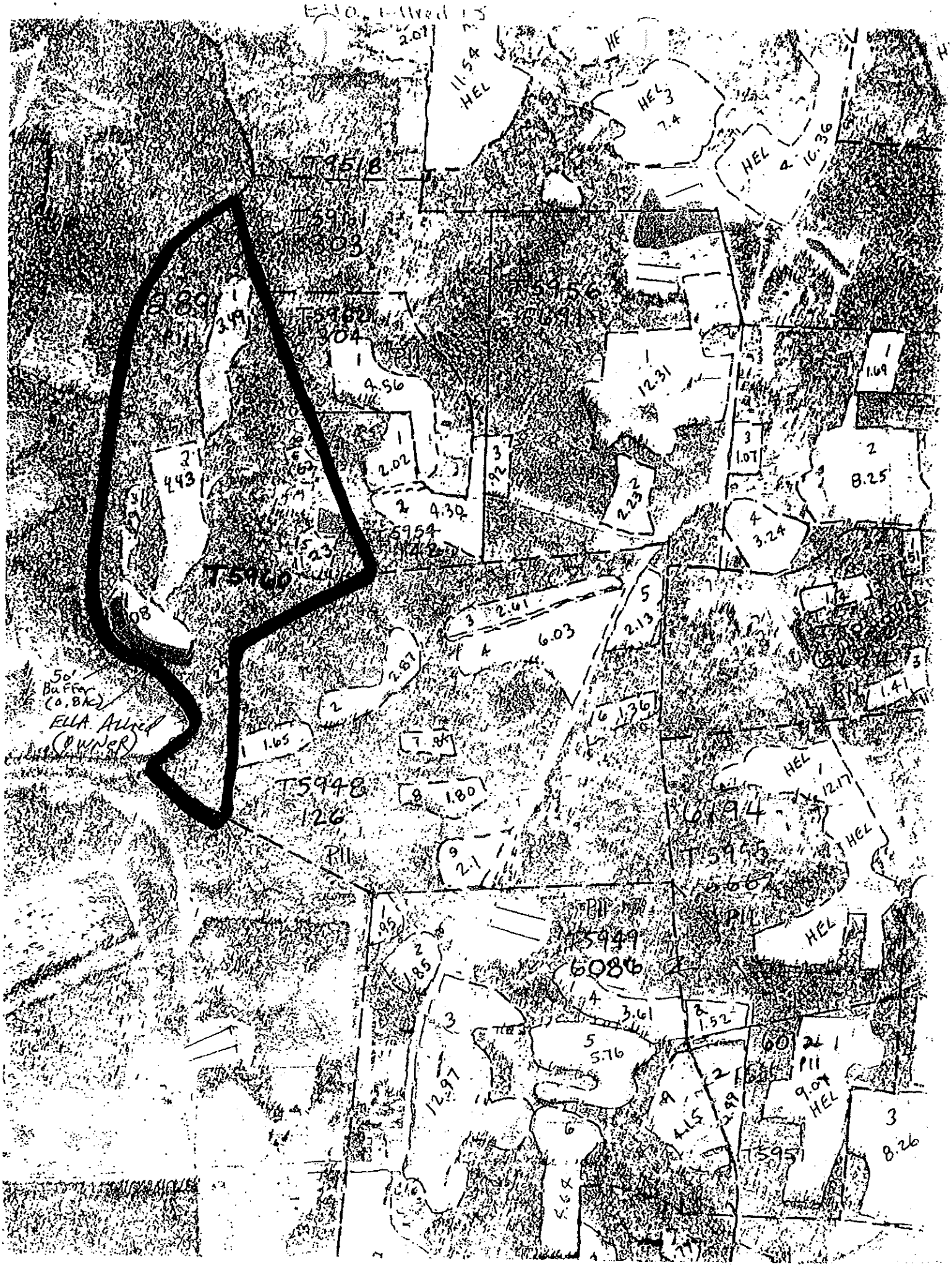
734,022 cu. ft

THURMAN JESSUP - EXISTING LAGOON
VOLUME ESTIMATIONS
USDA Natural Resources Conservation Service 5-20-97

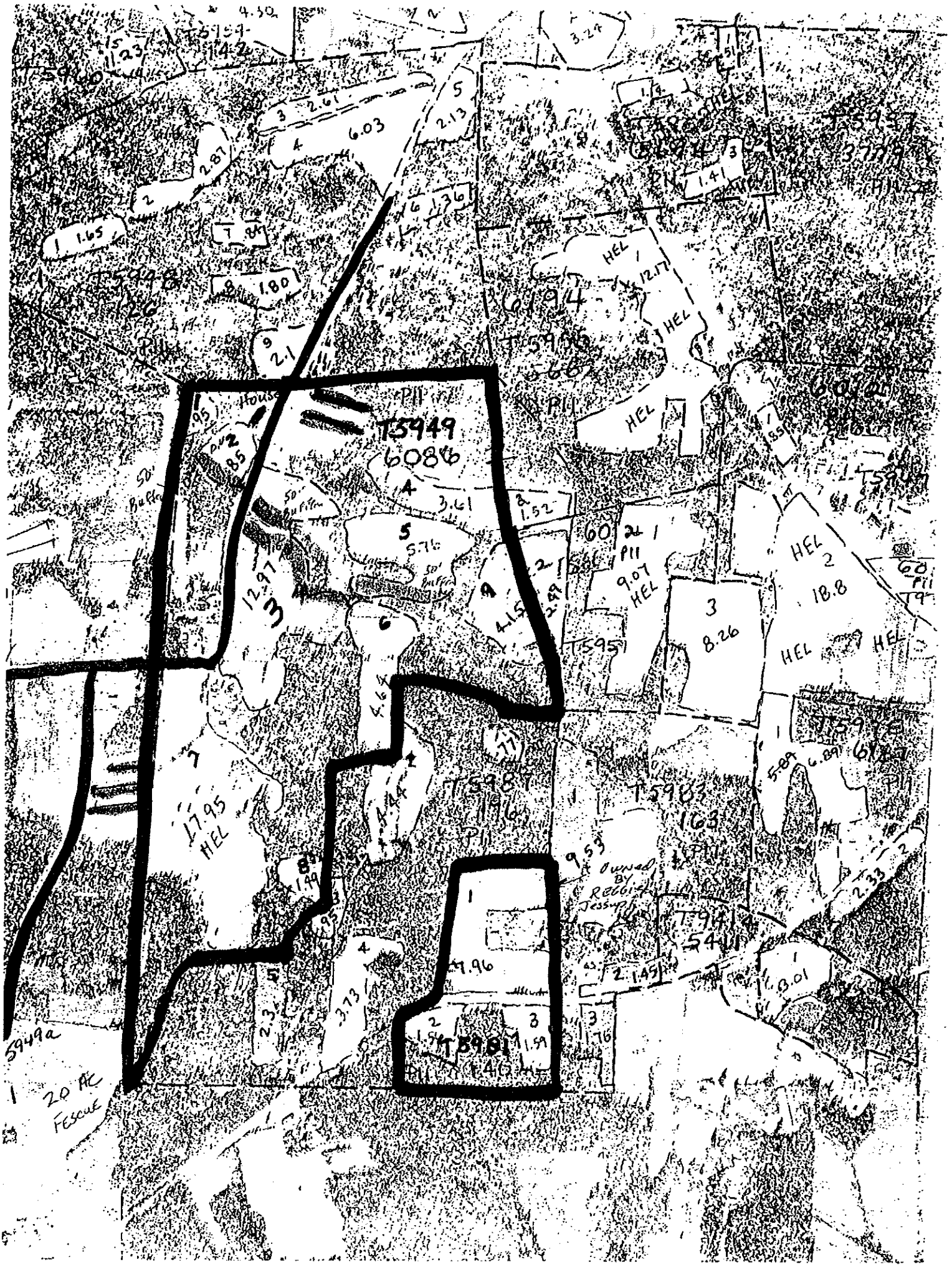

1023
T127
A-9
82
4169
A-9
4 4.35
1.21
150
T142
A-9
3
1.75
1 1.20
4 1.61
8.72
877
T130
A-9
5 9.02
County Road 115
7 2.59
6 2.50
4007
T165
A-9
1 7.01
2 2.65
4 9.00
3 4.00
1 9.05
4030
T144
A-9
5
8.10
4 7.02
6 3.96
7
3.47
8 3.26
2 11.63
3 21.65
1098
T170
A-9
613
T171
A-9
3 5.55
1.31
1 3.03
Exposure
3
# of
Farms
4



