Appendix D
Analysis Support Documents

Site Visit 8/11/03
NE Corner Project
By
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On Monday August 11, 2003, I and John DePuy visited the NE Corner Project site. The MTNF, AECS, described both Sycamore and Pike Creek as intermittent, seasonally dry, warmwater, with 7-day, 2-year low flow known to be less than 1 cfs, and losing (MTNF, AECS).

A losing stream is defined by MDNR as "a stream which distributes 30% or more of its flow during low flow conditions through natural processes, such as through permeable geologic materials into a bedrock aquifer within two (2) miles flow distance downstream of an existing or proposed discharge".

As all streams in the project area were described as "losing" in the MTNF, AECS; the primary purpose of the site visit was to identify areas with water.

Our first stop was in Winona, MO, at Hwy 19 Bridge and Pike Creek on private land. Pike Creek was dry on either side of the bridge.

Our second stop was at Hwy H and Sycamore Creek on private land. Sycamore Creek was dry on either side of road crossing.

On our way to our 3rd stop, we drove along County Road 570 from Hwy 19 to Hwy 60. County Road 570 parallels Pike Creek and there is private land either side of the road. There were very few trees along Pike Creek, indicating a lack of a riparian corridor.

Our third stop was at Hwy W and Pike Creek on Private land in Section 26, T27N, R3W. Pike Creek was dry on either side of road crossing.

Our fourth stop was at County Road 568 and Pike Creek on Private land in Section 23, T27N, R3W. There was a small pool (<100 feet by 10 feet and approx. 3 feet deep) of water either side of this crossing. Tap poles and frogs were present. In all probability, this area would go dry during drought periods.

Our fifth stop was at County Road 568 and Pike Creek on Private land in Section 24, T27N, R3W. The 7.5 minute Fremont Topographic map describes a wide perennial pool; however, this proved to be incorrect. At this stop, Pike Creek was dry on either side of the crossing. Pike Creek had been channelized immediately down stream of this crossing. The original channel had been widened to approx. 100 feet. There was no riparian trees along the creek.

Our sixth and last stop was at County Road 568 and Pike Creek on Private land in Section 30, T27N, R2W. This site is ¼ mile downstream of the NE Corner project site. There was a concrete low water ford at this site. The 7.5 minute Fremont Topographic map describes a wide perennial pool; however, this proved to be incorrect. Pike Creek was completely dry on either side of this low water crossing.
It appears Pike Creek and Sycamore Creek lose nearly 100% of their surface water and go completely dry during the summer.

According to MDC's Current River Watershed Inventory and Assessment dated January 2003, Pike and Sycamore creeks are known to lose water and dye traces indicate this ground water travels outside the Project area to re-appears near Plum Springs, Mill Creek Spring and Big Springs.

(SOIL ORIGINS APPLICABLE TO PAGE 43 ANALYSIS OF NECORNER EA)

The parent material of soils that formed from material in place is mainly sedimentary rock from the Ordovician and Cambrian period. Soils from material weathered from the Jefferson City Dolomite include the Doniphan cherty silt loam. The most extensive underlying rock is the Roubidoux formation consisting of an interlayered sequence of dolomite and sandstone and is the parent material for Coulstone cherty fine sandy loam. This formation is underlain by the cherty dolomite of the Gasconade Formation and is the parent material for the Clarksville cherty silt loam. Loess was deposited over the area during the late Pleistocene, most of which has been removed through erosion with pockets remaining on gently sloping areas on broad ridgetops. Soils forming in loess and residuum on these areas are Captina silt loam, Macedonia silt loam, and Wilderness cherty silt loam. Poynor cherty silt loams have been formed in cherty, cherty residuum or in loess and underlying residuum. Soils forming in colluvium on bottoms and along drainage ways have been in place only long enough for formation of weakly developed horizons. Claiborne silt loam is formed in colluvium. Midco cherty loam is formed from alluvium washed from highly dissected parts of the area and contains a high amount of chert and gravel. This coarse material is deposited near streams channels or on narrow bottoms where water flows with the greatest velocity. Ashton silt loam, Newark silt loam, and Secesh loam are formed from alluvium deposited on broader, more nearly level flood plains. (Gott 1975)

DESCRIPTION OF COMMON TREATMENT ACTIONS
(See EA for site-specific changes to those described below)

EAM (EVEN-AGE MANAGEMENT)

The application of management practices which produce a stand of trees of approximately the same size and age. The following practices are proposed:

CLEARCUT - A harvest method to regenerate a stand by removing all merchantable stems, followed by cutting all stems over 6 feet tall, except trees reserved for wildlife (den trees, snags, certain flowering/fruiting trees), to encourage reproduction by stump sprouting. A minimum of 15 sq. ft. of basal area of reserve trees will be grouped or retained around large snags, large live trees, den trees, and within intermittent drainages.

SEEDTREE CUT - The removal of all of the mature timber except for a minimum of 15 sq. ft. of basal area of reserve trees grouped or retained around large snags, large live trees, den trees, and in intermittent drainages, including 6-8 seed trees/acre left to provide seed to regenerate a stand. Shortleaf pine would be the predominant seed tree species although occasional vigorous oak may be left. The combination of seedlings produced by dispersed seed, existing seedlings/saplings, and the cutting of small diameter hardwood trees to produce sprouts, will reforest the stand.

SHELTERWOOD SEEDCUT - The removal of 70-80% of the mature timber, leaving a small number of seed trees, individually or in small groups, for the purpose of regenerating a stand. Seed cutting is intended to produce seedlings from seed dispersed from the trees left following harvest. A minimum of 25 sq. ft. of basal area of overstory shortleaf pine, white oak, post oak, hickory, or vigorous black and scarlet oak, grouped or retained around large snags, large live trees, den trees and within intermittent drainages, will constitute the shelterwood. The combination of seedlings produced by the seed trees, existing seedlings/saplings, and the cutting of small diameter hardwood trees to produce sprouts, will reforest the stand.

OVERSTORY (SHELTERWOOD) REMOVAL CUT - An intermediate cut removing older, remnant overstory trees competing with younger, better quality trees.

SHELTERWOOD PREPARATORY CUT - An intermediate cut to remove approximately 30-40% of the overstory trees to begin preparing sites for the establishment of seedlings. The combination of soil disturbance and additional sunlight on the forest floor as a result of harvesting provides an environment suitable for the establishment of oak and pine seedlings.

INTERMEDIATE SALVAGE CUT - A commercial cut to remove dead or dying trees (predominantly black and scarlet oak) from a stand. The intent is to harvest these trees before decay makes the wood unusable. Some openings may occur.

COMMERCIAL THINNING - A commercial intermediate cut designed to remove some merchantable trees in order to enhance the vigor and growth of remaining trees, and to control species composition.

