GOFORTH FOREST MANAGEMENT, INC.
P.O. Box 2841 • Meridian, MS 39302
Office: 601.693.2738 • Fax: 601.482.5761

FOREST MANAGEMENT PLAN

FOR THE

JOHN Q. SMITH PROPERTY

ANY COUNTY, STATE

OWNER:
John Smith

July 4, 2012

KEMPER CO
SUMTER CO
MISSISSIPPI
ALABAMA

The intended outcome of this plan is to create an organized timeline of projected silvicultural practices in order to maximize revenues from timber production. This plan will estimate costs and revenues for silvicultural practices throughout each timber stand's maturity. These recommendations represent anticipated costs and revenues of the practices that may be associated with the property in the future. The revenues, costs and dates projected are subject to change due to factors including but not limited to; landowner participation, changes in markets, natural disasters and growing conditions.

OBJECTIVES:

The landowner's objectives are a long-term management regime for multiple uses of this property. Management objectives in order of importance include, but are not limited to the following:

1. Maximize Value of Forest Products
2. Wildlife Management
3. Soil Conservation
4. Aesthetics

PROPERTY DESCRIPTION:

According to the legal description of the property, there are 600 acres more or less contained in the tract. 53 % of the property is merchantable Loblolly Pine Plantation thinned in 2010, 38% is natural timber including hardwood and mixed hardwood-cedar-pine groves, 8% is streamside management zones and 1% is open wildlife food plots and roads.

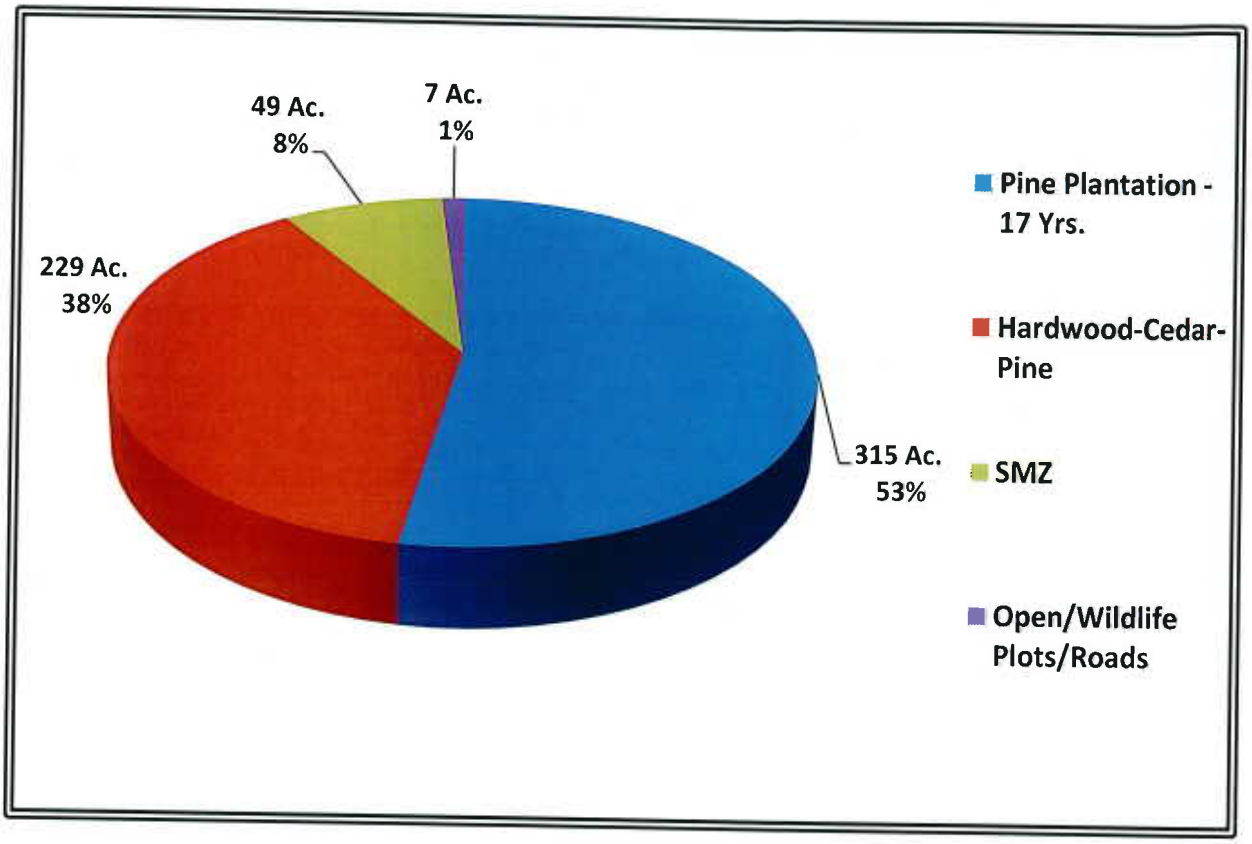
Legal Description:

