

Horse Timber Sale
Logging Feasibility Report

Notes: Due to the variability of the terrain throughout the sale, there may be the need of intermediate support trees in units not so stated in this analysis. Rigging heights are based on a particular profile and will also differ from given heights throughout each unit. Unless otherwise stated skyline yarding direction will be uphill and Ground Base skidding directions will be downhill. Helicopter yarding will be downhill unless otherwise stated. All skidding and yarding operations will have constraints within stream corridors in all units. See contract provision 6.42# for special yarding and skidding methods. All Ground based skid roads and landings must be approved prior to use. Skid roads will be placed 150' apart.

For skyline operations, a carriage with skyline clamping capability will be required. Unless otherwise stated in the unit comments the Diamond D2000, 42' boom, 7/8" skyline, 5/8 inch mainline and 1/2 inch haulback line will be used with an Acme 20 carriage for profile analysis. Skyline corridors for uphill yarding will be 150 feet apart at the farthest reach of the corridor. For downhill yarding the corridors spacing can be adjusted to be closer than 150 feet with prior approval from the Contract Officer Rep.

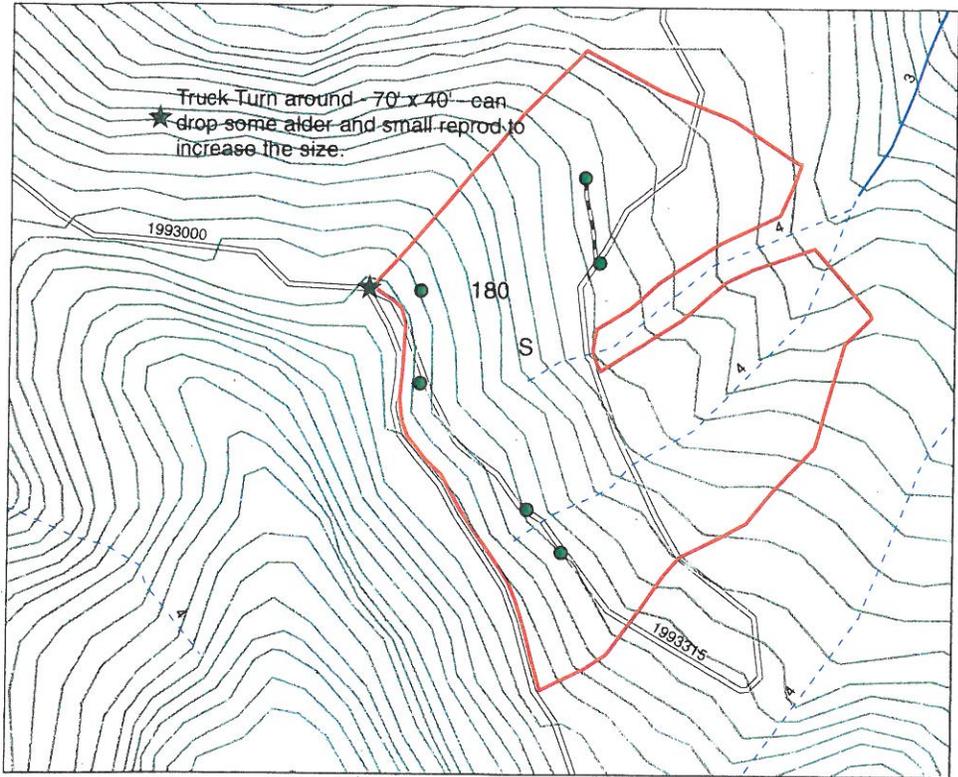
In those areas which are recommended for Ground Base systems, and which have slopes in excess of 30%, shovel operations can be considered. Each situation must be looked at and approved by the TSO with the cooperation of the zone Geologist.

Ground based equipment used for yarding is not permitted within 120 feet of class 1, 2, and 3 streams. Ground based equipment is not permitted within 50 feet of class 4 streams. In the remainder of the riparian reserve, ground based equipment is permitted.

Skyline corridors are permitted within the buffers, however all timber cut in No Harvest Buffers will be left in place. Full suspension will be required when yarding over perennial streams. Where full suspension is not obtainable over intermittent streams, partial suspension is required and limited to that period when the stream is dry.

Intermediate support tree and tail spar heights are determined in accordance to OSHA standards and guidelines.

There may be small areas along roads and near landing sites that can be harvested in a manner not specified in the logging plan. With prior approval from the TSO these areas may be harvested using alternate methods of operation.