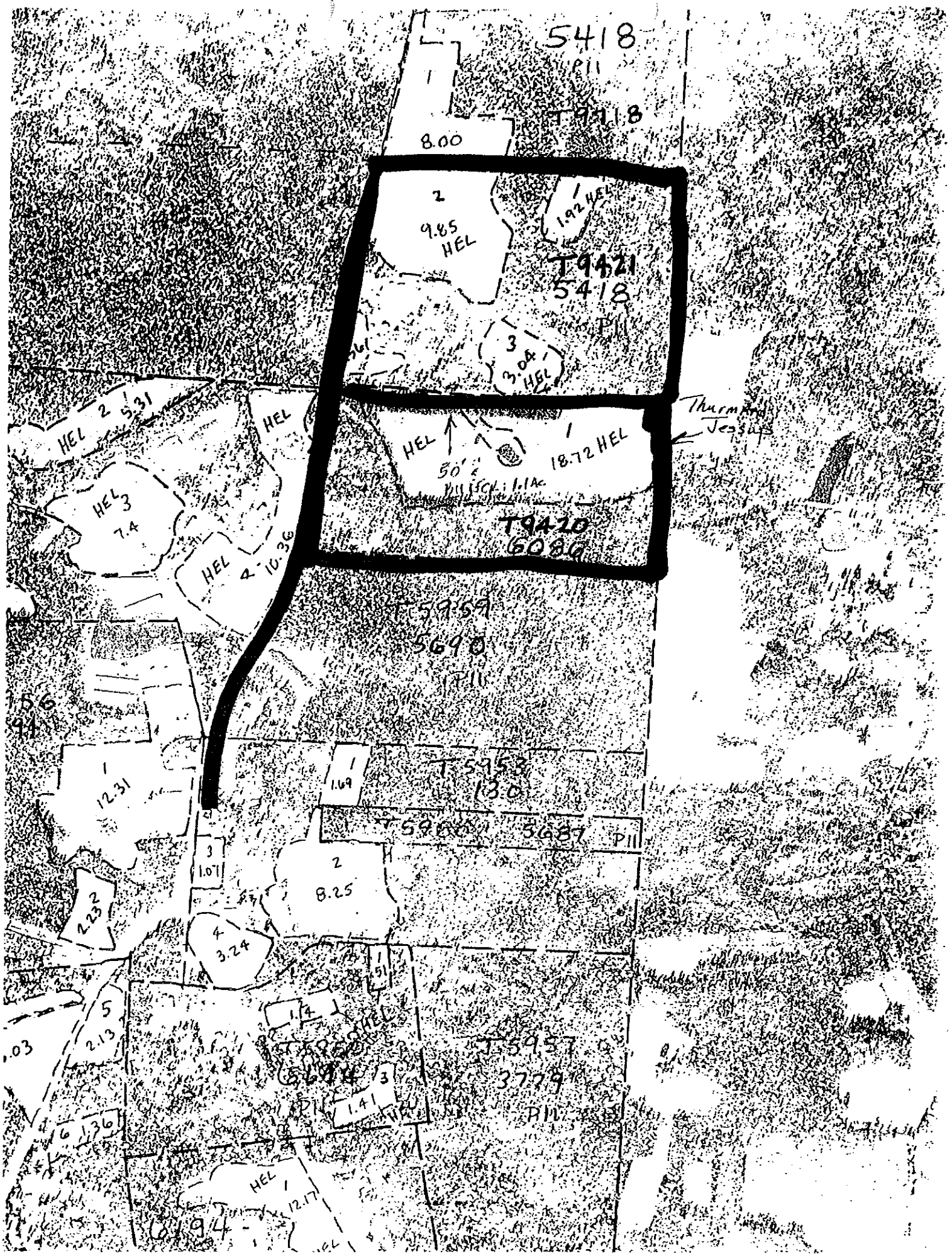
5
# of Farms
1
Exposure
T-166
4 26.1
967
T166
B-10
16.5
543
T167
B-10
559
T168
B-10
2.05
20.53
614
T480
B-10
County Road 1145
1 1.60
2 7.37
1 2.40
3 3.18
2 2.23
453
T172
B-10
648
T169
B-10
3307
T482
B-10



T9518
T5961
303
T5962
304
T5956
T5960
T5948
126
T5949
6086
6194
T5955
50' Buffer (0.8Ac)
ELLA Allred (OWNER)
HEL
PII



T5949
6086
HEL
T5987
T5983
163
T5981
5949a
20 AC
FESCUE
Owned By Reggie Jessup



5418
P11
T9718
8.00
2
9.85
HEL
1.92 HEL
T9421
5418
P11
3
3.04
HEL
Thurmond
Jessup
HEL
18.72 HEL
50'
T9420
6086
HEL
2
5.31
HEL
HEL
3
7.4
HEL
4
10.36
T5959
5690
P11
1
12.31
1
1.69
T5953
130
5687
P11
3
1.07
2
8.25
2
2.23
4
3.24
1
.51
5
2.13
1.14
T5957
3779
P11
3
1.41
6
1.36
HEL
1
12.17
6194

NCDA&CS Agronomic Division Phone: (919)733-2655 Web site: www.ncagr.gov/agronomi/ Report No: 03694

# Soil Test Report

SERVING N.C. RESIDENTS FOR OVER 60 YEARS

Grower: Jessup, Randy/Norris/Thurman
6633 Brush Creek Rd.
Bennett, NC 27208

Copies To:

Farm:

Received: 08/19/2011 Completed: 08/29/2011 Links to Helpful Information

Chatham County

**Agronomist Comments**

12

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 0A1 | | | | | 1st Crop: Fes/OG/Tim,M | 0 | 120-200 | 90-110 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.66 | 1.09 | 7.0 | 89.0 | 0.8 | 5.8 | 17 | 448 | 42.0 | 15.0 | 409 | 265 | | 51 | 51 | 103 | 26 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 0B1 | | | | | 1st Crop: Fes/OG/Tim,M | 0 | 120-200 | 80-100 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.71 | 1.05 | 7.6 | 88.0 | 0.9 | 5.9 | 20 | 443 | 44.0 | 15.0 | 433 | 278 | | 69 | 69 | 122 | 26 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 002 | | | | | 1st Crop: Fes/OG/Tim,M | 0 | 120-200 | 60-80 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.71 | 1.05 | 8.0 | 89.0 | 0.9 | 6.0 | 29 | 445 | 45.0 | 15.0 | 424 | 271 | | 71 | 71 | 121 | 28 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 003 | | | | | 1st Crop: Fes/OG/Tim,M | 0 | 120-200 | 90-110 | 0 | 0 | 15-20 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | 15-20 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.71 | 1.09 | 7.1 | 85.0 | 1.1 | 5.9 | 17 | 412 | 41.0 | 14.0 | 401 | 259 | | 48 | 48 | 101 | 24 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 004 | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 70-90 | 0 | 0 | 15-20 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 15-20 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.86 | 1.06 | 7.7 | 90.0 | 0.8 | 5.9 | 23 | 438 | 46.0 | 15.0 | 437 | 281 | | 62 | 62 | 118 | 25 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 005 | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 90-110 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.66 | 1.04 | 6.6 | 88.0 | 0.8 | 5.8 | 16 | 425 | 42.0 | 15.0 | 346 | 228 | | 44 | 44 | 88 | 27 | | | | 0.5 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 05A | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 60-80 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.71 | 1.08 | 7.9 | 90.0 | 0.8 | 6.1 | 28 | 441 | 46.0 | 16.0 | 442 | 281 | | 78 | 78 | 131 | 31 | | | | 0.5 |

North Carolina
Tobacco Trust Fund Commission

**Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.**

*Thank you for using agronomic services to manage nutrients and safeguard environmental quality.*
*- Steve Troxler, Commissioner of Agriculture*

NCDA&CS Agronomic Division Phone: (919)733-2655 Web site: www.ncagr.gov/agronomi/ Report: W01692

# Waste Analysis Report

Grower: Jessup, Randy/Norris/Thurman
6633 Brush Creek Rd.
Bennett, NC 27208

Copies to:

Farm:

Received: 09/13/2011 Completed: 09/16/2011 Links to Helpful Information

Chatham County

**Sample Information** | **Laboratory Results (parts per million unless otherwise noted)**

| Sample ID: | | N | P | K | Ca | Mg | S | Fe | Mn | Zn | Cu | B | Mo | Cl | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Total | 597 | 85.7 | 1610 | 195 | 86.6 | 50.9 | 12.0 | 1.49 | 5.56 | 2.32 | 1.74 | | | |
| | IN-N | | | | | | | | | | | | | | |
| Waste Code: | -NH4 | | | | | | | | | | | | | | |
| ALS | -NO3 | | | | | | | | | | | | | | |
| Description: | OR-N | | | | | | | | | | | | | | |
| Swine Lagoon Liq. | Urea | | | | | | | | | | | | | | |

| Na | Ni | Cd | Pb | Al | Se | Li | pH | SS | C:N | DM% | CCE% | ALE(Kgal) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 495 | | | | | | | 7.8 | | | | | |

**Recommendations:**

| Application Method | N | P2O5 | K2O | Ca | Mg | S | Fe | Mn | Zn | Cu | B | Mo | Cl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nutrients Available for First Crop | | | | | | | | | | lbs/1000 gallons | | |
| Broadcast | 2.5 | 1.2 | 12.9 | 1.1 | 0.51 | 0.30 | 0.07 | 0.01 | 0.04 | 0.02 | 0.01 | | |
| Soil Incorp | 3.9 | 1.3 | 14.5 | 1.3 | 0.58 | 0.34 | 0.08 | 0.01 | 0.04 | 0.02 | 0.01 | | |

| Other Elements | Na | Ni | Cd | Pb | Al | Se | Li |
|---|---|---|---|---|---|---|---|
| lbs/1000 gallons | | | | | | | |
| Broadcast | 4.1 | | | | | | |
| Soil Incorp | 4.1 | | | | | | |

North Carolina Tobacco Trust Fund Commission

Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.