E ½ of SE ¼, Section 3, [redacted]; S ½ of NE ¼, SE ¼, Section 7; Lots 1, 2, 5 acres on the East side of Lot 3 being a strip of property 165 feet in width across said Lot 3, Lots 4, 5, 6, S ½ of Lot 7, Lots 8, 9, Section 8, [redacted] County, Mississippi, as shown on attached maps.

STAND TYPES:

91% of the property is currently being managed for timber production. However, due to some poor soil types the revenues projected in this plan will be produced on 75% of the tracts acreage. The current property classification is listed below.

CURRENT STAND TYPES	
STAND TYPE	**ACRES**
Pine Plantation – 17 Yrs.	315
Hardwood-Cedar-Pine	229
SMZ's	49
Open/WildlifePlots/Roads	7



SOIL DESCRIPTIONS:

There is several soil classifications found throughout the property. Houlka, Wilcox and Mayhew soil classifications comprise 80% of the soils on the property. The remaining 20% consist of Catalpa, Sumter-Demopolis, Demopolis-Rock and Kipling soils. These latter soils are found in the northeast portions of the tract where the majority of the natural timber is located. These soils have low site indicies for growing timber. The small outcrops of Catalpa and Kipling soils are exceptions, having a site index of over 90^{BA50} for Loblolly Pine, Oaks, Cottonwood, Sweetgum and Sycamore.

"Wilcox" soils consist of silty-clay-loam compositions with clayey shale as the base material. The slope on these soil types is 1-3 % with somewhat poor drainage and low risk of erosion. Water availability is good, however permeability is slow. This soil is well suited for Loblolly Pine timber production. Considerations when growing timber are; high plant competition and sensitive weather conditions in wet seasons for mechanical operations such as site preparation and logging. This soil type is found on 30% of the tract. Site index for Loblolly Pine on this soil = 81^{BA50}

"Houlka" soils are found in the low lying and drainage areas consisting of silty-clay type soil. These soils are on 0-2% slopes and are somewhat poorly drained. However, they exhibit good water availability. This soil is best suited for timber production from Sycamore, Hackberry, Sweetgum, Cottonwood, Cherrybark Oak, Shumard Oak and Nuttall Oak. Considerations when growing timber are; high plant competition, seedling bed hydrology, sensitive weather conditions in moderate wet season for mechanical operations such as site preparation and logging. This soil type is found on 30% of the tract. Site index for Oaks on this soil = 105^{BA50}

The other major soil found on the tract is "Mayhew" found on the southeast portion of the tract. These soils are found on the upland areas and consist of clay sediments - clay shale. These soils are low

risk to erosion and exhibit a high water table. This soil is best suited for timber production including Loblolly Pine and several hardwood species. Considerations for growing timber are the high water table and sticky soil when wet. Logging and mechanical site preparation should be conducted in dry months to avoid rutting. Plant competition is also a concern due to water availability and site index. Proper site-prep measures should be taken to avoid excessive seedling mortality when reforesting. This soil type is found on 20% of the tract. Site Index for Loblolly Pine = 90^{BA50}

