



TIMBER SALE PRESCRIPTION

GENERAL

Date 08/01/2011	Forest, Mineral and Fire Management Unit Naubinway
Timber Sale Number (if applicable) 45-???-11-01	Sale Name (or prescription name) Naubinway Hardwood Site Test A & C

LOCAL CONTACT

Name Don Kuhr	Telephone (906) 341 - 2518
Email Address kuhrd@michigan.com	FAX () -

Map of Project Area Attached

LEGAL DESCRIPTION

T42N R6W Section(s) 2 Description SW

Year of Entry: 2011 Compartment(s): 103 Stand Number(s): 15

THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE

Estimated Acres: 38.2 Source: OI GPS Other _____

Payment will be made on the basis of these estimated acres.

TREATMENT & OBJECTIVE

STAND #	COVER TYPE	ACRES	BA	TREATMENT	MANAGEMENT OBJECTIVE
15	M6	38	78.5	Selection	Northern Hardwoods

PRESCRIPTION

- Initial BA ranges from 50 to 110 BA with an average of 78.5.
- Marked to 57.5 sq. BA.
-
-
-
-
-
-

Access Burma Rd

DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK	ESTIMATED DATE
Plot establishment	9/15/11

CONTRACT WORK CAN BEGIN

Immediately Date: September 15, 2011

CONTRACT WORK MUST BE COMPLETED BY November 15, 2011

PAINT LINE WORK

This is included in the bid This is not included in the bid

Paint line work to be performed: (See attached map for locations)

TYPE OF LINE	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR	
Private boundary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Blue	<input type="checkbox"/> Other:
Sale boundary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Red	<input type="checkbox"/> Other:
Sale cutting unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Stand type line	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Other:

Exclusions to mark and why

Standards for marking lines against private land

AREA CALCULATION

This is included in the bid This is not included in the bid

UNIT	METHOD	STANDARD
Sale	<input type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Payment Unit	<input type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Stand	<input type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	

Special Instructions:

TIMBER CRUISING SPECIFICATIONS

This is included in the bid This is not included in the bid

Required Basal Area Factor: 10 20 Other: 5

Cruise Line Directions The plots are currently being established. The plot locations and numbering will be provided by the DNR.

CRUISING UNITS	NUMBER OF PLOTS PER ACRE	SPACING (CHAINS)
North Twenty - Test C	1	N/a X N/a
South Twenty - Test A	1	N/a X N/a
		X
		X
TOTAL NUMBER OF CRUISE POINTS	40	

Cruise Special Instructions:

Temporary plots have been established. The test measurement can't be done by the same person or persons that established the plots. Plot center is a wooden stake or PVC pipe sticking out at least 4" above the ground, flagged, painted, numbered and easy to see. Additional flagging has been placed overhead so the plot may be easily located. All trees, whether 'marked', 'marked & sub-sample' or 'leave', that are 'in' using a Limiting Distance Table with a Basal Area Factor of 5, have been marked and numbered. Marking consists of a horizontal line (about 6") at dbh and a tree number anywhere on the tree, but clearly visible from plot center. Tree numbers start at 1 for each plot.

Azimuth and distance to the center of the tree at the base from the plot center have been recorded along with species. This information will be provided to you by the DNR in an Excel format. When trees are near the edge of the stand, the 'walkthrough' method (Ducey et al 2004) was used to determine 'in' trees. Trees 'in' from the 'walkthrough' method have been counted twice, have two numbers painted on the tree and are listed twice on the Excel spreadsheet.

Using the tree data in the spreadsheet, cruise each tree on the plot according to the following procedure. An example of the data and tally card is shown on page 5. The entire spreadsheet will be emailed to the winning bidder. Note that Test C requires additional measurements on the 'sub-sample' trees.

DBH: Measure Diameter at Breast Height (DBH) in the location marked on each tree. Round down to the nearest 10th. Use a d-tape, or the average of a caliper where two measurements are taken at 90°.

H_S(1'): Record H_S(1') for all trees with DBH ≥ 9.1". Measure height for the sawtimber portion of the tree in feet to a 9" Diameter Outside Bark (DOB) or to the sawlog stopper, which is a lower point on the tree (see Product Standards and Cruising Manual). Round down to the nearest 1'. Minimum recordable height is 9' (considers a 1' stump). Record heights less than 9' as 0'. This may occur on a tree with no 8' minimum log (9.1" tree with a fork at 6') or has no quality (9.1" tree with branches all the way to the ground). Use a Wheeler Pentaprism®, Laser Ace®, Gator Eyes® or similar device to determine the 9" location on the stem and a clinometer, Relaskop, Laser Ace® or similar device to determine H_S.

L_{DS}: If a sub-portion of the stem is defective between H_S and the stump, record the total cumulative length of defect to the nearest 1'. This may be in one section or multiple sections, but is recorded as one number. If in multiple sections, add the sections together and record one number. The minimum length for a sawlog is 8'. There is no maximum length. See Product Standards and Cruising Manual for information on deduct.

L_{DSR}: If a portion of L_{DS} is recoverable as pulpwood, record the length of deduct that is recoverable to the nearest 1'. The minimum length for recoverable pulpwood is 8'. There is no maximum length. For example, if there is a (H_S =)30' sawlog section in a tree with a 10' section in the middle that is defective (L_{DS} = 10'), 9' of which could be a pulp log, then L_{DSR} = 9'.

H₄(1'): Record H₄(1') for all trees with DBH ≥ 4.6". Measure height of the tree in feet to a 4" Diameter Outside Bark (DOB) regardless of merchantability. Round down to the nearest 1'. This can be, but is not necessarily the merchantable height. Record height to a 4" DOB regardless of the location of the pulpwood stopper (denoted as H_p). Use a Wheeler Pentaprism®, Laser Ace®, Gator Eyes® or similar device to determine the 4" location on the stem and use a clinometer, Relaskop, Laser Ace® or similar device to determine H₄.