*Thank you for using agronomic services to manage nutrients and safeguard environmental quality.*
*- Steve Troxler, Commissioner of Agriculture*

NCDA&CS Agronomic Division Phone: (919)733-2655 Web site: www.ncagr.gov/agronomi/ Report: W00494

# Waste Analysis Report

Grower: **Jessup, Randy/Norris/Thurman**
6633 Brush Creek Rd.
Bennett, NC 27208

Copies to:

Farm:

**Chatham County**

**Received:** 08/02/2011 **Completed:** 08/05/2011 **Links to Helpful Information**

| Sample Information | Laboratory Results (parts per million unless otherwise noted) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | *N* | *P* | *K* | *Ca* | *Mg* | *S* | *Fe* | *Mn* | *Zn* | *Cu* | *B* | *Mo* | *Cl* | *C* | |
| 1 | *Total* 499 | 36.4 | 1488 | 169 | 54.0 | 52.5 | 6.55 | 0.68 | 2.98 | 1.06 | 1.73 | | | | |
| | *IN-N* | | | | | | | | | | | | | | |
| *Waste Code:* | *-NH4* | | | | | | | | | | | | | | |
| ALS | *-NO3* | *Na* | *Ni* | *Cd* | *Pb* | *Al* | *Se* | *Li* | *pH* | *SS* | *C:N* | *DM%* | *CCE%* | ALE(Kgal) | |
| *Description:* | *OR-N* | 445 | | | | | | | 7.57 | | | | | | |
| Swine Lagoon Liq. | *Urea* | | | | | | | | | | | | | | |

| Recommendations: | Nutrients Available for First Crop | | | | | | | | | | | | | Other Elements | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | *lbs/1000 gallons* | | | *lbs/1000 gallons* | | | | | | |
| *Application Method* | *N* | *P2O5* | *K2O* | *Ca* | *Mg* | *S* | *Fe* | *Mn* | *Zn* | *Cu* | *B* | *Mo* | *Cl* | *Na* | *Ni* | *Cd* | *Pb* | *Al* | *Se* | *Li* |
| Irrigation | 2.1 | 0.49 | 11.9 | 0.98 | 0.31 | 0.31 | 0.04 | T | 0.02 | 0.01 | 0.01 | | | 3.7 | | | | | | |

North Carolina
Tobacco Trust Fund Commission

**Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.**

***Thank you for using agronomic services to manage nutrients and safeguard environmental quality.***
***- Steve Troxler, Commissioner of Agriculture***

NCDA&CS Agronomic Division Phone: (919)733-2655 Web site: www.ncagr.gov/agronomi/ **Report: W05847**

# Waste Analysis Report

*Grower:* **Jessup, Randy/Norris/Thurman**
6633 Brush Creek Rd.
Bennett, NC 27208

*Copies to:*

*Farm:*

**Received:** 02/23/2011 **Completed:** 02/28/2011 **Links to Helpful Information**

**Chatham County**

**Sample Information**

***Sample ID:*** 000001

***Waste Code:*** LSS

***Description:*** Swine Liq. Slurry

**Laboratory Results (parts per million unless otherwise noted)**

| | N | P | K | Ca | Mg | S | Fe | Mn | Zn | Cu | B | Mo | Cl | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Total* | 697 | 50.2 | 1170 | 169 | 59.9 | 71.1 | 5.26 | 0.83 | 3.31 | 1.10 | 1.45 | | | |
| *IN-N* | | | | | | | | | | | | | | |
| *-NH4* | | | | | | | | | | | | | | |
| *-NO3* | | | | | | | | | | | | | | |
| *OR-N* | | | | | | | | | | | | | | |
| *Urea* | | | | | | | | | | | | | | |

| Na | Ni | Cd | Pb | Al | Se | Li | pH | SS | C:N | DM% | CCE% | ALE(Kgal) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 352 | | | | | | | 7.04 | | | | | |

**Recommendations:**

**Nutrients Available for First Crop** — ***lbs/1000 gallons***

| *Application Method* | *N* | *P2O5* | *K2O* | *Ca* | *Mg* | *S* | *Fe* | *Mn* | *Zn* | *Cu* | *B* | *Mo* | *Cl* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Broadcast | 2.4 | 0.67 | 9.4 | 0.98 | 0.35 | 0.42 | 0.03 | T | 0.02 | 0.01 | 0.01 | | |
| Soil Incorp | 3.8 | 0.77 | 10.5 | 1.1 | 0.40 | 0.47 | 0.04 | 0.01 | 0.02 | 0.01 | 0.01 | | |

**Other Elements** — ***lbs/1000 gallons***

| *Na* | *Ni* | *Cd* | *Pb* | *Al* | *Se* | *Li* |
|---|---|---|---|---|---|---|
| 2.9 | | | | | | |
| 2.9 | | | | | | |

Completed: 2/25/2011

North Carolina Tobacco Trust Fund Commission

**Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.**

***Thank you for using agronomic services to manage nutrients and safeguard environmental quality.***
***- Steve Troxler, Commissioner of Agriculture***

**NCDA&CS Agronomic Division** **Phone: (919)733-2655** **Web site: www.ncagr.gov/agronomi/** **Report: W03299**

# Waste Analysis Report

*Grower:* **Jessup, Randy/Norris/Thurman**
6633 Brush Creek Rd.
Bennett, NC 27208

*Copies to:*

*Farm:*

**Chatham County**

**Received:** 10/26/2010 **Completed:** 10/29/2010 **Links to Helpful Information**

| Sample Information | Laboratory Results (parts per million unless otherwise noted) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Sample ID:* | *N* | *P* | *K* | *Ca* | *Mg* | *S* | *Fe* | *Mn* | *Zn* | *Cu* | *B* | *Mo* | *Cl* | *C* | |
| 01 | *Total* 423 | 52.0 | 1184 | 197 | 88.0 | 113 | 5.90 | 0.69 | 3.18 | 1.57 | 1.50 | | | | |
| | *IN-N* | | | | | | | | | | | | | | |
| *Waste Code:* | *-NH4* | | | | | | | | | | | | | | |
| ALS | *-NO3* | *Na* | *Ni* | *Cd* | *Pb* | *Al* | *Se* | *Li* | *pH* | *SS* | *C:N* | *DM%* | *CCE%* | ALE(Kgal) | |
| *Description:* | *OR-N* | 349 | | | | | | | 7.46 | | | | | | |
| Swine Lagoon Liq. | *Urea* | | | | | | | | | | | | | | |

| Recommendations: | Nutrients Available for First Crop | | | | | | | | | | | | | Other Elements | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | *lbs/1000 gallons* | | | | | | | | | *lbs/1000 gallons* |
| *Application Method* | *N* | *P2O5* | *K2O* | *Ca* | *Mg* | *S* | *Fe* | *Mn* | *Zn* | *Cu* | *B* | *Mo* | *Cl* | *Na* | *Ni* | *Cd* | *Pb* | *Al* | *Se* | *Li* |
| Irrigation | 1.8 | 0.70 | 9.5 | 1.2 | 0.51 | 0.66 | 0.03 | T | 0.02 | 0.01 | 0.01 | | | 2.9 | | | | | | |

North Carolina
Tobacco Trust Fund Commission

**Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.**

***Thank you for using agronomic services to manage nutrients and safeguard environmental quality.***
***- Steve Troxler, Commissioner of Agriculture***

NCDA&CS Agronomic Division Phone: (919)733-2655 Web site: www.ncagr.gov/agronomi/

Report No: 38585

# Soil Test Report

SERVING N.C. RESIDENTS FOR OVER 60 YEARS

Grower: Jessup, Randy/Norris/Thurman
6633 Brush Creek Rd.
Bennett, NC 27208

Copies To:

Farm: Chatham County

Received: 05/07/2010 Completed: 05/18/2010 Links to Helpful Information

**Agronomist Comments**

12, $, 3

ATTENTION: This report was flagged with a "C" and/or "Z" to alert you that copper and/or zinc have accumulated in the soil and are approaching a level that could be detrimental to crop production. The C and Z symbols are printed on your report for soil test index levels of 2000 or more; for peanuts with zinc, the level is 300. This note is designed to be a "trigger" that allows enough time to either reduce the rate of application or find another field for application of biosolids and/or waste water. The CTL (critical toxic level) for Cu & Zn has been set at 3000 index; for peanuts with zinc, the level is 500. These levels are used by DENR as a benchmark to determine when application of waste products should be stopped. The CTL for copper and zinc was set to prevent levels from accumulating to the point where they become toxic to crops grown on a field.