UEAM (UNEVEN-AGE MANAGEMENT)

The application of management practices which produce a stand of trees of various sizes and ages. Generally, the stand structure is composed of many smaller trees and relatively lower numbers of larger trees. The following practices are proposed:

IMPROVEMENT CUTTING - A commercial intermediate cut to develop or improve uneven-age structure (numbers of trees of different sizes/ages) and/or the species composition of a stand. Cutting will generally focus on the removal of high-risk (trees not expected to live for the next ten years) black and scarlet oak, and the occasional removal of other species. Non-commercial cutting of smaller trees in certain diameter classes may be applied following harvesting to further develop or improve stand structure.

GROUP SELECTION WITH IMPROVEMENT CUTTING - A commercial cut designed to establish new trees via sprouting and/or to further develop existing seedlings and saplings. This method involves removing all overstory trees in small groups ranging from 1/4 to 2 acres in size. Small diameter hardwood trees in the group openings would be cut after commercial harvesting is completed to encourage stump sprouting. Improvement cutting is applied to the remainder of the stand in conjunction with the group cuts.

SINGLE TREE SELECTION - A commercial regeneration cut to reduce stocking to 50-70% in which individual trees of all size classes are removed more-or-less uniformly throughout the stand primarily to create a new age class while also improving stand structure and/or species composition. The combination of soil disturbance and additional sunlight on the forest floor as a result of harvesting provides an environment suitable for the establishment of oak and pine seedlings.

WILDLIFE IMPROVEMENT CUT - A commercial cut to reduce the number of trees, followed by prescribed burning, to stimulate the growth of forbs and grasses to benefit wildlife species dependent on woodland savanna habitat.

OTHER MANAGEMENT:

NATURAL SITE PREPARATION (NSP) - Cutting of all stems over 6 feet tall except designated den trees, potential den trees, snags, seed trees, some flowering species (e.g. dogwood), and some fruiting species for wildlife, to encourage reproduction by stump sprouting. This technique would be applied following clearcutting, seed tree cutting, shelterwood seed cutting and in uneven-management group openings.

PLANTING - Planting shortleaf pine seedlings following clearcutting in some stands.

RELEASE - Releasing pine saplings from hardwood competition by non-commercially cutting surrounding hardwood saplings, and releasing oak/hickory/pine saplings from overstory competition by removing the overstory trees in a commercial harvest.

PRECOMMERCIAL THINNING (PCT) - Cutting certain trees in a young timber stand to improve growth and vigor on the remaining trees. The trees being cut are not large enough to be of commercial value.

OLD GROWTH - Areas designated for the development of old growth characteristics, i.e. large diameter, older trees, an abundance of snags, cavity and den trees, a variety of understory plant species and structural conditions, and large logs laying on the forest floor.

SEMI-OPEN/WILDLIFE (WL) BURN - Prescribed (controlled) burning to develop a grass/forb ground cover under more open canopy conditions to produce woodland savanna habitat. This activity is generally applied after wildlife improvement cutting.

OPEN/GRAZE - Fertilizing and grazing existing open land.

POND MAINTENANCE - Maintaining waterbars or diversion ditches which direct the flow of water into a pond, and/or placing woody material such as a large branch or small tree trunk in a pond to provide habitat for amphibians.

Reoccurring Visual Impact Descriptions of Common Proposed Activities

(See EA for site-specific details)

Waterhole rehabilitation would involve cutting the larger vegetation from the banks and cleaning out where necessary. This would leave some slash, which would benefit wildlife.

Fuel reduction treatment would involve periodic prescribed burns and removing trees to thin the stands to about 40 square feet basal area. The prescribed burns would blacken the ground and would kill the small saplings, but this would be a temporary visual impact as the area would be expected to green up again within a month. The long-term result of this treatment would be more open, particularly in the understory to the stands.

Glade restoration treatment would involve periodic prescribed burns, removing cedar, and cutting the overstory trees to open the stands to as low as 0 square feet basal area. The long-term result of this treatment would be a rocky opening in the forest, containing glade-dependent species. Short term effects would be similar to those described under savannas.

The opening rehabilitation work consists of hand-cutting, mowing, or burning existing fields. Burning would result in a temporary blackening of the ground surface which would last for approximately two weeks to a month. The area would then experience a regrowth of new ground vegetation, which would green up the area. The visual impacts from hand cutting or mowing would be expected to be minimal.

All road reconstruction would follow the existing road corridor. The brushing, improvement of the drainage, and driving surface improvements would cause some visual impacts initially, but after the edges become revegetated, the road would blend in with the surrounding area.

Road closure activity may involve berming earth to form a barrier, blocking the road with a downed tree of significant enough size to keep on and off road vehicles from crossing, using large boulders, or erecting a gate to close the road.

The shelterwood treatment would remove much of the sawtimber from the stand, leaving a scattered overstory with approximately 40-50 percent crown closure. Some areas of the stand might have more trees removed than others, resulting in a more open appearance. These stands would have much greater visibility than adjacent untreated stands, but would still be perceived as "woods" rather than as an opening.

Commercial thinnings would remove selected trees and would result in stands which, although somewhat less dense than surrounding stands, would still be perceived as forested.

UEAM involving group selection, in which small groups of trees would be removed, will result in somewhat thinner stands, with irregularly-shaped, randomly spaced openings ranging in size from one-half to two acres. The treated stands would have more openings and may appear less dense than surrounding stands, but would still be viewed as forested and have significant crown closure.

Even-aged management involving overstory removal retains the young, well-established understory, and cutting the scattered overstory canopy of larger trees. Because the understory would be left intact, the stand would not be viewed as an opening, but would look more like a young forest area.

Even-aged management regeneration and clear-cut activity would create temporary openings in the forested area. Within 6-8 years the stands would be a thicket of young saplings approximately head high, and within 20-25 years the stands would contain pole sized trees approximately 30 feet high. Although they would be thicker and younger than the surrounding stands, to the casual observer they would once again be seen as forested.

Even-aged management seed tree harvests would remove all the hardwood trees, leaving the pine trees as a seed source for the next stand. The stand would be perceived as an opening, with widely scattered pine trees left. As the young pines begin to grow over the next 10-15 years, the stand will begin to appear as a forested area.

UEAM, single tree selection, in which selected trees or small groups of trees would be removed. This treatment would result in somewhat thinner stands, with small randomly spaced openings of approximately a quarter acre. The treated stands, although perhaps less dense than surrounding stands, would still be viewed as forested and would have significant crown closure.

Even-age management intermediate harvest (thinning) would remove selected trees chosen for cutting and would result in stands which, although somewhat less dense than surrounding stands, would still be perceived as forested stands.