A detailed description of the soil series is attached with the management plan. These descriptions were published by the *"United States Department of Agriculture, Soil Conservation Service and in cooperation with the Alabama Agricultural Experiment Station and Alabama Soil and Water Conservation Committee."*

GENERAL MANAGEMENT RECOMMENDATIONS:

Administering the scheduled practices established in this management plan as near the recommended timeline as possible will increase the likelihood of achieving the projected revenue figures. Some costs and revenues for scheduled practices may deviate, however keeping with the timeline will result in achieving the best returns possible on the investments projected over the duration of the management plan.

There are three timber types on the property including; Loblolly Pine Plantation, natural hardwood timber and cedar-hardwood-pine mix. The pine stand was thinned in 2010, leaving a residual basal area of approximately 70 square feet per acre or approximately 200 trees per acre. The hardwood stand is approximately 26 years old and some areas are merchantable, however it is several years from requiring any harvesting activities. The hardwood needs to grow in order to achieve a larger average diameter which would be more suitable for select-cut harvesting. When the hardwood reaches the appropriate size in the next 5-10 years, a select cut can be administered to improve species composition and growth. Some of these hardwood areas with substantial amounts of cedar will not require harvesting for at least 10 years or more.

The remaining acreage is hardwood timber located along and adjacent to the major streams and tributaries. These areas, with exception of large sawtimber, should be left unhindered during future harvesting operations. These streamside management zones (SMZ) serve an important function in protecting the integrity of the streams, preventing pollution from soil erosion, and providing wildlife habitat corridors.

The pine plantation is on a 25 year projected rotation beginning with the initial establishment of the stand. To achieve the volumes necessary to produce the revenues projected for the pine stand, silvicultural practices will be required. Applying herbicide is the singular most important practice a landowner can use in maximizing timber growth. Herbicides reduce competition at a greater rate, for longer duration and at more economical costs than burning. There is less liability to damaging timber or adjacent property by using herbicides. However, using fire as a management tool at the correct timing is beneficial and will be needed. Prescribe burning helps to reduce hardwood competition and more importantly it reduces fuel loads which can be devastating in the event of a wildfire.

Wildlife habitat is currently being managed by the lessee. The Lessee has adequate food plot area for planting summer or winter plantings. Wildlife habitat can be improved greatly by implementing the recommended forest management activities, especially herbicide applications. Silvicultural practices such as herbicide applications and prescribe burning in the pine stands are intended to reduce competition from hardwoods. These practices increase sunlight to the forest floor, thus promoting natural herbaceous forage plants beneficial to many species of wildlife including but not limited to;

Whitetail Deer, Turkey, Dove, Quail, Rabbit etc. Herbicide pays returns twofold by increased timber production and improving wildlife habitat.

Boundary line maintenance will be required in the near future. We recommend painting all boundaries immediately. The cost of the initial maintenance will be $350 per mile. Since boundary markings will have been established, future boundary re-painting will be approximately $250.00 per mile.

PINE PLANTATION STAND

PLANTATION ACRES: 315

Loblolly **Pine SI^{50} = 85**

DESCRIPTION: This stand is a Loblolly Pine Plantation established in 1996 and 1997. The timber stand prior to the current plantation was a stand of natural timber which was clearcut in 1993. The tract was mechanically site prepared by shearing and raking after the timber was cut. The stand was then reforested with 544 genetically improved 2nd Generation Loblolly Pine seedlings per acre. After planting, the pine stand was released from hardwood competition by applying herbicides. In 2010 the stand was thinned for the first time. There have been no silvicultural practices since thinning.