Jeana Myers, Agronomist
May 17, 2010

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 1 | | | | | 1st Crop: | Fes/OG/Tim,M | 1.4T | 120-200 | 70-90 | 70-90 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.13 | 1.06 | 4.1 | 46.0 | 2.2 | 4.9 | 23 | 30 | 29.0 | 12.0 | 68 | 58 | | 137 | 137 | 50 | 43 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 2 | | | | | 1st Crop: | Fes/OG/Tim,M | 1.4T | 120-200 | 100-120 | 100-120 | $ | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.09 | 1.10 | 3.5 | 37.0 | 2.2 | 4.9 | 14 | 14 | 26.0 | 8.0 | 48 | 46 | | 45 | 45 | 140 | 39 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 2 | | | | | 1st Crop: | Fes/OG/Tim,M | 1.4T | 120-200 | 120-140 | 100-120 | $ | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.13 | 1.02 | 3.5 | 40.0 | 2.1 | 4.9 | 6 | 14 | 28.0 | 9.0 | 49 | 46 | | 43 | 43 | 140 | 40 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 1A | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 50-70 | 0 | 0 | 0 | 0 | 0 | .0 | pH$ | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.56 | 0.84 | 10.5 | 87.0 | 1.4 | 6.5 | 34 | 390 | 51.0 | 17.0 | 994 | 606 | | 78 | 78 | 196 | 28 | | | | 0.7 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 2A | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 50-70 | 0 | 0 | 0 | 0 | 0 | .0 | pH$ | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.56 | 0.86 | 10.8 | 84.0 | 1.7 | 6.6 | 33 | 397 | 50.0 | 16.0 | 966 | 587 | | 85 | 85 | 258 | 29 | | | | 0.7 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 3B | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 10-30 | 0 | 0 | 0 | 0 | 0 | .0 | pH$ | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.41 | 1.17 | 5.2 | 81.0 | 1.0 | 6.5 | 53 | 222 | 43.0 | 16.0 | 793 | 485 | | 92 | 92 | 342 | 33 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 4B | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 20-40 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.41 | 1.22 | 4.8 | 79.0 | 1.0 | 6.4 | 49 | 208 | 42.0 | 15.0 | 726 | 447 | | 94 | 94 | 767 | 43 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | P2O5 | K2O | Mg | S | Cu | Zn | B | Mn | See Note |
| 005 | | | | | 1st Crop: | Fes/OG/Tim,M | .7T | 120-200 | 30-50 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | NO3-N | NH4-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.56 | 1.03 | 4.2 | 64.0 | 1.5 | 5.5 | 44 | 90 | 42.0 | 13.0 | 47 | 45 | | 36 | 36 | 116 | 31 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | P2O5 | K2O | Mg | S | Cu | Zn | B | Mn | See Note |
| 006 | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 20-40 | 30-50 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | NO3-N | NH4-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.51 | 1.10 | 7.3 | 79.0 | 1.5 | 5.9 | 49 | 49 | 59.0 | 17.0 | 559 | 354 | | 92 | 92 | 467 | 46 | | | | 0.4 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | P2O5 | K2O | Mg | S | Cu | Zn | B | Mn | See Note |
| 001AJ | | | | | 1st Crop: | Fes/OG/Tim,M | .7T | 120-200 | 0 | 80-100 | 0 | 0 | C | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | NO3-N | NH4-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.41 | 0.97 | 6.8 | 74.0 | 1.8 | 5.6 | 67 | 23 | 54.0 | 19.0 | 539 | 340 | | 196 | 196 | 2105 | 103 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | P2O5 | K2O | Mg | S | Cu | Zn | B | Mn | See Note |
| 002AJ | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 90-110 | 120-140 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | NO3-N | NH4-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.18 | 1.00 | 6.5 | 78.0 | 1.4 | 6.0 | 17 | 9 | 59.0 | 19.0 | 728 | 454 | | 60 | 60 | 290 | 38 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | P2O5 | K2O | Mg | S | Cu | Zn | B | Mn | See Note |
| 003AJ | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 100-120 | 120-140 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

Test Results

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | NO3-N | NH4-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.22 | 1.01 | 6.5 | 77.0 | 1.5 | 6.0 | 12 | 8 | 57.0 | 18.0 | 738 | 460 | | 52 | 52 | 506 | 40 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note | |
| 004AJ | | | | | 1st Crop: | Fes/OG/Tim,M | .5T | 120-200 | 80-100 | 90-110 | 0 | 0 | 0 | 0 | .0 | 0 | 12 | |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.51 | 1.06 | 6.6 | 76.0 | 1.6 | 5.7 | 20 | 18 | 56.0 | 18.0 | 459 | 292 | | 98 | 98 | 1002 | 53 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note | |
| 001H | | | | | 1st Crop: | Fes/OG/Tim,M | 1.1T | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 | |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.60 | 1.06 | 12.4 | 78.0 | 2.7 | 5.6 | 651 | 153 | 56.0 | 16.0 | 366 | 237 | | 451 | 451 | 697 | 67 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note | |
| 002H | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 | |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.27 | 1.03 | 14.3 | 89.0 | 1.6 | 6.4 | 265 | 201 | 60.0 | 22.0 | 388 | 244 | | 536 | 536 | 841 | 50 | | | | 0.1 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note | |
| 003H | | | | | 1st Crop: | Fes/OG/Tim,M | .9T | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 | |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.60 | 1.06 | 13.0 | 80.0 | 2.6 | 5.7 | 664 | 183 | 56.0 | 16.0 | 352 | 228 | | 485 | 485 | 720 | 67 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note | |
| 004H | | | | | 1st Crop: | Fes/OG/Tim,M | 1T | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 | |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.66 | 1.04 | 13.3 | 80.0 | 2.6 | 5.6 | 710 | 194 | 57.0 | 16.0 | 383 | 247 | | 544 | 544 | 794 | 74 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 01CH | | | | | 1st Crop: | Small Grains | 1T | 80-100 | 0 | 40-60 | 0 | 0 | 0 | 0 | .0 | 0 | 3 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.46 | 1.15 | 9.2 | 74.0 | 2.4 | 5.6 | 189 | 47 | 52.0 | 19.0 | 159 | 105 | | 121 | 121 | 653 | 58 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 001T | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | C | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.13 | 1.04 | 16.3 | 90.0 | 1.6 | 6.2 | 368 | 103 | 64.0 | 23.0 | 165 | 113 | | 499 | 499 | 2223 | 95 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 002T | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.18 | 1.03 | 15.8 | 89.0 | 1.8 | 6.2 | 371 | 113 | 61.0 | 24.0 | 166 | 114 | | 490 | 490 | 1010 | 68 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 0016 | | | | | 1st Crop: | Fes/OG/Tim,M | .3T | 120-200 | 0 | 60-80 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.36 | 0.93 | 14.1 | 84.0 | 2.3 | 5.9 | 433 | 35 | 64.0 | 18.0 | 257 | 171 | | 512 | 512 | 1413 | 55 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 0026 | | | | | 1st Crop: | Fes/OG/Tim,M | .3T | 120-200 | 0 | 70-90 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.41 | 0.96 | 14.4 | 85.0 | 2.2 | 5.9 | 452 | 31 | 65.0 | 19.0 | 288 | 190 | | 532 | 532 | 1770 | 65 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 001BP | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.18 | 1.05 | 11.7 | 88.0 | 1.4 | 6.3 | 245 | 184 | 56.0 | 24.0 | 436 | 274 | | 374 | 374 | 1673 | 96 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 002BP | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | C | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.09 | 1.05 | 9.8 | 86.0 | 1.4 | 6.0 | 177 | 135 | 59.0 | 21.0 | 649 | 406 | | 235 | 235 | 8060 | 256 | | | | 0.2 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| 003BP | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | C | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.09 | 0.94 | 11.2 | 85.0 | 1.7 | 6.0 | 95 | 115 | 60.0 | 20.0 | 172 | 120 | | 167 | 167 | 3311 | 164 | | | | 0.3 |

| Field Information | | Applied Lime | | | Recommendations | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample No. | Last Crop | Mo | Yr | T/A | Crop or Year | | Lime | N | $P_2O_5$ | $K_2O$ | Mg | S | Cu | Zn | B | Mn | See Note |
| IN | | | | | 1st Crop: | Fes/OG/Tim,M | 0 | 120-200 | 0 | 0 | 0 | 0 | 0 | 0 | .0 | 0 | 12 |
| | | | | | 2nd Crop: | | | | | | | 0 | | | | | |

**Test Results**

| Soil Class | HM% | W/V | CEC | BS% | Ac | pH | P-I | K-I | Ca% | Mg% | Mn-I | Mn-AI(1) | Mn-AI(2) | Zn-I | Zn-AI | Cu-I | S-I | SS-I | $NO_3$-N | $NH_4$-N | Na |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN | 0.18 | 1.03 | 13.5 | 88.0 | 1.6 | 6.0 | 408 | 106 | 61.0 | 24.0 | 206 | 141 | | 442 | 442 | 807 | 98 | | | | 0.3 |

North Carolina
Tobacco Trust Fund Commission

**Reprogramming of the laboratory-information-management system that makes this report possible is being funded through a grant from the North Carolina Tobacco Trust Fund Commission.**

***Thank you for using agronomic services to manage nutrients and safeguard environmental quality.***
***- Steve Troxler, Commissioner of Agriculture***

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 2.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 2% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 1.6 t/ac/yr
Detachment on slope: 1.6 t/ac/yr

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 3.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 3% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 2.4 t/ac/yr
Detachment on slope: 2.4 t/ac/yr

Soil loss for cons. plan: 1.6 t/ac/yr
Sediment delivery: 1.6 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

Soil loss for cons. plan: 2.4 t/ac/yr
Sediment delivery: 2.4 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles_NC County (default profile)

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 4.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 4% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 3.1 t/ac/yr
Detachment on slope: 3.1 t/ac/yr