Northeast Corner – Soils, ELT, Slope Description Tables Covering All Stands in Compartments 280 – 288 & 300.

Table – Soil Characteristics

Soil Type	Characteristics
Alluvial land	
Landscape Location	Made up of areas of alluvium recently deposited on first and second bottoms (loamy) and along major rivers (mixed) throughout survey area
Stand Location	Compartment 281: Stand No. 23
Permeability	Moderate to moderately rapid
Water-Holding Capacity	Variable. Alluvial land (loamy) approximately 7 – 12 inches. Alluvial land (mixed) approximately 1 – 2 inches.
Total depth	20 – 80 inches
A Horizon Depth	Not applicable
Percent rock in the surface horizon	Variable
T – value	4 – 5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight or not rated erosion hazard. Well suited (loamy alluvial land)or not rated (mixed alluvial land).
Potential of damage from fire	Low or not rated
Management Considerations	Droughtiness or flooding. Shallow water table possible.

Soil Type	Table 6 con't: Soil Characteristics
Ashton silt loam	
Landscape Location	Low stream terraces and alluvial fans. Slopes range from 0 to 15 percent. These soils formed in alluvium derived from limestone or partly in residuum from limestone.
Stand Location	Compartment 281: Stand Nos. 2, 3, 23, 41; Compartment 282: Stand Nos. 69, 71; Compartment 284: Stand Nos. 57; Compartment 287: Stand Nos. 65, 66; Compartment 300: Stand Nos. 96
Permeability	Moderate
Water-Holding Capacity	12 – 14 inches
Total depth	60 inches
A Horizon Depth	7 – 10 inches
Percent rock in surface horizon	0 – 5 percent
T value	5 tons per acre per year
Erosion Hazard	Slight erosion hazard off skid trails and roads. Moderate hazard on skid trails

Soil Type	Table 6 con't: Soil Characteristics
& Equipment Suitability	and roads. Moderately suited for harvesting equipment
Potential of damage from fire	Low
Management Considerations	Occasional flooding.
Captina silt loam	
Landscape Location	Captina soils are on nearly level to moderately sloping uplands and old stream terraces on the Ozark Highlands and other areas. They formed in a thin mantle of silty material and the underlying colluvium and residuum weathered from limestone, cherty limestone and dolomite, and siltstone bedrock. Slopes typically range from 1 – 12 percent.
Stand Location	Compartment 280: Stand Nos. 5, 8, 13, 16 – 24, 26; Compartment 281: Stand Nos. 1, 2, 4 – 38, 42 – 51; Compartment 282: Stand No.s 33, 34, 45; Compartment 286: Stand Nos. 6, 10, 11, 13 – 24, 32 – 35, 42; Compartment 287: Stand Nos. 1 – 12, 15, 17 – 22, 31 – 47, 49 – 55, 60 – 68, 71 – 78, 80, 81; Compartment 300: Stand Nos. 1, 3 – 7, 9 - 19, 21 – 28, 33 – 46, 46 – 69, 84, 85, 92, 93
Permeability	Moderate above fragipan, very slow in fragipan
Water-Holding Capacity	3.4 – 4.0 inches above fragipan; 4 – 7 inches total
Total depth	60 + inches. 16 – 38 inch depth to fragipan.
A Horizon Depth	4 – 10 inches
Percent rock in the surface horizon	0 – 5
T value	4 tons per acre
Erosion Hazard & Equipment Suitability	Slight hazard up to 8 percent off roads and skid trails, moderate hazard over 8 percent off roads and trails. Moderate hazard up to 8 percent off roads and skid trails, severe hazard over 8 percent off roads and trails. Well to moderately suited to harvesting equipment in dry conditions. Very poorly suited to harvesting equipment in wet soil conditions.
Potential of damage from fire	Low
Management Considerations	Perched water table possible from November thru June.
Claiborne silt loam	
Landscape Location	Claiborne soils are on gently sloping to very steep foot slopes, benches and the colluvial portions of side slopes. Slopes range from 2 to 65 percent. The soils formed in colluvium and the underlying residuum from limestone.

Soil Type	Table 6 con't: Soil Characteristics
Stand Location	Compartment 284: Stand Nos. 12 – 14, 16; Compartment 285: Stand Nos. 42; Compartment 288: Stand Nos. 8 – 10
Permeability	Moderate
Water-Holding Capacity	12 – 14 inches
Total depth	60 – 100
A Horizon Depth	6 – 10 inches
Percent rock in the surface horizon	0 – 25
T –value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight erosion hazard off road and skid trail up to 8 percent and moderate off road and trail over 8 percent. Moderate erosion hazard on road or skid trail up to 8 percent and severe hazard over 8 percent. Moderately suited to harvesting equipment
Potential of damage from fire	Moderate
Management Considerations	Possible compaction hazard on gentle slopes from harvesting equipment. Possible erosion on very steep slopes.

Soil Type	Table 6 con't: Soil Characteristics
Clarksville cherty loam	
Landscape Location	Clarksville soils are on steep side slopes and narrow ridgetops. Slopes range from 1 to 70 percent. The soils formed in hillslope sediments and the underlying clayey residuum from cherty dolomite or cherty limestone.
Stand Location	Compartment 281: Stand Nos. 1, 23; Compartment 282: Stand Nos. 1 – 23, 25 – 27, 29, 31 – 33, 42 – 50, 54 – 60, 62, 65 – 68, 71 – 82; Compartment 283: Stand Nos. 2 – 19, 21 – 23, 25 – 36, 38 – 46, 48, 52, 54 – 60, 63, 66 – 76, 78 – 83; Compartment 284: Stand Nos. 1 – 11, 15 -22, 24 – 33, 35 – 38, 44 – 46, 48, 49, 51 – 55; Compartment 285: Stand Nos. 1 – 4, 10, 11, 15, 17 – 21, 34 – 36; Compartment 286: Stand Nos. 1 – 16, 18 – 20, 22, 24 – 43; Compartment 287: Stand Nos. 1 – 23, 27 – 42, 44, 46 – 50, 52 – 70, 72 – 75, 77 – 80; Compartment 288: Stand Nos. 1, 2, 4, 6 – 8, 12, 13, 18 – 34, 37 – 40, 42 – 45, 47 – 51; Compartment 300: Stand Nos. 1 – 12, 14 – 29, 31 – 34, 37 – 53, 56 – 61, 64 – 69, 84, 85, 92, 93