SCHEDULE OF RECOMMENDED PRACTICES:

Year	Acres	Practice	Revenue/Acre	Total Revenue	Cost/Acre	Total Cost
2010	315	1st Thin	$137.50[A]	$43,312.50		
2012	315	Herbicide Release			$65.00	$20,475.00
2012	600	Boundary Painting				$2,275.00
2015	315	2nd Thin	$250.00	$78,750.00		
2017	315	Prescribe Burn			$35.00	$11,025.00
2022	315	Final Harvest	$2,700.00	$850,500.00		
2023	315	Reforest			$440.00	$138,600.00
TOTAL				**$972,562.50**		**$172,375.00**

NOTE: [A] The per acre revenue figure is an average of the revenue from all timber thinned on approximately 1150 acres of the [redacted] in 2010.

HARDWOOD-CEDAR-PINE STAND

TOTAL ACRES: 229

Oak, Sycamore, Cottonwood SI^{50} = **105**
Cedar Land SI^{50} = **40**

DESCRIPTION: This stand is a natural timber stand including merchantable and pre merchantable hardwood and cedar groves. Portions of the stand were clearcut in 1986 when all hardwood on the Sim Giles Plantation was sold to [redacted]. Then in 1993 portions of the stand were partially clearcut, mainly south and east of Quilby Creek, as part of a timber sale of the pine areas. Since the last harvest there has been no silvicultural practices administered to the stand. The stand was recently inspected to determine what it needs for improving timber production. From this inspection it was determined 5-10 years of growth is necessary to reach a desirable height and diameter for select-cut harvesting in areas where the hardwood is predominant.

SCHEDULE OF RECOMMENDED PRACTICES:

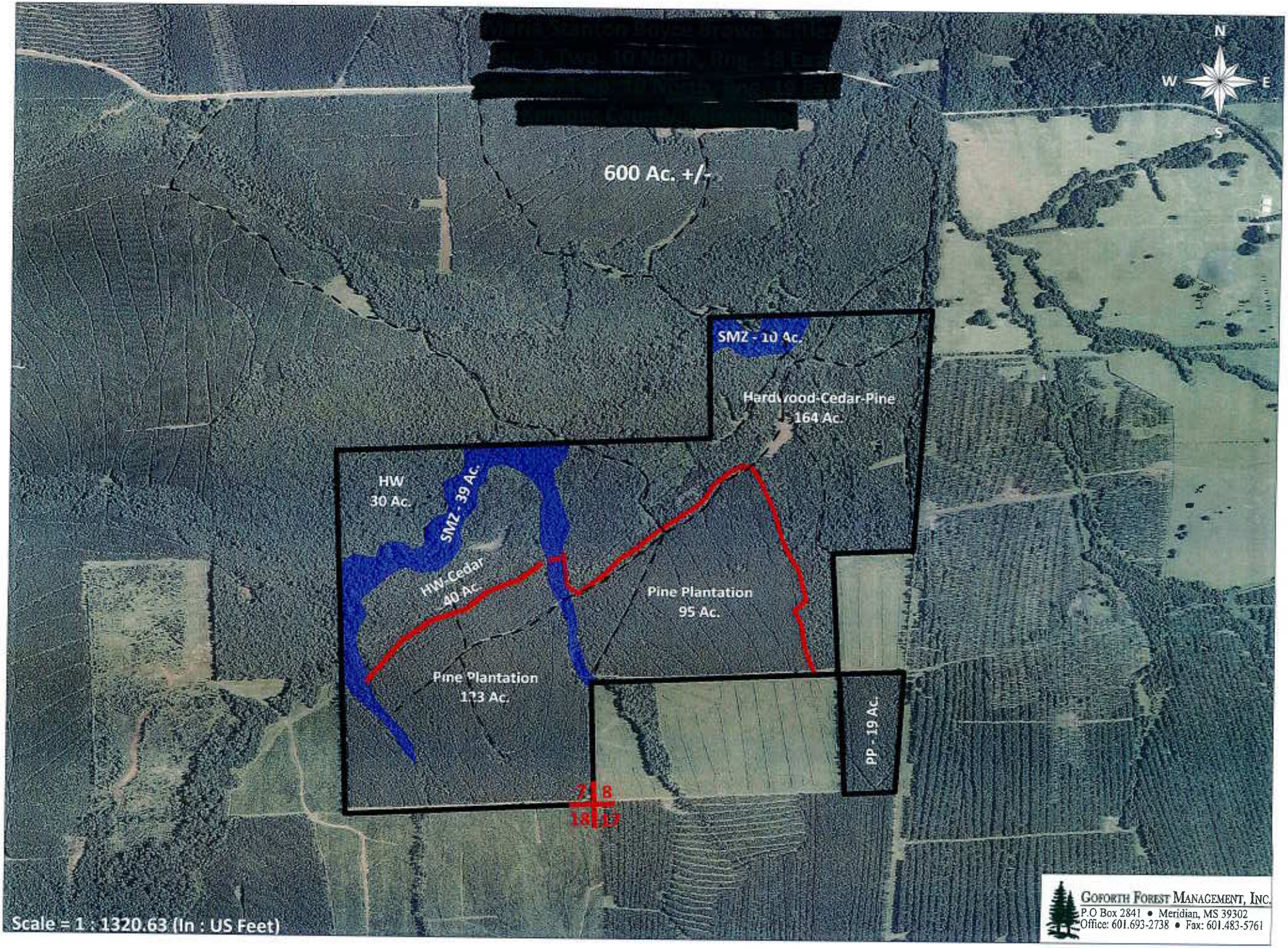
Year	Acres	Practice	Revenue/Acre	Total Revenue	Cost/Acre	Total Cost
2017	150	Select-Cut	$150.00	$22,500.00		
2037	180	Final Harvest	$1,200.00	$216,000.00		
2038	150	Reforest/w Oak			$450.00	$67,500.00
TOTAL				**$238,500.00**		**$67,500.00**