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 5.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 5% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 3.9 t/ac/yr
Detachment on slope: 3.9 t/ac/yr

Soil loss for cons. plan: 3.9 t/ac/yr
Sediment delivery: 3.9 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 6.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 6% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 4.7 t/ac/yr
Detachment on slope: 4.7 t/ac/yr

Soil loss for cons. plan: 4.7 t/ac/yr
Sediment delivery: 4.7 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 7.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 7% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 5.5 t/ac/yr
Detachment on slope: 5.5 t/ac/yr

Soil loss for cons. plan: 5.5 t/ac/yr
Sediment delivery: 5.5 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

Soil loss for cons. plan: 3.1 t/ac/yr
Sediment delivery: 3.1 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: -- %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

USDA NRCS

# RUSLE2 Profile Erosion Calculation Record

Info:

**File:** profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 8.0 %

| *Management* | *Vegetation* | *Yield units* | *Yield (# of units)* |
|---|---|---|---|
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
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| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall fescue pasture, regrowth after grazing | lb | 425.00 |
| temp\Thurman Jessup Pasture 8% | Tall Fescue pasture, senesc to regrowth | pounds | 1000.0 |

Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)
Subsurface drainage: (none)
Adjust res. burial level: Normal res. burial

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss erod. portion: 6.3 t/ac/yr
Detachment on slope: 6.3 t/ac/yr

Soil loss for cons. plan: 6.3 t/ac/yr
Sediment delivery: 6.3 t/ac/yr

Crit. slope length: -- ft
Surf. cover after planting: – %

| *Date* | *Operation* | *Vegetation* | *Surf. res. cov. after op, %* |
|---|---|---|---|
| 3/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 20 |
| 4/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 16 |
| 4/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 14 |
| 5/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 12 |
| 5/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 10 |
| 6/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 9.0 |
| 6/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 8.2 |
| 7/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.6 |
| 7/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.2 |
| 8/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 8/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.7 |
| 9/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.6 |
| 9/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.8 |
| 10/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 6.9 |
| 10/20/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.1 |
| 11/5/0 | Graze, continuous | Tall fescue pasture, regrowth after grazing | 7.3 |
| 11/20/0 | Graze, continuous | Tall Fescue pasture, senesc to regrowth | 7.6 |

USDA NRCS

# RUSLE2 Erosion Calculation Record

Info:

profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 9.0 %
Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)

Base management: Thurman Jessup Pasture 9%

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss for cons. plan: 7.1 t/ac/yr

USDA NRCS

# RUSLE2 Erosion Calculation Record

Info:

profiles\Thurman Jessup

**Inputs:**
Location: North Carolina\Chatham County
Soil: 525B Cid-Lignum complex, 2 to 6 percent slopes\Cid silt loam 52%
Slope length (horiz): 150 ft
Avg. slope steepness: 10 %
Contouring: a. rows up-and-down hill
Strips/barriers: (none)
Diversion/terrace, sediment basin: (none)

Base management: Thurman Jessup Pasture 10%

**Outputs:**
T value: 2.0 t/ac/yr
Soil loss for cons. plan: 8.3 t/ac/yr

NC-CPA-3
(Feb. 2006)

# CONSERVATION TREATMENT ALTERNATIVES

Prepared For: Thurman Jessup Swine Farm Farm: _____

Planner: Carl Henry Outz Jr Date: 03/06/2009

The conservation planning process identifies a set of conservation practices that are designed to work in an integrated manner to address the soil, water, air, plant and animal natural resource concerns identified. When the practices fully treat all the natural resource concerns identified, the conservation plan is considered to be a Resource Management System (RMS). An RMS is a level of treatment that ensures the protection and sustainability of the soil, water, air, plants, and animals (both domestic and wildlife) resources on your land.

This page provides alternative or recommended conservation practices that are not included in your conservation plan, but which are needed to complete a Resource Management System on the field(s) identified. If you have questions on any of the practices listed below, please contact you local NRCS or Soil and Water Conservation District office.

| Tract | Field(s) | Landuse | Alternative or Recommended Practices |
|---|---|---|---|
| 142 | all | PASTURE | 511 (Forage Harvest Management) |
| 142 | all | PASTURE | 633 (Waste Utilization) |
| 142 | all | PASTURE | 590 (Nutrient Management) |
| 166 | all | PASTURE | 511 (Forage Harvest Management) |
| 166 | all | PASTURE | 633 (Waste Utilization) |
| 166 | all | PASTURE | 590 (Nutrient Management) |
| 168 | all | PASTURE | 511 (Forage Harvest Management) |
| 168 | all | PASTURE | 633 (Waste Utilization) |
| 168 | all | PASTURE | 590 (Nutrient Management) |
| 5949 | all | PASTURE | 511 (Forage Harvest Management) |
| 5949 | all | PASTURE | 633 (Waste Utilization) |
| 5949 | all | PASTURE | 590 (Nutrient Management) |
| 59490 | all | PASTURE | 511 (Forage Harvest Management) |
| 59490 | all | PASTURE | 633 (Waste Utilization) |
| 59490 | all | PASTURE | 590 (Nutrient Management) |
| 5960 | all | PASTURE | 511 (Forage Harvest Management) |
| 5960 | all | PASTURE | 633 (Waste Utilization) |

NC-CPA-3
(Feb. 2006)

# CONSERVATION TREATMENT ALTERNATIVES

Prepared For: Thurman Jessup Swine Farm Farm: _____

Planner: Carl Henry Outz Jr Date: 03/06/2009

The conservation planning process identifies a set of conservation practices that are designed to work in an integrated manner to address the soil, water, air, plant and animal natural resource concerns identified. When the practices fully treat all the natural resource concerns identified, the conservation plan is considered to be a Resource Management System (RMS). An RMS is a level of treatment that ensures the protection and sustainability of the soil, water, air, plants, and animals (both domestic and wildlife) resources on your land.

This page provides alternative or recommended conservation practices that are not included in your conservation plan, but which are needed to complete a Resource Management System on the field(s) identified. If you have questions on any of the practices listed below, please contact you local NRCS or Soil and Water Conservation District office.

| Tract | Field(s) | Landuse | Alternative or Recommended Practices |
|---|---|---|---|
| 5960 | all | PASTURE | 590 (Nutrient Management) |
| 5981 | all | PASTURE | 511 (Forage Harvest Management) |
| 5981 | all | PASTURE | 633 (Waste Utilization) |
| 5981 | all | PASTURE | 590 (Nutrient Management) |
| 9420 | all | PASTURE | 511 (Forage Harvest Management) |
| 9420 | all | PASTURE | 633 (Waste Utilization) |
| 9420 | all | PASTURE | 590 (Nutrient Management) |
| | | | |
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# Environmental Evaluation

This form summarizes the effects of the planned practices/systems and documents an environmental evaluation of the planned actions. The conservation plan reflects the client's decisions, based on technical assistance provided by NRCS. Alternatives explained to the client are identified on NC-CPA-3, or in the conservation assistance notes. The NC-CPA-52 must be updated whenever the conservation plan is revised. Each subsequent edition of NC-CPA-52 is maintained in the case file.

Client: Thurman Jessup Swine Farm Farm/Tract/Field: 142,166,168,5949,5949a,5960,598

## Natural Resources Evaluation

**Instructions-** Characterize the net effect of the planned system or practice, the current condition and any other alternative identified during the planning process. The net effects include short term effects occurring during the implementation period and long-term effects occurring during the system or practice life span. Quality criteria for each natural resource category are established in NRCS Field Office Technical Guide. Assessment of specific effects may be noted on the Inventory of Planning Area form, conservation technical assistance notes, or other documentation in the conservation plan.

| | Benchmark Condition | | Conservation Plan | | Alternatives | |
|---|---|---|---|---|---|---|
| | Net Effect of No Action on Natural Resources | Will No Action Meet Quality Criteria? | Net Effect of Plan on Natural Resources | Will Plan Meet Quality Criteria? | Net Effect of Alternative on Natural Resources | Will Alternative Meet Quality Criteria? |
| **SOIL** | | | | | | |
| Erosion | 0 | Yes | + | Yes | + | Yes |
| Condition | 0 | Yes | + | Yes | + | Yes |
| **WATER** | | | | | | |
| Quantity | 0 | Yes | + | Yes | + | Yes |
| Quality | 0 | Yes | + | Yes | + | Yes |
| **AIR** | | | | | | |
| Quality | + | Yes | + | Yes | + | Yes |
| **PLANT** | | | | | | |
| Suitability | NA | | NA | | NA | |
| Condition | NA | | NA | | NA | |
| Management | NA | | NA | | NA | |
| **DOMESTIC ANIMALS** | | | | | | |
| Health & Nutrition | NA | | NA | | NA | |
| Management | NA | | NA | | NA | |
| **WILDLIFE & FISH HABITAT** | | | | | | |
| Habitat for Desired Spp. | NA | | NA | | NA | |

## Socio-Economic Considerations

**Instructions-** Provide responses to the following questions/statements, based information provided by the client or personal knowledge, to document that socio-economic effects of the conservation and any alternative have been considered. Characterize the net effect of the planned system or practice and any alternative identified during the planning process. Explanation of specific effects may be noted in the space beneath the table.