Soil Type	Table 6 con't: Soil Characteristics
Permeability	Moderate
Water-Holding Capacity	3 – 6.5 inches
Total depth	80 inches
A Horizon Depth	1 – 4 inches thick
Percent rock in the surface horizon	1 – 80 percent
T-value	3 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight erosion hazard off skid trails and roads up to 15 percent, moderate from 15 –35 percent and severe over 35 percent. Moderate erosion hazard up to 15 percent and severe over 15 percent on skid trails and roads.Moderately suited to harvesting equipment up to 35 percent and poorly suited over 35 percent.
Potential of damage from fire	Moderate
Management Considerations	Low available water holding capacity, rock content, and shallow A horizon.
Coulstone very gravelly silt loam	
Landscape Location	The Coulstone series consists of very deep, somewhat excessively drained soils of the uplands. Permeability is moderately rapid. These soils formed in colluvium and residuum from acid sandstone with lenses of cherty limestone or cherty dolomite. Slope gradients range from 5 to 60 percent.
Stand Location	Compartment 280: Stand Nos. 1 – 3, 5 – 26; Compartment 281: Stand Nos. 1, 4 – 18, 20 – 29, 33, 37 – 48, 50, 51; Compartment 282: Stand Nos.2 – 44, 46, 47, 49 – 52, 54 -82; Compartment 283: Stand Nos. 1 – 17, 19 – 43, 45, 47 – 67, 69 – 76, 78 – 83; Compartment 284: Stand Nos. 11, 12, 14 – 22, 24 – 57; Compartment 285: Stand Nos. 3 – 14, 16, 21 – 43; Compartment 286: Stand Nos. 40; Compartment 288: Stand Nos. 1 – 17, 27 – 29, 31 – 38, 40 – 45; Compartment 300: Stand Nos. 62, 63, 65, 83 – 92, 94 - 96
Permeability	Moderately rapid
Water-Holding Capacity	The available water holding capacity is low (three to six inches)
Total depth	60 +
A Horizon Depth	The A (surface) horizon, where most of the nutrients are located, is shallow (one to four inches).
Percent rock in the surface horizon	35 – 75 percent
T –value	3 tons per acre per year
Erosion Hazard & Equipment Limitation	Moderate erosion hazard off skid trails and roads and severe hazard on skid trails and roads over 15 percent slopes. Moderate suitability for harvesting equipment at 15 – 35 percent slopes due to rock fragments and slope.

Soil Type	Table 6 con't: Soil Characteristics
Potential of damage from fire	Moderate due to coarse fragments and texture
Management Considerations	Low available water holding capacity, high rock content and shallow A horizon.
Doniphan cherty silt loam	
Landscape Location	Doniphan soils are on side slopes and narrow ridgetops. Slopes typically range from 10 to 35 percent, but have an extreme range of 2 to 60 percent. The soils formed in is residuum from clayey shales and cherty dolomite or cherty limestone.
Stand Location	Compartment 280: Stand Nos. 1, 15; Compartment 281: Stand Nos. 18, 21, 22; Compartment 285: Stand Nos. 9 – 11, 20, 34 – 36; Compartment 300: Stand Nos. 84, 85, 91, 92
Permeability	Moderately rapid surface horizon, moderate subsurface horizon
Water-Holding Capacity	5 – 7 inches
Total depth	80 inches
A Horizon Depth	1 – 6 inches
Percent of rock in surface horizon	25 – 75 percent
T-value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight erosion hazard up to 15 percent off skid roads and trails, moderate over 15 percent. Moderate erosion hazard up to 8 percent and severe over 8 percent on skid trails and roads. Well suited to harvesting equipment up to 15 percent and moderately suited over 15 percent.
Potential of damage from fire	Moderate
Management Considerations	Shallow A horizon, low available water holding capacity, and possible skeletal condition could inhibit productivity.

Soil Type	Table 6 con't: Soil Characteristics
Macedonia silt loams:	The Macedonia series consists of very deep, well-drained soils on ridge tops. They formed in a thin layer of loess and the underlying residuum from clayey shales and cherty dolomite or cherty limestone. Permeability is moderate. Slopes range from 2 to l5 percent.
Landscape Location	The Macedonia series consists of very deep, well-drained soils on ridge tops. They formed in a thin layer of loess and the underlying residuum from clayey shales and cherty dolomite or cherty limestone. Permeability is moderate. Slopes range from 2 to l5 percent.
Stand Location	Compartment 280: Stand Nos. 1 – 15, 25, 27; Compartment 281: Stand Nos. 16 – 18, 40; Compartment 282: Stand Nos. 65, 69, 70; Compartment 284: Stand Nos. 56, 57; Compartment 288: Stand Nos. 12, 19, 20, 22 – 25, 35, 36, 38 – 43, 45 – 51; Compartment 300: Stand Nos. 1 – 3, 23 – 32, 47, 83 – 85, 87, 88, 91 – 96
Permeability	Moderate

Soil Type	Table 6 con't: Soil Characteristics
Water-Holding Capacity	3.5 - 9.4 inches (moderately low to moderate)
Total depth	60 – 100 + inches
A Horizon Depth	2 – 4 inches
Percent of rock in the surface horizon	0 – 5 percent
T-value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Moderate hazard for slope erodability. Moderately suited to harvest equipment
Potential of damage from fire	Low
Management Considerations	Relatively shallow A horizon. Possibility of compaction in wet soil conditions.
Midco cherty loam	
Landscape Location	Midco series consists of very deep, somewhat excessively drained, cherty soils on flood plains. They formed in recent alluvium derived largely from upland soils underlain by cherty dolomite and sandstone. The permeability of the soils is moderately rapid. Slope gradients range from l to 4 percent.
Stand Location	Compartment 280: Stand Nos. 7, 9; Compartment 281: Stand Nos. 3, 4, 15, 23, 31, 32, 34, 35, 37 – 41; Compartment 282: Stand Nos.3 – 5, 7 – 10, 15 – 17, 19 – 24, 28 – 34, 36 – 42, 44, 45, 47 – 55, 58, 60, 61, 63 – 69, 71, 72, 77 – 80; Compartment 283: Stand Nos. 4 – 7, 9 – 11, 13, 14,, 20, 21, 23 – 32, 34 – 40, 44 – 48, 51 – 54, 57 – 66, 70 – 77, 82, 83; Compartment 284: Stand Nos. 1 – 12, 14 – 16, 19 – 21, 26 – 30, 33 – 35, 37, 38, 40 – 44, 46, 49 – 57; Compartment 285: Stand Nos. 1 – 4, 6, 12, 13, 17 – 20, 26, 27, 31, 36, 38, 40 – 43; Compartment 286: Stand Nos. 1 – 4, 8 – 10, 15, 16, 18, 19, 26, 27, 29, 31 – 33, 38 – 41; Compartment 287: Stand Nos. 9 – 12, 15, 18, 19, 24 – 27, 29, 33, 35, 37, 47, 48, 53, 55, 57, 59, 60, 62, 65, 66, 69, 70, 72, 77, 79; Compartment 288: Stand Nos. 1 – 3, 5, 10 - 14, 17, 18, 20, 22 – 24, 45, 50, 51; Compartment 300: Stand Nos. 3, 6, 7, 15 – 18, 20, 25, 39, 40, 48, 50, 52, 58, 59, 67, 83 – 86, 88 – 90, 93, 94, 96
Permeability	Moderately rapid to rapid
Water-Holding Capacity	1 – 3 inches
Total depth	Solum thickness 1 – 10 inches; 60 inches to bedrock
A Horizon Depth	1 – 10 inches
Percent rock in surface horizon	20 – 80 percent
T - value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight erosion hazard off skid trails and roads, moderate hazard on skid trails and roads. Moderately suited to harvesting equipment.