Hardwood

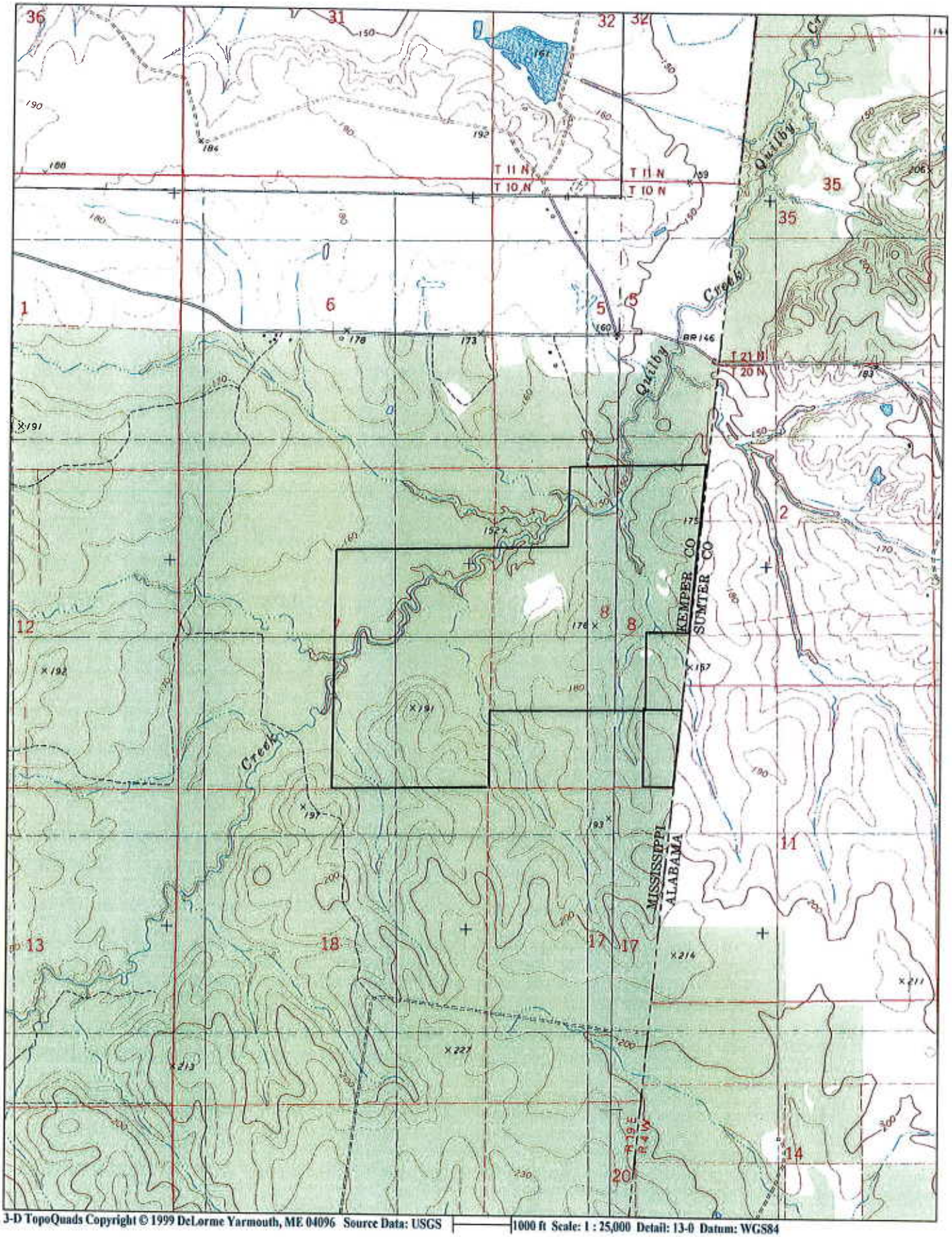
Hardwood-Cedar-Pine

APPENDIX

- Tract Photograph (Summer 2010)
- Tract Photograph (Winter 2007)
- Property Division Photo
- Property Division Plat Map
- Topographic Quadrangle Map
- Soil Map
- USDA Soil Descriptions
- Timber Stand Photographs