| | Plan | Altern. | | Plan | Altern. |
|---|---|---|---|---|---|
| Is the planned system or practice and land use compatible with client objectives? | Yes | No | Is there reasonable expectation that the client's income goals will be met if the system is implemented? | Yes | Yes |
| Has the client indicated that funds needed to implement the plan are available, or can be obtained? | Yes | Yes | Is the planned system or practice and land use compatible with client's social, family, or religious values? | Yes | Yes |
| Are there adequate materials and or equipment present or obtainable to operate and maintain the system? | Yes | Yes | Is the planned system or practice and land use compatible with client's ownership or lease of the land? | Yes | Yes |
| Is there adequate labor present or obtainable to operate and maintain the system? | Yes | Yes | Is the planned system or practice and land use compatible with the amount of time the client has indicated is available for its installation and management? | Yes | Yes |
| Is there adequate knowledge and ability present or obtainable to operate and maintain the system? | Yes | Yes | Will the plan avoid adverse effects to people who are likely to be affected by the activities? | Yes | Yes |
| Is the client willing to adopt new management activities or practices that are needed? | Yes | Yes | Will the plan avoid adverse effects to peoples' life, health, or safety? | Yes | Yes |
| Do the benefits of improving the current operation outweigh the installation and maintenance costs? | Yes | Yes | Will the plan avoid actions that cause an adverse effect to minority populations, low income populations or Indian tribes in a disproportionately high and adverse manner? | Yes | Yes |

## Special Environmental Concerns

**Instructions -** Answer Yes or No to each question and indicate the effect of the planned system on each concern. Document actions, contacts and correspondence required to comply with environmental laws, regulation and policy.

| SPECIAL ENVIRONMENTAL CONCERNS | Plan | Effect | Alt. | Effect |
|---|---|---|---|---|
| **Coastal Zone Management Areas*** <br> Is the planning unit located outside designated Coastal Zone Management Area, or coastal Area of Environmental Concern? http://www.nccoastalmanagement.net/carna_counties.htm | Yes | | Yes | |
| **Cultural Resources*** <br> Has a cultural resources survey been completed for all the fields and practices being planned? | Yes | | Yes | |
| If planned practices are identified as "Undertakings" (see list in FOTG Section II), is a CR Review form in the case file? | Yes | | Yes | |
| **Federal *and* State listed Endangered & Threatened Species, Essential Fish Habitat and Natural Areas*** <br> Has a survey for Endangered, Threatened, or Candidate species, Special Aquatic Sites, Essential Fish Habitat, or Natural Areas been completed for all the fields and practices being planned? <br> A county list is available from: http://149.168.1.196/nhp/county.html | Yes | | Yes | |
| Could a conservation practice possibly affect listed species or a habitat type mentioned above in or near the planning unit? *If YES, contact NRCS state/area biologist.* | No | | No | |
| **Floodplain Management and Riparian Areas** <br> Will the planned system avoid/prevent reduction of floodplain capacity and loss of riparian areas present in or near the planning unit? | Yes | | Yes | |

* "NO" answer indicates that coordination with another a regulatory needs to be completed before practice(s) are implemented.

| | | | | |
|---|---|---|---|---|
| **Invasive Species**<br>Will the planned system avoid or prevent the introduction or spread of invasive species in or near the planning unit? | Yes | | Yes | |
| **Migratory Birds**<br>Does the plan avoid or minimize, to the greatest extent practical, adverse impacts to migratory birds and their nests? | Yes | | Yes | |
| **Prime and Unique Farmlands**<br>Will the planned practices avoid irreversibly converting Prime or Unique Farmland soils to non-agricultural use? ftp://ftp-fc.sc.egov.usda.gov/NC/NCweb/Programs/soilsurvey/imp-farmland-list.pdf | Yes | | Yes | |
| **Scenic Beauty**<br>Will the planned system compliment unique or high quality landscape resources located within sight of the planning unit? | Yes | | Yes | |
| **Wetland Conservation, Clean Water Act, Waters of the U.S.**<br>Will the planned system avoid removal of woody vegetation (including stumps) from wetland AND planting an agricultural commodity on wetland? http://www.nrcs.usda.gov/programs/compliance/index.html<br>Will the planned system avoid manipulation of wetlands and other waters present in or near the planning unit *? http://www.nrcs.usda.gov/programs/compliance/index.html http://www.saw.usace.army.mil/WETLANDS/permit_primer.html<br>If the planning area is located in a watershed that has been listed by the state as "impaired" under Section 303(d), will the activities reduce non-point source pollution? http://h2o.enr.state.nc.us/tmdl/General_303d.htm | Yes<br>Yes<br>Yes | | Yes<br>Yes<br>Yes | |
| **Wild and Scenic Rivers**<br>Will the planned practices conserve or enhance water quality or aesthetics in the sections of Horsepasture Creek, New River, Lumber River, or Wilson Creek that are designated as Wild or Scenic? http://www.nps.gov/rivers/wildriverslist.html#nc | Yes | | Yes | |

* "NO" answer indicates that coordination with another a regulatory needs to be completed before practice(s) are implemented.

List any reviewing/regulatory agencies that need to be contacted, or permits that may be needed before practices are installed. The landowner is responsible for obtaining all required permits.

☐ Sediment & Erosion Control ☐ Corps of Engineers ☐ NC Div. of Water Quality ☐ U.S. Fish & Wildlife Service

☐ NC Div. Coastal Management Others: _____

Will any mitigation be planned or required to offset unavoidable negative effects of the plan? _____NO _____YES

*Some examples of mitigation include use of atypical specifications for materials, methods, or timing of installation, operation and maintenance specifications, implementation of additional conservation practices; as well as replacement of a resource by restoration.*

Please describe:_____

_____

_____

_____

_____

**Instructions**- For all CRP plans, in NRCS findings, employees may skip items 1 & 2 (below), but fill-in the Completed By and District Conservationist to indicate concurrence. Forward this form to the FSA CED for completion of determinations for all CRP plans.

**NRCS FINDINGS**

1. Based on the evaluation of effects on the environment, the preferred action is the:

   _✓_ Planned Practice/System ____ Alternative ____ No Action

2. The effects of the Planned Practice/System on the natural and human environment have been considered; and it is the NRCS determination that the action(s):

   _✓_ is **not** a federal action (technical assistance only). No further analysis is required at this time.

   ____ has been **sufficiently analyzed** in the NRCS environmental document checked below. No further analysis is required.

   - [ ] Draft CSP Finding of No Significant Impact
   - [ ] Final EQIP Finding of No Significant Impact
   - [ ] WRP Manual
   - [ ] Final FRPP Finding of No Significant Impact
   - [ ] Final GRP Finding of No Significant Impact
   - [ ] WHIP Manual

   ____ there is or may be a significant impact (adverse or beneficial) on one or more of the above environmental evaluation aspects. Further analysis, including the possibility of an EA or EIS will be necessary. (Forward to the attention of the Area Office and ASTC-Technology)

Completed By:

Carl Henry Outz Jr
Name Title

3/5/2009
Date

Concurred By:

District Conservationist (RFO)

Date

**FSA FINDINGS**

1. Based on the evaluation of effects on the environment, the preferred action is the:

   ____ Planned Practice/System ____ Alternative ____ No Action

2. The effects of the Planned Practice/System on the natural and human environment have been considered; and it is the NRCS determination that the action(s):

   ____ is **not** a federal action (technical assistance only). No further analysis is required at this time.

   ____ has been **sufficiently analyzed** in the NRCS environmental document checked below. No further analysis is required.

   - [ ] Final CRP Finding of No Significant Impact

   ____ there is or may be a significant adverse impact on one or more of the above environmental evaluation aspects. Further analysis, including the possibility of an EA or EIS will be necessary.

Farm Service Agency Representative Title

Date

# Phosphorus Loss Assessment Tool Completion

Name of Facility: Randy + Thurman Jessup Facility Number: 19 - 43

Owner(s) Name: Thurman Jessup Phone No: 336-879-3276

Mailing Address: 6913 Brush Creek Farm Rd Bennett, NC 27208

**Check the appropriate box below:**

☒ No fields received a high or very high rating.

☐ The following fields received a high or very high rating and are listed below:

| Field Number | Size (Acres) | Rating (High or Very High) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

By completing the above section and signing this form, the facility owner and Technical Specialist acknowledge all application fields were evaluated using the Phosphorus Loss Assessment Tool. All necessary calculations were completed to conduct the Assessment. A copy will be kept on site with the Certified Animal Waste Management Plan. Any future modifications must be approved by a technical specialist and filed with the Soil and Water Conservation District prior to implementation. Waste plans with fields having a high or very high rating will have to be modified to address phosphorus loss by the next permit cycle beginning July, 2007.

Owner Name: Thurman Jessup

Owner Signature: Thurman Jessup Date: 01/08/07

Technical Specialist Name: Carl Henry Outz Jr.