Soil Type	Table 6 con't: Soil Characteristics
Potential of damage to soil from fire	Moderate
Management Considerations	Brief, frequent flooding
Newark silt loam	
Landscape Location	Nearly level flood plains and upland depressions. Slopes range from 0 to 3 percent. The soils formed in mixed alluvium derived from limestone, shale, siltstone, sandstone, and loess with some glacial material.
Stand Location	Compartment 281: Stand Nos. 2
Permeability	Moderate
Water-Holding Capacity	11 – 13 inches
Total depth	60 + inches
A Horizon Depth	4 – 10 inches
Percent of rock in the surface horizon	0 – 5 percent
T - value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight hazard of erosion. Moderately suited to harvesting equipment.
Potential of damage to soil from fire	Low
Management Considerations	Brief occasional flooding. High water table from November through June.

Table – Soil Characteristics

Soil Type	Characteristics
Poynor cherty silt loams:	
Landscape Location	The Poynor series consists of very deep, well drained, moderately permeable soils on uplands formed in residuum from cherty dolomite and clayey shales or cherty limestone. Slopes range from 1 to 60 percent
Stand Location	Compartment 281: Stand Nos. 2, 3, 29, 31 – 39; Compartment 288: Stand Nos. 19, 20; Compartment 300: Stand Nos. 3, 4, 9, 10, 69, 94
Permeability	Moderate
Water-Holding Capacity	5.3 – 9.1 inches (moderately low to moderate)
Total depth	60 inches
A Horizon Depth	1 – 7 inches thick

Soil Type	Characteristics
Percent rock in surface horizons	15 – 25 percent
T - value	3 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight to severe erosion hazard depending on slope. Moderately well to well suited for harvest equipment.
Potential of damage to soil from fire	Moderate
Management Considerations	Standard specifications can be used.

Table – Soil Characteristics

Soil Type	Characteristics
Secesh loam	
Landscape Location	Secesh series consists of very deep, well-drained, moderately permeable soils on floodplains, stream terraces, and footslopes. They are formed in loamy material and the underlying cherty residuum or alluvium from limestone and sandstone. Slopes range from 0 – 8 percent.
Stand Location	Compartment 281: Stand Nos. 3; Compartment 282: Stand Nos. 52, 76; Compartment 284: Stand Nos. 4, 14, 15; Compartment 285: Stand Nos. 3, 4, 40, 43; Compartment 286: Stand Nos. 9
Permeability	Moderate
Water-Holding Capacity	5.7 – 9.2 inches
Total depth	Solum thickness ranges from 21 – 80+
A Horizon Depth	3 – 10 inches thick
Percent of rock in the surface horizon	0 – 15 percent
T - value	5 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight hazard of erosion. Well suited to harvest equipment.
Potential of damage to soil from fire	Moderate
Management Considerations	Subject to rare or occasional flooding.

Table – Soil Characteristics

Soil Type	Characteristics
Viraton silt loam	
Landscape Location	Series consists of very deep, moderately well drained soils that have a fragipan. They formed in loamy sediments and the underlying cherty residuum

Soil Type	Characteristics
	or colluvium from limestone. They are on broad ridges, foot slopes, and strath terraces. Slopes range from 1 – 20 percent.
Stand Location	Compartment 300: Stand Nos. 25
Permeability	Moderate in the fragipan, very slow in the fragipan, moderately slow below the fragipan
Water-Holding Capacity	3 ½ – 4.0 inches above fragipan. 5 ½ – 8.0 inches total
Total depth	60 + inches, 16 – 33 inches fragipan depth
A Horizon Depth	3 – 8 inches thick. .
Percent rock in surface horizons	0 – 25 percent rock fragments
T value	4 tons per acre per year
Erosion Hazard & Equipment Limitation	Slight to moderate erosion hazard. Moderately suited for harvesting equipment in dry weather.
Potential of damage to soil from fire	Low
Management Considerations	Soils with fragipan resulting in perched water table of 1.5 – 2.5 feet during December to May most years.

Soil Type	Characteristics
Wilderness cherty silt loam	
Landscape Location	The Wilderness series consists of very deep, moderately well drained soils that have a fragipan at depths of 15 to about 29 inches. These upland soils formed in hillslope sediments and the underlying residuum from cherty limestone. Permeability is moderate above the fragipan and slow in the fragipan and moderate below the fragipan. Slope gradients range from 2 to 35 percent.
Stand Location	Compartment 284: Stand Nos. 1, 5, 6, 9, 15, 17 – 20, 222, 23, 36, 37; Compartment 285: Stand Nos. 3 – 6, 8 – 18, 21 – 26, 28 - 41
Permeability	Moderate above and below fragipan. Slow in fragipan.
Water-Holding Capacity	2 – 2.5 inches above fragipan. 2 ½ - 5 inches total.
Total depth	Depth to fragipan 15 – 29 inches, 60 inches total
A Horizon Depth	3 – 7 inches
Percent rock in surface horizon	20 percent
T value	3 tons per acre per year.
Erosion Hazard & Equipment Limitation	Slight erosion hazard off skid trails and roads. Moderate erosion hazard on skid trails and roads up to eight percent and severe erosion hazard above eight percent. Moderately suited to harvesting equipment in dry soil conditions and very poorly suited during wet soil conditions.
Potential of damage to soil	Moderate

Soil Type	Characteristics
from fire	
Management Considerations	Fragipan and perched water table possible at 1 ½ to 6 foot depth from November through June.

Table – ELT Characteristics

ELT 3 :	Characteristics
Stand Location	Compartment 284: Stand Nos. 14; Compartment 285: Stand Nos.3, 4
Geology	Alluvium
Land Form	High Flood Plain, Low Terraces
Aspect	N.A.
Slope	0 – 4
Soils Type	Claiborne, Clarksville, Coulstone, Midco, Secesh, Wilderness
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitation is slight on all slopes except during the brief periods of frequent flooding and/or moist soil conditions.
Management Considerations	One of the soils in this ELT has a fragipan and perched water tables. Machine fire trails in moist conditions on this soil in this stand could result resource damage exceeding the standards in the Forest Plan.