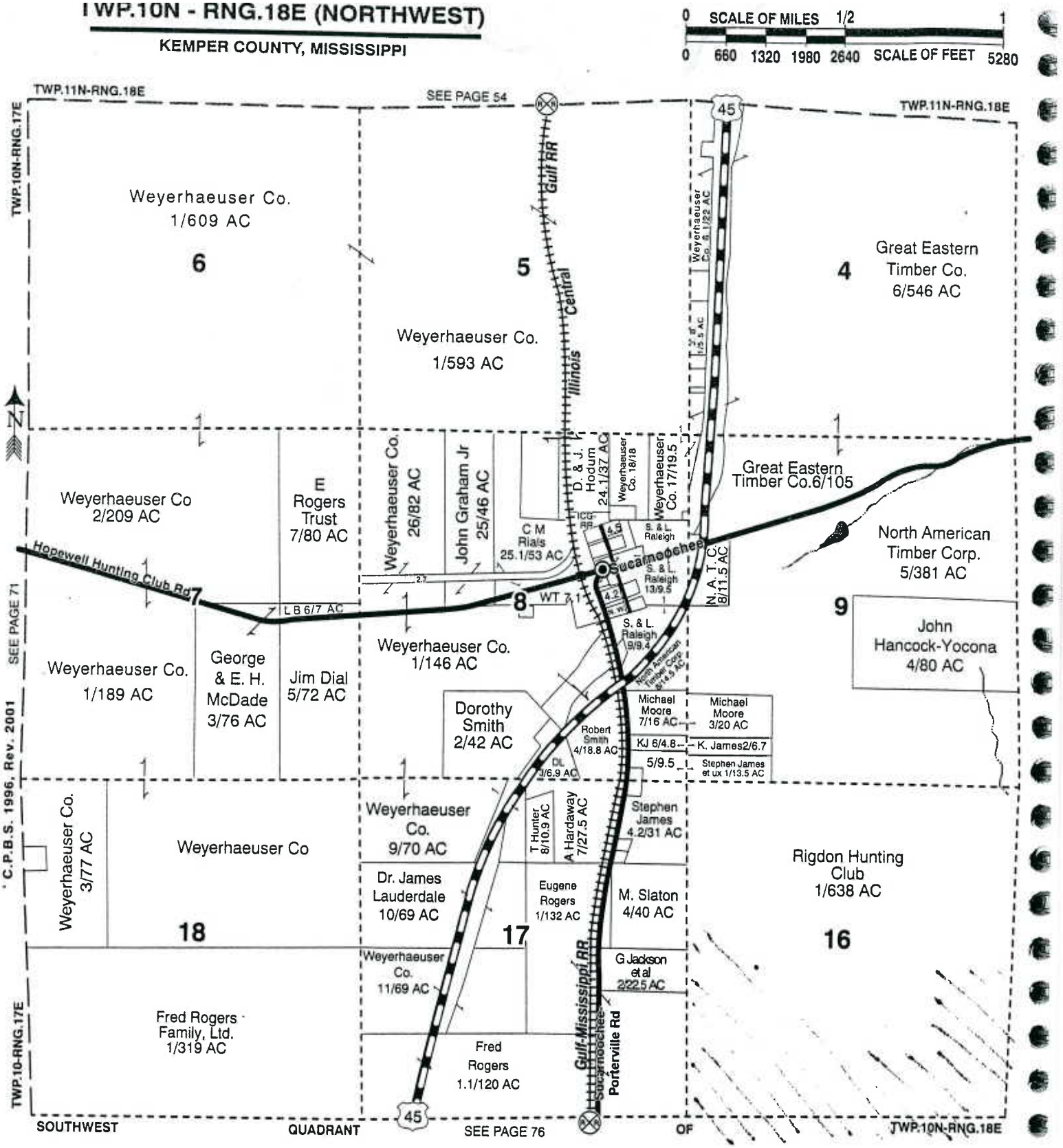
GOFORTH FOREST MANAGEMENT, INC.
P.O Box 2841 • Meridian, MS 39302
Office: 601.693-2738 • Fax: 601.483-5761



 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

TWP.10N - RNG.18E (NORTHWEST)

KEMPER COUNTY, MISSISSIPPI




[redacted]
590 Ac +/-
SOIL MAP
R. 19 E.
WcA
WcB
KpA
KpB2
SuE3
Gp
Ho
MeA
Wo
2
1
6
5

ATTACHMENT SUBJECT:

↓

Use and Management

Cropland

Suitability: Unsuited
Major concern: Erosion
Management measures:
- An alternative site should be selected.

Pasture and hay

Suitability: Well suited
Major concern: Erosion
Management measures:
- Proper stocking, controlled grazing, and weed and brush control help to keep the pasture and soil in good condition.
- Restricting use during wet periods reduces surface compaction.

Woodland

Suitability: Well suited
Major concerns: Plant competition, erosion, equipment limitation, seedling mortality
Management measures:
- Proper site preparation helps to control the growth of undesirable plants and reduces the seedling mortality rate.
- Using special equipment and logging during the drier seasons help to overcome the problems caused by the equipment limitation.
- Locating logging roads on the contour reduces the hazard of erosion.

Dwellings

Suitability: Poorly suited
Major concern: Shrink-swell potential
Management measures:
- Special designs and careful construction help to overcome the problems associated with the high shrink-swell potential.
- A better suited site can be selected.

Septic tank absorption fields

Suitability: Poorly suited
Major concerns: Slow permeability, wetness
Management measures:
- An alternative method of sewage disposal should be used to dispose of waste properly, or a more suitable site should be selected.

