## TIMBER SALE PRESCRIPTION

GENERAL									
Date Forest, Mineral and Fire Management Unit							ement Unit		
08/01/2011					Naubinway				
Timber Sale Number (if applicable)				Sale Name (or prescription name)					
45-101-11-01				Gravy Pine AKA Red Pine Measurement Block Test A					
			CONTACT						
Name					Telephone				
Don Kuhr					(906) 341-2518	3			
Email Address					FAX				
kuhrd@michig	an.gov				( )	-			
⊠ Map of Pro	⊠ Map of Project Area Attached								
	LEGAL DESCRIPTION								
T42N R6W	Section(s) 1	Descriptio	n						
Year of Entry:	2011 Compa	rtment(s):	103 Stand N	umber(s	): 27				
	THIS	TIMBER S	ALE CONTRA	CT IS BA	SED ON THE	FOLLOWING	ACREAGE		
Estimated Acre	es: 40 Sour	ce: 🗌 OI	🖾 GPS	🗌 Othe	٩r				
Payment will be r	nade on the basis	s of these es			& OBJECTIVE				
STAND #	COVER TYPE	ACRES	BA				MANAGEMENT OBJECTIVE		
							MANAGEMENT OBJECTIVE		
27	R9	40	130	Final	Harvest	Red Pine			
				DRESCI	RIPTION				
1. The cov	er is RP.			PRESCI	<b>XIPTION</b>				
		mated fo	or harvest.	In ad	dition, the	re are a f	ew white pine, white spruce		
	er birch.								
3.									
	4.								
5.									
6. 7.									
8.									
Access Town Line Rd.									
DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK ESTIMATED DATE									
N/A									
	CONTRACT WORK CAN BEGIN								
Immediately Date:									
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			🗌 Blue	Other:				
Sale boundary			Red	Other:				
Sale cutting unit			Yellow	Other:				
Stand type line				Other:				
Exclusions to mark and why								
Standards for marking lines aga	ainst private l	and						
		AREA CALCUL	ΔΤΙΟΝ					
This is included in the bid	$\boxtimes$ This is no	t included in the	e bid					
UNIT METHOD				STANDARD	STANDARD			
Sale GPS	GPS String Chain Other							
Payment Unit GPS	GPS String Chain Other							
Stand GPS	String Cha	in Other						
Special Instructions:								
	TIMB	ER CRUISING SP	ECIFICATIONS					
This is included in the bid 🛛 🗌 This is not included in the bid								
Required Basal Area Factor: 🛛 10 🗌 20 🗌 Other:								
<b>Cruise Line Directions</b> The plots have already been established. The plot locations and numbering is								
shown on page 4.								
CRUISING UNITS NUMBER OF PLOTS PER ACRE SPACING (CHAINS)								
East Forty		1		N/A X N/A				
				X				
				X				
TOTAL NUMBER OF CRUISE	POINTS	4	)					

## Cruise Special Instructions:

Temporary plots have been established. The test measurement can't be done by the same people that set up the plots. Plot center is a wooden stake 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 'cut' or 'leave', which are 'in' using a Limiting Distance Table with a Basal Area Factor of 10 have been marked. 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 6. The entire spreadsheet will be emailed to the winning bidder.

DBH: Measure Diameter at Breast Height (DBH) in the location marked on each tree. Round down to the nearest 10<sup>th</sup>. 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  $\geq 9.1''$ . 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  $L_{DSR} = 9'$ .

 $H_4(1')$ : Record  $H_4(1')$  for all trees with DBH  $\geq 4.6''$ . 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  $H_4$ .

 $H_p(1')$ : If the limit of pulpwood merchantability is lower on the tree than  $H_4$ , record  $H_p(1')$ , the height to a pulpwood stopper (See Product Standards and Cruising Manual); otherwise record  $H_p$  as  $H_4$ . 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  $H_4$  (or  $H_P$ , if  $H_4 \neq H_P$ ) 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.

Tally sheets will be provided by the DNR. Output from an electronic data recorder is acceptable.

	TIMBER MARKING	SPECIFICATIONS					
This is included in the bic							
Precise specifications to	be delineated at pre-work me	eeting with DNR staff					
Total Merchantable Residual	I BA (Basal Area): (M	linimum to Maximum	)				
TREAT	MENT	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			Green Other				
Trees marked to cut			Orange Other				
	TALLY IN	TENSITIES					
SPECIES /	PRODUCT	RATIO					
		1 :					
		1 :					
		1 :					
		1 :					
SPECIAL MARKING INSTRU	CTIONS						
Unless otherwise specified, the ta	ally sheets used must be those pr	ovided by the Forest Manageme	nt Unit.				
RESTRICTIONS							

- Forest Management Division must to be able to identify who did what on the timber sale.
  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.

su. FEar per l Ø 5 ? 

Plot #	Tree #	Species	Azimuth	Dist.	DBH	H <sub>s</sub> 1'	L <sub>DS</sub>	L <sub>DSR</sub>	H <sub>P</sub> 1'	H <sub>4</sub> 1'	L <sub>D4</sub>
1	1	RP	36	19.2							
1	2	RP	52	22.8							
1	3	RP	59	18.3							
1	4	RP	82	38.4							
1	5	RP	103	31.4							
1	6	RP	164	33.8							
1	7	RP	168	18.6							
1	8	RP	180	27.8							
1	9	RP	210	20.1							
1	10	RP	215	30.9							
1	11	RP	290	39.2							
1	12	RP	299	34.5							
1	13	RP	305	17.3							
1	14	RP	340	18							
1	15	RP	350	24							
2	1	RP	16	36.4							
2	2	RP	48	6.2							
2	3	RP	100	30.4							
2	4	RP	117	12.4							
2	5	RP	118	31							
2	6	RP	165	10.8							
2	7	RP	165	23.9							
2	8	RP	190	27.1							
2	9	RP	199	39.8							
2	10	RP	215	20.7							
2	11	RP	229	36.1							
2	12	RP	264	30.8							
2	13	RP	323	31.6							
2	14	RP	349	37.3							
2	15	RP	351	22.5							
3	1	RP	21	35.8							
3		RP	26	28.2							
3	3		63	31.9							
3	4	RP	140	23.6							
3	5	RP	160	36.5							
3	6		186	31.3							
3	7	RP	201	33							
3	8		265	32.4							
3	9	RP	296	38.4							
3	10	RP	333	40.7							