ELT 4 :	Characteristics
Stand Location	Compartment 281: Stand Nos. 3; Compartment 285: Stand Nos. 1, 36, 43
Geology	Alluvium
Land Form	Upland waterways and narrow stream bottoms with cherty soils
Aspect	N.A.
Slope	1 – 4
Soils Type	Ashton, Clarksville, Coulstone, Doniphan, Midco, Secesh, Wilderness
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitation is slight on all slopes except during the brief periods of frequent flooding and/or moist soil conditions.
Management Considerations	One of the soils in this stand has a fragipan and perched water tables. Machine fire trails in moist conditions on this soil in this stand could result resource damage exceeding the standards in the Forest Plan.

ELT	Table 6 con't: ELT Characteristics
5	
Stand Location	Compartment No. 281: Stand Nos. 37, 39; Compartment 283: Stand Nos. 53, 64, 77; Compartment 284: Stand Nos. 3, 4, 7, 8, 11, 16, 34, 42, 43; Compartment 285: Stand Nos. 17 - 19; Compartment 286: Stand Nos. 2, 9, 38, 41; Compartment 287: Stand Nos. 11, 19, 26, 27, 59, 70, 79; Compartment 288: Stand Nos. 13, 51; Compartment 300: Stand Nos. 16, 25, 90, 93.
Geology	Alluvium
Land Form	Upland waterways and narrow stream valleys with gravelly alluvium
Aspect	N.A.
Slope	1 – 4
Soils	Primarily Clarksville, Coulstone, Midco. Associated soils include Captina, Claiborne, Macedonia, Poynor, Viraton, and Wilderness.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitation is slight on all slopes except during the brief periods of frequent flooding and/or moist soil conditions.
Management Considerations	Brief periods of frequent flooding in some areas. Resource disturbance can be minimized by timing machine fire trail construction and burning for periods of dry or frozen soil conditions.
ELT 6	
Stand Location	Compartment 282: Stand Nos. 24, 30, 41, 51 – 53, 71; Compartment 283: Stand Nos. 23, 24, 45, 49 – 52, 62, 65; Compartment 284: Stand Nos. 50; Compartment 285: Stand Nos. 13, 27, 42; Compartment 286: Stand Nos. 40; Compartment 288: Stand Nos. 3, 9 – 11.
Geology	Alluvium
Geographic Setting	Upland waterways and narrow stream valleys with gravelly alluvium
Aspect	N.A.
Slope	1 – 4
Soils	Primarily Clarksville, Coulstone, Midco. Associated soils include Claiborne and Wilderness
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitation is slight on all slopes except during the brief periods of frequent flooding and/or moist soil conditions.
Management Considerations	Brief periods of frequent flooding in some areas. Resource disturbance can be minimized by timing machine fire trail construction for periods of dry or frozen soil conditions.
ELT 10	
Stand Location	Compartment 284, Stand No. 2

ELT	Table 6 con't: ELT Characteristics
Parent Material	Cherty dolomite and sandstone residuum
Geographic Setting	Gently sloping ridges with deep cherty moderately drained soils.
Aspect	All
Slope	0 – 8
Soils	Clarksville, Midco
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations are slight at this slope class.
Management Considerations	None, there are only one stand in this ELT which are currently included in the proposal area.

ELT Type	Table 6 con't: ELT Characteristics
11	
Stand Location	Compartment 282: Stand Nos. 1, 2, 6, 11, 14, 18, 25, 26, 56, 57, 59, 62, 82; Compartment 283: Stand Nos. 2, 17, 18, 43, 68, 78; Compartment 284: Stand Nos. 5, 13, 22, 24, 36; Compartment 285: Stand Nos. 2, 30; Compartment 286: Stand Nos. 4, 6, 24, 28, 36; Compartment Nos. 287: Stand Nos. 4, 23, 25; Compartment 288: Stand Nos. 2, 21, 26, 30; Compartment 300: Stand No. 94
Parent Material	Hillslope sediments and the underlying clayey residuum from cherty dolomite or cherty limestone
Geographic Setting	Gently sloping narrow ridges with deep well to excessively well drained soils. Other soils in association with these soils may also be present.
Aspect	Neutral
Slope	0 – 10
Soils	Captina, Clarksville, Coulstone, Midco, Wilderness. Associated soils include Claiborne, Macedonia, and Poynor
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations are slight except for periods of moist soil conditions.
Management Considerations	Resource disturbance can be minimized by avoiding machine fire trails during periods of wet soil conditions.
14	
Stand Location	Compartment 284: Stand Nos. 18, 23; Compartment 285: Stand Nos. 5, 8,9, 14, 16, 21, 23, 28, 33, 34, 39

ELT Type	Table 6 con't: ELT Characteristics
Parent Material	Cherty sandstone and dolomite residuum
Geographic Setting	Gently sloping ridges with deep, cherty moderately well-drained soils with or in association with soils with fragipans
Aspect	Neutral
Slope	0 – 8
Soils	Primarily Clarksville, Coulstone, Wilderness. Associated soils included Doniphan.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations are slight except for periods of moist soil conditions.
Management Considerations	Resource disturbance can be minimized by avoiding machine fire trails during periods of wet soil conditions.

ELT Type	Table 6 con't: ELT Characteristics
15	
Stand Location	Compartment 280: Stand Nos. 3 – 5, 7, 14, 17, 20 – 22, 24 – 27; Compartment 281: Stand Nos. 1, 5, 6, 9, 11, 12, 14, 19, 22, 24, 25, 29, 30, 33, 36, 40, 42 – 46, 49; Compartment 282: Stand Nos. 35, 43, 45, 70; Compartment 85: Stand Nos. 11; Compartment 286: Stand Nos. 11, 14, 17, 21 – 23, 34, 42, 43; Compartment 287: Stand Nos. 1, 7, 9, 16, 20, 21, 32, 34, 35, 39, 42 – 44, 46, 49 – 52, 54, 61, 64, 67, 68, 75, 76; Compartment 288: Stand Nos. 40, 46, 47, 49, 50; Compartment 300: Stand Nos. 1, 2, 4 – 6, 12, 13, 22, 23, 26, 28 – 30, 34 – 38, 42, 43, 45, 49, 54, 55, 61, 63 – 66, 83, 86 – 88, 92, 95
Parent Material	Underlying colluvium and residuum weathered from limestone, cherty limestone and dolomite, or siltstone.
Geographic Setting	Gently sloping broad ridges or flats with deep, well and moderately well drained soils
Aspect	Neutral
Slope	0 – 8
Soils	Primarily Captina, Clarksville, Coulstone, Macedonia, Midco, Wilderness. Associated soils include Doniphan and Poynor.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations are slight except for periods of moist soil conditions.
Management Considerations	Resource disturbance can be minimized by avoiding machine fire trails during periods of wet soil conditions. Limitations to pond development due to soil seepage and other concerns need to be addressed.