Interpretive Groups

Land capability classification: VIIe
Woodland ordination symbol: 8C

WO—Wilcox silty clay loam, 1 to 3 percent slopes

Setting

Landform: Uplands
Landform position: Broad flats
Flooding: None
Ponding: None
Shape of areas: Irregular
Size of areas: 10 to 100 acres
Major land use: Woodland

Composition

Wilcox and similar soils: 85 percent
Included soils: 15 percent

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey shale
Runoff: Slow to medium
Available water capacity: High
Seasonal high water table: Within a depth of 1.5 to 3.0 feet from January through April
Erosion hazard: Slight
Tilth: The surface layer is sticky when wet and hard when dry, and it becomes cloddy if farmed when too wet.
Shrink-swell potential: High

Typical Profile

Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 8 inches—dark brown silty clay that has gray mottles
8 to 12 inches—mottled dark brown, grayish brown, gray, and red silty clay
12 to 35 inches—mottled yellowish red, red, gray, and grayish brown silty clay
35 to 42 inches—mottled yellowish red, red, and light brownish gray clay
42 to 55 inches—mottled grayish brown, light brownish gray, and light olive brown clay

Underlying material:
55 to 70 inches—grayish brown and light olive brown soft shale

Inclusions

Dissimilar inclusions:
- The well drained Sweatman soils on uplands

ATTACHMENT SUBJECT:

↓

Similar inclusions:
- The somewhat poorly drained Stough soils in similar positions on uplands
- Areas of soils that have slopes of more than 3 percent

Use and Management

Cropland

Suitability: Well suited
Major concern: Wetness
Management measures:
- Conservation tillage and crop residue management improve tilth and reduce crusting and packing after heavy rainfalls.
- Proper row arrangement and surface field ditches help to remove excess surface water.

Pasture and hay

Suitability: Well suited
Major concern: Wetness
Management measures:
- Proper stocking, controlled grazing, and weed and brush control help to keep the pasture and soil in good condition.
- Restricting use during wet periods reduces surface compaction.

Woodland

Suitability: Well suited
Major concerns: Plant competition, equipment limitation, seedling mortality
Management measures:
- Proper site preparation helps to control the growth of undesirable plants and reduces the seedling mortality rate.
- Using special equipment and logging during the drier seasons help to overcome the problems caused by the equipment limitation.

Dwellings

Suitability: Poorly suited
Major concern: Shrink-swell potential
Management measures:
- Special designs and careful construction help to overcome the problems associated with the high shrink-swell potential.
- A better suited site can be selected.

Septic tank absorption fields

Suitability: Poorly suited
Major concerns: Slow permeability, wetness
Management measures:
- An alternative method of sewage disposal should be used to dispose of waste properly, or a more suitable site should be selected.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 8C

END

WS—Wilcox-Sweatman association, 8 to 17 percent slopes

Setting

Landform: Uplands
Landform position: Hillsides
Slope range: 8 to 17 percent
Flooding: None
Ponding: None
Shape of areas: Irregular
Size of areas: 160 to 1,000 acres
Major land use: Woodland

Composition

Wilcox and similar soils: 50 percent
Sweatman and similar soils: 37 percent
Included soils: 13 percent

Soil Properties and Qualities

Wilcox

Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey shale
Runoff: Rapid
Available water capacity: High
Seasonal high water table: Within a depth of 1.5 to 3.0 feet from January through April
Erosion hazard: Severe
Tilth: The surface layer is sticky when wet and hard when dry, and it becomes cloddy if farmed when too wet.
Shrink-swell potential: High

Sweatman

Drainage class: Well drained
Permeability: Moderately slow
Parent material: Marine sediments
Runoff: Rapid
Available water capacity: High
Seasonal high water table: Below a depth of 5.0 feet
Erosion hazard: Severe
Tilth: The surface layer is friable and is easily tilled throughout a wide range of moisture content.
Shrink-swell potential: Moderate

The following photographs are typical views of the timber stands on the [redacted].

PINE STAND

MIXED PINE-HARDWOOD

HARDWOOD STAND

CEDAR LAND

[redacted] CREEK