H_p(1'): If the limit of pulpwood merchantability is lower on the tree than H₄, record H_p(1'), the height to a pulpwood stopper (See Product Standards and Cruising Manual); otherwise record H_p as H₄. The minimum recordable height for H_p is 9' (considers a 1' stump). If the tree does not contain at least one 8' pulp log, record H_p = 0. Use a clinometer, Relaskop, Laser Ace® or similar device to determine H_p.

L_{D4}: If a sub-portion of the stem is defective between H_S and H₄ (or H_p, if H₄ ≠ H_p) or between H_p and the stump when H_S = 0, record the total cumulative length of defect to the nearest 1'. This may be in one section or multiple sections, but is recorded as one number. If in multiple sections, add the sections together and record one number. The minimum length for pulpwood is 8'. There is no maximum length. See Product Standards and Cruising Manual for information on deduct.

In addition to the tree measurements, you must track your time conducting this test. If you are using a portable data recorder, this could be used for time tracking. Time starts when you leave your truck to begin measurement and ends when you return to your truck. If you take breaks or

lunch in the woods, then stop your time at the beginning of each break and start when you resume work. This is an important attribute of our test so it is important that you remember to start and stop your time appropriately.

TEST C ONLY

Sub-sample trees on each plot have been painted with a different colored number, e.g. tree #102, tree #705, etc. These are the sub-sample trees. The sub-sample trees will require 3 additional measurements: DFH, H1' and H_c1'.

DFH is the diameter at form-class height (17.3') measured to the nearest 0.1" using a Wheeler Pentaprism®, Laser Ace®, Gator Eyes® or similar device. The location, i.e. 17.3', would be determined using a clinometer, Relaskop, Laser Ace® or similar device. If the H₄1' height is less than 17.3', then record zero.

H1' is the total height of a tree measured to the nearest 1' using a clinometer, Relaskop, Laser Ace® or similar device.

H_c1' is the height at the base of the (merchantable) crown (where the base of the first merchantable branch occurs) to the nearest 1' using a clinometer, Relaskop, Laser Ace® or similar device. If there is no merchantable branch, then record zero. A fork is considered a merchantable branch. The main stem would be considered the stem with the most value.

Tally sheets or an electronic data recorder will be provided by the contractor. The final product to the DNR will be in Excel, a hardcopy map and GPS plot locations.

TIMBER MARKING SPECIFICATIONS

- This is included in the bid This is not included in the bid
- Precise specifications to be delineated at pre-work meeting with DNR staff

Total Merchantable Residual BA (Basal Area): _____ (Minimum _____ to Maximum _____)

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre			
Girdled Trees Per Acre			
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs			
Sawbolts			
Pulpwood			

TYPE OF WORK	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR
Trees marked to leave	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Orange <input type="checkbox"/> Other

TALLY INTENSITIES

SPECIES / PRODUCT	RATIO
	1 :
	1 :
	1 :
	1 :

SPECIAL MARKING INSTRUCTIONS

RESTRICTIONS

1. Forest Management Division must be able to identify who did what on the timber sale.
2. This work is to be performed by one person.

PAINT

1. None needed.

DELIVERABLES

1. The name of the person that did the cruising.
2. Tally from each plot in the Excel spreadsheet provided by the DNR.

Plot #	Tree #	Species	Status	Azimuth	Dist.	TEST A & C							TEST C ONLY		
						DBH	H _s 1'	L _{DS}	L _{DSR}	H _p 1'	H ₄ 1'	L _{D4}	DFH	H1'	H _c 1'
1	1	SM	Cut	36	19.2								-	-	-
1	2	SM	Leave	52	22.8		-	-	-	-	-	-	-	-	-
1	3	SM	Cut-Sub	59	18.3										
1	4	SM	C	82	38.4								-	-	-
1	5	SM	C	103	31.4								-	-	-
1	6	SM	L	164	33.8		-	-	-	-	-	-	-	-	-
1	7	SM	L	168	18.6		-	-	-	-	-	-	-	-	-
1	8	SM	C-S 126	180	27.8										
1	9	SM	L	210	20.1		-	-	-	-	-	-	-	-	-
1	10	SM	L	215	30.9		-	-	-	-	-	-	-	-	-
1	11	SM	L	290	39.2		-	-	-	-	-	-	-	-	-
1	12	SM	C	299	34.5								-	-	-
1	13	SM	C	305	17.3								-	-	-
1	14	SM	C-S 700	340	18								-	-	-
1	15	SM	C	350	24								-	-	-
2	1	SM	C	16	36.4								-	-	-
2	2	SM	C	48	6.2								-	-	-
2	3	SM	L	100	30.4		-	-	-	-	-	-	-	-	-
2	4	SM	L	117	12.4		-	-	-	-	-	-	-	-	-
2	5	SM	C-S 216	118	31										
2	6	SM	L	165	10.8		-	-	-	-	-	-	-	-	-
2	7	SM	L	165	23.9		-	-	-	-	-	-	-	-	-
2	8	SM	L	190	27.1		-	-	-	-	-	-	-	-	-
2	9	SM	C	199	39.8								-	-	-
2	10	SM	C	215	20.7								-	-	-
2	11	SM	C-S 702	229	36.1										
2	12	SM	C	264	30.8								-	-	-
2	13	SM	C	323	31.6								-	-	-
2	14	SM	L	349	37.3		-	-	-	-	-	-	-	-	-
2	15	SM	L	351	22.5		-	-	-	-	-	-	-	-	-