17	
Stand Location	Compartment 280: Stand Nos. 1, 6, 9, 10, 12, 15; Compartment 281: Stand Nos. 2, 7, 8, 15, 16, 20, 26, 31, 34, 38, 47; Compartment 282: Stand Nos. 3, 7, 9, 12, 13, 16, 20, 22, 29, 31, 33, 36, 38, 40, 44, 46 – 50, 54, 60, 63, 64, 66, 68, 72 – 75, 77, 79 – 81; Compartment 283: Stand Nos. 1, 4, 5, 7, 9, 11, 14, 22, 27, 29, 31 – 33, 35, 38, 40, 42, 44, 46, 54, 55, 57, 59, 61, 70, 73, 75, 79, 81; Compartment 284: Stand Nos. 6, 9, 10, 12, 17, 20, 21, 26 – 29, 31 – 33,

	37 – 41, 45, 48, 51, 53, 55, 57; Compartment 285: 6, 12, 22, 24, 26, 31, 35, 37, 40, 41; Compartment 286: Stand Nos. 1, 5, 8, 12, 16, 25 – 27, 29, 30, 32, 35, 39; Compartment 287: Stand Nos. 2, 3, 5, 6, 10, 14, 17, 18, 24, 29, 31, 38, 40, 41, 47, 48, 53, 55 – 58, 60, 63, 66, 72, 73, 77, 78; Compartment 288: Stand Nos. 1, 7, 12, 14, 15, 17, 20, 28, 29, 38, 43, 45, 48; Compartment 300: Stand Nos. 3, 8 – 10, 15, 220, 24, 27, 31, 33, 39, 44, 46 – 48, 51 – 53, 57, 58, 62, 67 – 69, 84, 85, 89, 91
Parent Material	Cherty sandstone and dolomite residuum
Geographic Setting	Moderately steep to very steep south and west facing side slopes with deep soils.
Aspect	121 degrees to 329 degree azimuth
Slope	9 – 35
Soils	Primarily Captina, Clarksville, Coulstone, Macedonia , Midco, and Wilderness. Other soils also present include Ashton, Claiborne, Doniphan, Newark, Poynor, and Secesh.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations increase with increasing slope.
Management Considerations	Resource disturbance can be minimized by avoiding machine fire trails during periods of wet soil conditions. Limitations to pond development due to soil seepage and other concerns need to be addressed. Erosion hazard is intermediate to high.

ELT Type	**Table 6 con't: ELT Characteristics**
18	
Stand Location	Compartment 280: Stand Nos. 2, 8, 11, 13, 16, 18, 19, 23; Compartment 281: Stand Nos. 4, 10, 13, 21, 23, 27, 28, 30, 35, 48, 50, 51; Compartment 282: Stand Nos. 4, 5, 8, 10, 15, 17, 21, 23, 28, 32, 34, 37, 39, 42, 55, 58, 61, 65, 67, 69, 76, 78; Compartment 283: Stand Nos. 3, 6, 8, 10, 12, 13, 15, 16, 19 -21, 25, 26, 28, 30, 34, 36, 39, 41, 47, 48, 56, 58, 60, 63, 66, 67, 69, 71, 72, 74, 76, 80, 82; Compartment 284: Stand Nos. 1, 15, 19, 25, 30, 35, 44, 46, 47, 49, 52, 54, 56; Compartment 285: Stand Nos. 7, 10, 15, 20, 25, 29, 32, 38; Compartment 286: Stand Nos. 3, 7, 10, 13, 15, 18 – 20, 31, 33, 37; Compartment 287: Stand Nos. 8, 12, 13, 15, 22, 28, 30, 33, 36, 37, 62, 65, 69, 71, 74; Compartment 288: Stand Nos. 1, 5, 6, 8, 16, 18, 19, 22 – 25, 27, 31 – 37, 39, 41, 42, 44; Compartment 300: Stand Nos. 7, 11, 14, 17 – 19, 21, 32, 40, 41, 50, 56, 59, 60, 96
Parent Material	Cherty sandstone and dolomimte residuum
Geographic Setting	Moderately steep to very steep north and east facing slopes with deep soils.
Aspect	330 degree to 120 degree azimuth
Slope	9 – 23 percents
Soils	Primarily Captina, Clarksville, Coulstone, Macedonia, Midco, and Wilderness. Other soils present also include Ashton, Doniphan, Poynor, and Secesh.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations increase with increasing slope.
Management Considerations	Limitations to pond development due to soil seepage and other concerns need to be addressed. Erosion hazard is intermediate to high.

ELT Type	Table 6 con't: ELT Characteristics
Undefined	
Stand Location	Compartment 281: Stand Nos. 17, 18, 41; Compartment 282: Stand Nos. 19, 27; Compartment 283: Stand Nos. 37, 83; Compartment 287: Stand Nos. 45, 80, 81
Parent Material	Cherty sandstone and dolomimte residuum
Geographic Setting	Variable settings.
Aspect	Not defined
Slope	Not defined
Soils	Primarily Captina, Clarksville, Coulstone, Macedonia and Midco. Ashton, and Doniphan present in minor amounts.
Erosion Hazard & Equipment Limitation	Erosion hazard and equipment limitations increase with increasing slope.
Management Considerations	Limitations to pond development due to soil seepage and other concerns need to be addressed. Erosion hazard is intermediate to high.

Stands in Compartments are broken down into three classes by percent slope. Slope percentage becomes significant in considering erosion hazard and equipment limitations. Slope classes are as follows: 0 – 14 percent – gentle; 15 – 34 percent – moderate; > = 35. All stands over 35 percent in slope are in ELT 17 or 18 and have the greatest potential for erosion.