Technical Specialist Signature: Carl Henry Outz Jr. Date: 01/08/07

Affiliation: Chatham Soil + Water Phone No: 919-545-8353

**Submit this form to:**
Attn: Keith Larick
NC Division of Water Quality
Non-Discharge Compliance and Enforcement Unit
1617 Mail Service Center
Raleigh, NC 27699-1617

North Carolina Technical Note – CP-07-03 June 2007

# Minimum Requirements for Erosion and Sediment Control Planning at Animal Feeding Operations and Other Construction Sites Not Subject to Sedimentation Pollution Control Act of 1973

## PURPOSE

This Technical Note identifies the requirements for erosion and sediment control on construction sites not subject to North Carolina's Sediment Pollution Control of Act of 1973 when USDA provides technical assistance. It is not USDA policy to facilitate or encourage environmental degradation. Consequently, these requirements also apply to USDA direct or guaranteed loans.

## BACKGROUND

Construction of agricultural facilities including animal feeding operations (AFO) can result in significant sediment loads to surface water if the proper erosion and sediment control practices are not utilized. Successful erosion control at these sites depends on the development and timely implementation of a comprehensive erosion control plan.

Inadequate erosion control planning during and after construction on agricultural facilities can result in:

- substantial off-site sediment in streams and rivers, negatively affecting the image of agriculture with downstream neighbors and increasing the producer's liability,
- costly repairs (some have estimated the cost to repair a severely eroded site at 4 to 6 times the cost of prevention),
- potential serious damage to the houses or other structures on the site, and
- increased future operating costs.

The North Carolina NRCS Field Office Technical Guide (FOTG), NRCS Engineering Field Handbook, and North Carolina Erosion Control and Sediment Control Planning and Design Manual are the primary technical references for planning, designing, and installing erosion and sediment control practices on agricultural facilities.

## CHECKLIST / MINIMUM REQUIREMENTS

The following are the minimum requirements for an erosion and sediment control plan. All federal, state, and local laws and ordinances shall also be followed. As always, additional measures should be considered when appropriate for specific site conditions.

## BEFORE CONSTRUCTION

Erosion and sediment control planning shall be incorporated into the initial site plan.

☐ **Site Grading Plan**

Property lines, easements, rights-of-way,

Location of utilities, power lines, cables, and pipelines,

Location of wetlands, streams and other bodies of water, showing buffer zones of natural or established vegetative buffers of not less than 25 feet (other local laws or ordinances may apply),

Grading plan, showing entire disturbed area, with all cut slopes not steeper than 2:1, and fill slopes not steeper than 3:1,

Location of existing and planned buildings, animal mortality practices (incinerators, composters), waste storage structures, wells, septic systems, walls, fences, roads and other paved areas,

Location of existing and planned drainage patterns, culverts/pipes, drop structures, waterways, and diversions, sediment basins, silt fences, and other best management practices,

Location of future known expansion areas,

Land uses for contiguous land,

☐ **Design Criteria**

Divert Clean Water

Divert clean runoff water that would normally enter the construction site from an upstream drainage. A typical method is by using a Diversion (362)*. If water is collected and diverted, a stable outlet shall be provided to prevent additional erosion and sediment pollution.

Collect Roof Runoff

Collect roof runoff in gutters, downspouts, or drip drains along all buildings in accordance with Roof Runoff Structure (558)* standard. Provide a stable outlet or control the flow as listed under "Direct Concentrated Flow" shown below.

Control Sediment

Install any needed temporary or permanent sediment control measures such as silt fences**, rock dams**, Grass Filter Strips (393)*, or Sediment Basins (350)*.

Direct Concentrated Flow

Concentrated flows shall not outlet on cut or fill slopes unless measures are installed to prevent erosion. Some options used to prevent or control concentrated flow include Underground Outlets (620)*, Lined Outlets (468)*, Dike (356)*, Diversion (362)*, Grassed Waterways (412)*, Access Roads (560)*, Sediment Basins (350)*, Water and Sediment Control Basins (638)*, Heavy Use Area Protection (561)*, Structure for Water Control (587)* (surface inlet structures or drop boxes), etc. In all cases, practices that convey concentrated water are required to include a stable outlet.

☑ **Vegetative Specifications**

Temporary

Use temporary seeding on disturbed areas that are expected to be bare of ground cover more than 15 calendar days and active construction is not being undertaken. Broadcast 40 lbs/ac of Rye Grain (cereal) in the fall or winter or seed 35 lbs/ac of Browntop Millet in the spring or summer. Evenly applying 1-2 tons per acre of straw mulch as temporary ground cover is also acceptable. Other temporary seeding options are available in the Critical Area Planting (342)* standard.

Permanent

All disturbed areas shall be permanently vegetated according to the following:

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* Indicates NC NRCS Practice Standard. These standards can be found online in the NC NRCS eFOTG at http://efotg.nrcs.usda.gov/treemenuFS.aspx , in Section IV on the tree menu.

** Guidance for these practices can be found in the Erosion and Sediment Control Planning and Design Manual Chapter 6 at http://www.dlr.enr.state.nc.us/pages/publications.html

1. Remove all woody material, loose rock, and other obstructions that may interfere with seeding.
2. Follow soil test results, or if not available, apply 1 ton of finely ground dolomitic limestone and 400 pounds of 10-10-10 fertilizer (or equivalent formulation) per acre.
3. Work lime and fertilizer into the soil where conventional equipment can be used. Use disk or similar equipment to prepare the seedbed to a depth of 3-4 inches. When using a hydro seeder, particularly around cut and fill slopes, apply lime and a low salt formulation fertilizer, with the seed mixture if the fertilizer is not already incorporated in the soil.
4. Where conventional equipment is used, apply seed uniformly. Cover seed to a depth of approximately ½ to 1 inch, depending on the size of the seed. Adhere to the seeding recommendations and guidelines shown below.
5. Spread and anchor dry, weed-free, small grain straw at the rate of 1-2 tons per acre so that about 25% of the ground surface is visible. Use wood cellulose fiber mulch or equivalent material when hydro seeding.
6. Avoid damaging vegetation through use of proper mowing equipment and staying off the site when the ground is soft enough to be rutted by mower or tractor wheels.
7. Other permanent seeding options are available in the Critical Area Planting (342)* standard.

| Site Location | Seed | Planting Rate per Acre | Geographic Location | Planting Dates |
|---|---|---|---|---|
| Cut and Fill Slopes | Sericea Lespedeza<br>*(seed scarified or hulled)* | 30-40 lbs. | West of I-77<br>East of I-77 | March 15 - April 30<br>February 15 - April 30 |
| Cut and Fill Slopes | Tall Fescue and<br>Annual Rye grass | 30-40 lbs.<br>25-30 lbs. | West of I-77<br>Between I-77 & I-95<br>East of I-95 | December - January<br>November - January<br>October - February |
| Pad/Other Areas | Pensacola Bahiagrass<br>*(seed scarified)* | 50lbs. | West of I-77<br>East of I-77 | February 15 - April 30<br>February - March |
| Pad/Other Areas | Common Bermudagrass<br>*(seed scarified or hulled)* | 6 lbs. | Between I-77 & I-95 | April - June 15 |

## DURING CONSTRUCTION

- ☐ To extent possible, construction should be done in late summer or early fall, during periods of least amount of rain, to minimize construction time and maximize establishment of vegetation.
- ☐ At anytime a rainfall event is eminent, install diversions or berms at top of all bare cut or fill slopes. Remove prior to final grading.
- ☐ All areas of vehicular traffic must be stabilized with appropriate surface material if subject to erosion.
- ☐ When topsoil is to be stockpiled, a temporary protective cover of vegetation or mulch shall be established on the stockpile.
- ☐ Stabilize each cut or fill slope within 15 days after final grading is completed.

* Indicates NC NRCS Practice Standard. These standards can be found online in the NC NRCS eFOTG at http://efotg.nrcs.usda.gov/treemenuFS.aspx , in Section IV on the tree menu.

- ☐ Install planned erosion and sediment control measures control measures.
- ☐ Regularly maintain all silt fences, brush windrows, and sediment control structures. Remove and/or spread sediment accumulations.
- ☐ Establish permanent vegetation after final grading.
- ☑ Check site after significant rainfalls periodically for erosion until vegetation is well established. Repair as necessary.

## OPERATION & MAINTENANCE

- ☑ Inspect practices annually and after significant storm events to identify potential repair and maintenance needs.
- ☑ Mowing
  - Mow Sericea Lespedeza to control growth of woody vegetation only after a killing frost or December-March. Mowing is not needed annually
  - Mow Tall Fescue mixtures annually, but not closer than 3-4 inches.
  - Mow Pensacola Bahiagrass or Common Bermudagrass as often as necessary.
  - Do not mow in extreme drought or heat, or when soil is very wet.
- ☑ Control weeds by mowing or applying chemicals in accordance with the current NC Agricultural Chemicals Manual weed control recommendations and adhere strictly to chemical label instructions.
- ☑ Repair any washouts by laying sod or reseeding.
- ☑ Fertilize vegetation annually after establishment. In the absence of a soil test, apply 1-2 tons dolomitic limestone during late fall or winter every 4-5 years to maintain healthy, vigorous growing plants. In early spring, apply 500 pounds of 10-10-10 on Tall Fescue or 0-10-20 on Sericea Lespedeza.
- ☑ Additional practices may be needed if those installed originally are not effective. Get assistance.