Table – Slope Characteristics

Slope 0 – 14 percent	Characteristics
Stand Location	Compartment 280: Stand Nos. 1 – 3, 5, 6, 8, 16, 18 – 23, 25; Compartment 281: Stand Nos. 2, 36, 38; Compartment 282: Stand Nos. 2, 3, 6, 11, 13, 20, 22 – 24, 28, 34, 35, 38, 41, 43, 46, 48, 61, 63 – 65, 67, 68; 70, 72 – 75, 82; Compartment 283: Stand Nos. 2, 8, 9, 12, 15, 16, 23, 25, 26, 31 – 36, 43 – 45, 48, 51, 54 – 56, 62, 65 – 67, 72, 73, 76 – 78; Compartment 284: Stand Nos. 1, 6, 9, 10, 12, 15, 17, 19, 24, 25, 27, 28, 31, 34, 38, 40, 41, 48, 49, 52, 54 – 56; Compartment 285: Stand Nos. 6, 12, 25, 26; Compartment 286: Stand Nos. 1 -4, 6, 8, 11 – 16, 18, 20, 22, 24, 26, 31 – 36, 38, 40 – 42; Compartment 287: Stand Nos.1 – 6, 8, 14 – 16, 38, 40, 41, 47, 55, 65, 66, 69, 74, 78; Compartment 288: Stand Nos.1, 2, 6, 8, 11, 13 – 15, 18, 21 – 25, 27 – 29, 31 – 34, 36 – 45, 47 – 51; Compartment 300: Stand Nos. 1 – 7, 9, 12, 16, 18 – 29, 31 – 34, 37 – 46, 48 – 54, 56 – 59, 83, 86, 87, 89, 91 - 95
ELT	Nearly all ELT represented here.
Soils Type	Nearly all soils are represented here.
Erosion Hazard	Slight erosion hazard and equipment limitation for all soils with high detachability

Slope 0 – 14 percent	Characteristics
& Equipment Limitation	indices. Medium to high erosion hazard for soils with fragipans in dry weather and high hazard in moist conditions. Slight to medium equipment limitation for these soils in dry weather and high to severe limitations in moist conditions.
Management Considerations	Some soils have fragipans (Captina, Viraton, Wilderness) in the profile and perched water tables. Some soils here do have high detachability indices (> 0.40) indicating a medium to high erosion hazard even on gentle slopes.

Table – Slope Characteristics

Slope 15 – 34 percent	Characteristics
Stand Location	Compartment 281: Stand Nos. 7, 8, 10, 13, 15, 16, 20, 21, 26 – 28, 32, 34, 35; Compartment 282: Stand Nos. 4, 5, 7 – 10, 12, 15 – 17, 21, 29, 31 – 33, 36, 37, 39, 40, 42, 44, 49, 50, 54, 55, 58, 60, 66, 69, 76 – 81; Compartment 283: Stand Nos.1, 3 – 7, 10, 11, 13, 14, 19 – 22, 27 – 30, 38 – 42, 46, 47, 57 – 61, 63, 69 – 71, 74, 75, 79 – 81; Compartment 284: Stand Nos. 20, 21, 26, 29, 30, 32, 33, 37, 44 – 46, 51, 53, 57; Compartment 285: Stand Nos.7, 10, 20, 22, 24, 29, 31, 32, 35, 37, 38, 40, 41; Compartment 286: Stand Nos.5, 7, 10, 19, 25, 27, 29, 30, 37, 39; Compartment 287: Stand Nos.10, 12, 17, 22, 24, 30, 31, 33, 36, 37, 48, 53, 56, 60, 62, 72, 73, 77; Compartment 288: Stand Nos.4, 5, 7, 12, 16, 17, 19, 20, 35; Compartment 300: Stand Nos. 10, 11, 14, 15, 17, 47, 84, 96
ELT	ELT 17 & 18
Soils Type	Primarily Captina, Clarksville, Coulstone, Macedonia , Midco, and Wilderness. Other soils also present include Ashton, Claiborne, Doniphan, Newark, Poynor, and Secesh.
Erosion Hazard & Equipment Limitation	Intermediate erosion hazard and equipment limitation for all soils with high detachability indices. Medium to high erosion hazard for soils with fragipans in dry weather and high hazard in moist conditions. Slight to medium equipment limitation for these soils in dry weather and high to severe limitations in moist conditions.
Management Considerations	Some soils have fragipans in the profile (Captina and Wilderness) and perched water tables. Some soils here do have high detachability indices (> 0.40) indicating a medium to high erosion hazard even on gentle slopes.

Table – Slope Characteristics

Slope > or = to 35 percent	Characteristics
Stand Location	Compartment 281: Stand Nos. 4, 23, 31; Compartment 285: Stand No. 15; Compartment 287: Stand No. 28, 29, 63
ELT	ELT 17 & 18
Soils Type	Primarily Captina, Clarksville, Coulstone. Other soils present in minor amounts.
Erosion Hazard & Equipment Limitation	Soils have medium to high equipment limitation for these soils in dry weather and high to severe limitations in moist conditions.
Management Considerations	Soils at this slope class will have a high erosion hazard

Table – Slope Characteristics

Slope unclassified	Characteristics
Stand Location	Compartment 280: Stand Nos. 4, 7, 9 – 15, 17, 24, 26, 27; Compartment 281: Stand Nos. 1, 3, 5, 6, 9, 11, 12, 14, 17 – 19, 22, 24, 25, 29, 30, 33, 37, 39 – 51; Compartment 282: Stand Nos.1, 14, 18, 19, 25 – 27, 30, 45, 47, 51 – 53, 56, 57, 59, 62, 71; Compartment 283: Stand Nos.17, 18, 24, 37, 49, 50, 52, 53, 64, 68, 82, 83; Compartment 284: Stand Nos.2 – 5, 7, 8, 11, 13, 14, 16, 18, 22, 23, 35, 36, 39, 42, 43, 47, 50; Compartment 285: Stand Nos. 1 – 5, 8, 9, 11, 13, 14, 16 – 19, 21, 23, 27, 28, 30, 33, 34, 36, 39, 42, 43; Compartment 286: Stand Nos. 9, 17, 21, 23, 28, 43; Compartment 287: 7, 9, 11, 13, 18 – 21, 23, 25 – 27, 32, 34, 35, 39, 42 – 46, 49 – 52, 54, 57 – 59, 61, 64, 67, 68, 70, 71, 75, 76, 79 – 81; Compartment 288: Stand Nos. 3, 9, 10, 30, 46; Compartment 300: Stand Nos. 8, 13, 30, 35, 36, 55, 85, 88, 90
ELT	Mainly ELT's 3, 4, 5, 6, 11, 14, 15
Soils Type	Nearly all soils represented
Erosion Hazard & Equipment Limitation	Most of the stands with unclassified slopes have ELT's occurring on flats or ridges with gentle slopes. Erosion and equipment limitations would generally be slight, however, some soils with high detachability indices could have moderate to high erosion hazards even on gentle slopes.
Management Considerations	Some soils have fragipans in the profile and perched water tables. Some soils here (Captina, Wilderness) do have high detachability indices (> 0.40) indicating a medium to high erosion hazard even on gentle slopes.