## WHERE TO GET MORE ASSISTANCE

Call your local soil and water conservation district to request an erosion and sediment control plan, which is a component of a conservation plan. A directory is located on the internet at http://www.nc.nrcs.usda.gov

## REFERENCES


North Carolina NRCS Electronic Field Office Technical Guide (eFOTG)
http://efotg.nrcs.usda.gov/treemenuFS.aspx

NRCS Engineering Field Handbook
http://policy.nrcs.usda.gov/

North Carolina Erosion Control and Sediment Control Planning and Design Manual
http://www.dlr.enr.state.nc.us/pages/publications.html

# Swine Farm Waste Management Odor Control Checklist

| Source | Cause | BMPs to Minimize Odor | Site Specific Practices |
|---|---|---|---|
| Farmstead | • Swine Production | ☑ Vegetative or wooded buffers;<br>☑ Recommended best management practices;<br>☑ Good judgement and common sense | |
| Animal body surfaces | • Dirty manure-covered animals | ☑ Dry floors | |
| Floor surfaces | • Wet manure-covered floors | ☑ Slotted floors;<br>☑ Waterers located over slotted floors;<br>☐ Feeders at high end of solid floors;<br>☑ Scrape manure buildup from floors;<br>☑ Underfloor ventilation for drying | |
| Manure collection pits | • Urine;<br>• Partial microbial decomposition | ☑ Frequent manure removal by flush, pit recharge, or scrape;<br>☑ Underfloor ventilation | |
| Ventilation exhaust fans | • Volatile gases;<br>• Dust | ☑ Fan maintenance;<br>☑ Efficient air movement | |
| Indoor surfaces | • Dust | ☑ Washdown between groups of animals;<br>☐ Feed additives;<br>☐ Feed covers;<br>☐ Feed delivery downspout extenders to feeder covers | |
| Flush tanks | • Agitation of recycled lagoon liquid while tanks are filling | ☑ Flush tank covers;<br>☑ Extend fill to near bottom of tanks with anti-siphon vents | |
| Flush alleys | • Agitation during wastewater conveyance | ☑ Underfloor flush with underfloor ventilation | |
| Pit recharge points | • Agitation of recycled lagoon liquid while pits are filling | ☑ Extend recharge lines to near bottom of pits with anti-siphon vents | |
| Lift stations | • Agitation during sump tank filling and drawdown | ☐ Sump tank covers | |

| Source | Cause | BMPs to Minimize Odor | Site Specific Practices |
|---|---|---|---|
| Outside drain collection or junction boxes | ● Agitation during wastewater conveyance | ☑ Box covers | |
| End of drainpipes at lagoon | ● Agitation during wastewater conveyance | ☑ Extend discharge point of pipes underneath lagoon liquid level | |
| Lagoon surfaces | ● Volatile gas emission;<br>● Biological mixing;<br>● Agitation | ☑ Proper lagoon liquid capacity;<br>☑ Correct lagoon startup procedures;<br>☑ Minimum surface area-to-volume ratio;<br>☑ Minimum agitation when pumping;<br>☐ Mechanical aeration;<br>☑ Proven biological additives | |
| Irrigation sprinkler nozzles | ● High pressure agitation;<br>● Wind drift | ☑ Irrigate on dry days with little or no wind;<br>☑ Minimum recommended operating pressure;<br>☑ Pump intake near lagoon liquid surface;<br>☐ Pump from second stage lagoon | |
| Storage tank or basin surface | ● Partial microbial decomposition;<br>● Mixing while filling;<br>● Agitation when emptying | ☐ Bottom or midlevel loading;<br>☐ Tank covers;<br>☐ Basin surface mats of solids;<br>☐ Proven biological additives or oxidants | |
| Settling basin surface | ● Partial microbial decomposition;<br>● Mixing while filling;<br>● Agitation when emptying | ☐ Extend drainpipe outlets underneath liquid level;<br>☐ Remove settled solids regularly | |
| Manure, slurry or sludge spreader outlets | ● Agitation when spreading;<br>● Volatile gas emissions | ☐ Soil injection of slurry/sludges;<br>☐ Wash residual manure from spreader after use;<br>☐ Proven biological additives or oxidants | |
| Uncovered manure, slurry or sludge on field surfaces | ● Volatile gas emissions while drying | ☐ Soil injection of slurry/sludges;<br>☐ Soil incorporation within 48 hrs.;<br>☑ Spread in thin uniform layers for rapid drying;<br>☐ Proven biological additives or oxidants | |
| Dead animals | ● Carcass decomposition | ☑ Proper disposition of carcasses | |

| Source | Cause | BMPs to Minimize Odor | Site Specific Practices |
|---|---|---|---|
| Dead animal disposal pits | ● Carcass decomposition | ☐ Complete covering of carcasses in burial pits;<br>☐ Proper location/construction of disposal pits | |
| Incinerators | ● Incomplete combustion | ☐ Secondary stack burners | |
| Standing water around facilities | ● Improper drainage;<br>● Microbial decomposition of organic matter | ☑ Grade and landscape such that water drains away from facilities | |
| Mud tracked onto public roads from farm access | ● Poorly maintained access roads | ☐ Farm access road maintenance | |

| Additional Information: | Available From: |
|---|---|
| Swine Manure Management; .0200 Rule/BMP Packet | NCSU, County Extension Center |
| Swine Production Farm Potential Odor Sources and Remedies; EBAE Fact Sheet | NCSU - BAE |
| Swine Production Facility Manure Management: Pit Recharge - Lagoon Treatment; EBAE 128-88 | NCSU - BAE |
| Swine Production Facility Manure Management: Underfloor Flush - Lagoon Treatment; EBAE 129-88 | NCSU - BAE |
| Lagoon Design and Management for Livestock Manure Treatment and Storage; EBAE 103-88 | NCSU - BAE |
| Calibration of Manure and Wastewater Application Equipment; EBAE Fact Sheet | NCSU - BAE |
| Controlling Odors from Swine Buildings; PIH-33 | NCSU - Swine Extension |
| Environmental Assurance Program: NPPC Manual | NC Pork Producers Assoc. |
| Options for Managing Odor; a report from the Swine Odor Task Force | NCSU - Agri Communications |
| Nuisance Concerns in Animal Manure Management: Odors and Flies; PRO107, 1995 Conference Proceedings | Florida Cooperative Extension |

# Insect Control Checklist for Animal Operations

| Source | Cause | BMPs to Minimize Insects | Site Specific Practices |
|---|---|---|---|
| | | **Liquid Systems** | |
| Flush Gutters | • Accumulation of Solids | ☑ Flush system is designed and operated sufficiently to remove accumulated solids from gutters as designed;<br>☑ Remove bridging of accumulated solids at discharge | |
| Lagoons and Pits | • Crusted Solids | ☑ Maintain lagoons, settling basins and pits where pest breeding is apparent to minimize the crusting of solids to a depth of no more than 6 - 8 inches over more than 30% of surface. | |
| Excessive Vegetative Growth | • Decaying vegetation | ☑ Maintain vegetative control along banks of lagoons and other impoundments to prevent accumulation of decaying vegetative matter along water's edge on impoundment's perimeter. | |
| | | **Dry Systems** | |
| Feeders | • Feed Spillage | ☑ Design, operate and maintain feed systems (e.g., bunkers and troughs) to minimize the accumulation of decaying wastage.<br>☑ Clean up spillage on a routine basis (e.g., 7 - 10 day interval during summer; 15-30 day interval during winter). | |
| Feed Storage | • Accumulation of feed residues | ☐ Reduce moisture accumulation within and around immediate perimeter of feed storage areas by insuring drainage away from site and/or providing adequate containment (e.g., covered bin for brewer's grain and similar high moisture grain products).<br>☑ Inspect for and remove or break up accumulated solids in filter strips around feed storage as needed. | |

| Source | Cause | BMPs to Minimize Insects | Site Specific Practices |
|---|---|---|---|
| Animal Holding Areas | • Accumulations of animal wastes and feed wastage | ☑ Eliminate low areas that trap moisture along fences and other locations where waste accumulates and disturbance by animals is minimal.<br>☐ Maintain fence rows and filter strips around animal holding areas to minimize accumulations of wastes (i.e. inspect for and remove or break up accumulated solids as needed. | |
| Dry Manure Handling Systems | • Accumulations of animal wastes | ☐ Remove spillage on a routine basis (e.g., 7-10 day interval during summer; 15-30 day interval during winter) where manure is loaded for land application or disposal.<br>☐ Provide to adequate drainage around manure stockpiles.<br>☐ Inspect for an remove or break up accumulated wastes in filter strips around stockpiles and manure handling areas as needed. | |

For more information contact the Cooperative Extension Service, Department of Entomology, Box 7613, North Carolina State University, Raleigh, NC 27695-7613

## Mortality Management Methods

(check which method(s) are being implemented)

- ☐ Burial three feet beneath the surface of the ground within 24 hours after knowledge of the death. The burial must be at least 300 feet from any flowing stream or public body of water.
- ☑ Rendering at a rendering plant licensed under G.S. 106-168.7.
- ☐ Complete incineration
- ☐ In the case of dead poultry only, placing in a disposal pit of a size and design approved by the Department of Agriculture.
- ☐ Any method which in the professional opinion of the State Veterinarian would make possible the salvage of part of a dead animal's value without endangering human or animal health. (Written approval of the State Veterinarian must be attached)

December 18, 1996