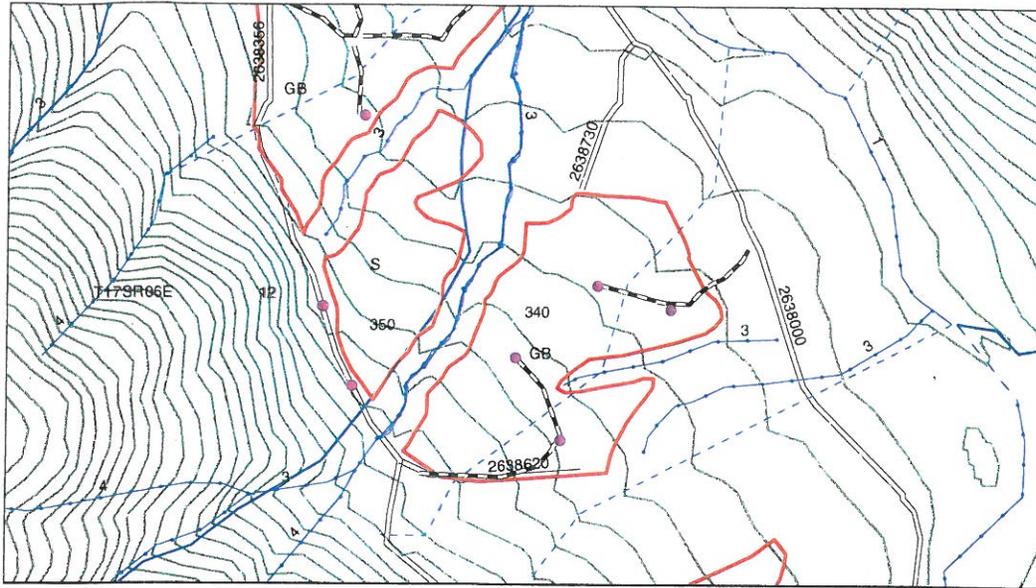


Unit No: 180 Elevation: 3300 %Slope: 10-60 Volume MBF/ac:
 Township: 16S Range: 6E Section: 30

<u>Prescribed System</u>	<u>Acres</u>
S	37

Discussion: This is a skyline yarding unit. There is a piece of ground approx 700' wide along the north boundary which butts against a younger reprod stand. The tail tree sizes along this piece inside unit #180 are currently 15" to 16" dbh. The 1993315 road which runs through the unit can be used as an alternative for yarding the lower piece of the unit, and would shorten the skyline reaches considerably. There is also a proposed 200' temp spur off the 315 road to the north which can be used if needed. The spur would shorten the reach in the north corner of the unit. The junction of the 1993 and the 315 road is of sufficient size to be used as a loaded truck turn. There are some Alder and smaller reprod that can be removed on the north side of the junction to increase the backing distance and allow for some log overhang. The "star" on the map indicates the location of the turn around.

Average yarding distance is approx 450'.



Unit No: 340 Elevation: 2600 %Slope: 10-30 Volume MBF/ac:

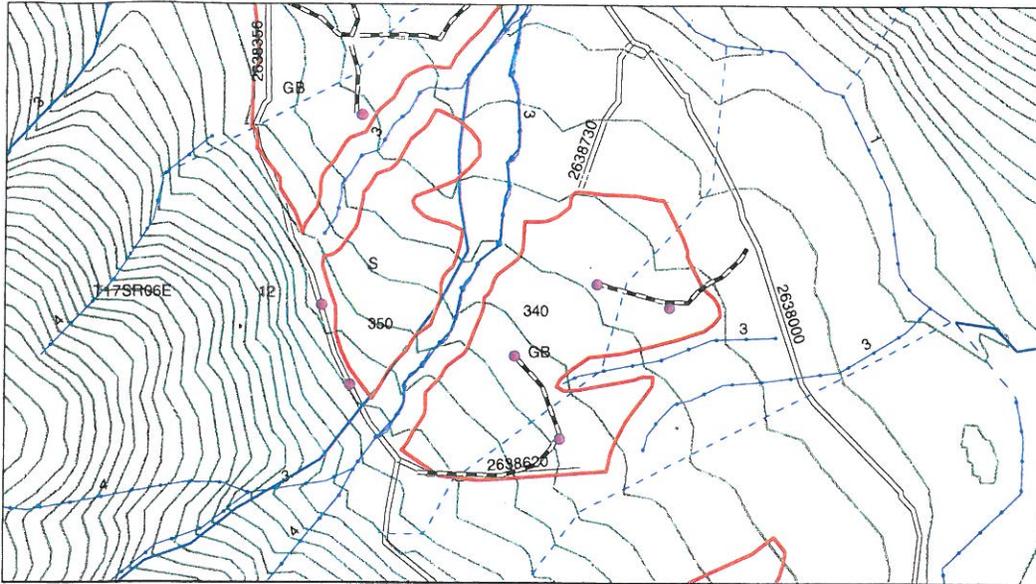
Township: 17S Range: 6E Section: 12

Thinned Canopy %: Spacing:

<u>Prescribed System</u>	<u>Acres</u>
GB	18
S	7

Discussion: There are approx 1900 feet of proposed temp spur roads in the unit. One of the spurs will come off the 2638356 road and access the western portion of the unit. The second temp spur will enter into the unit through the larger timber to the east off the 2638 road. Approx 300' of the spur will be through the larger timber. The spur through the large timber will be navigated such that the removal of the larger timber is avoided. The average skidding distance is approx 300'.

There is a piece of ground south of the class three stream which runs through the unit. The slope on this ground lends itself to ground based skidding however due to the stream and the placement of the spur the long reach on this piece is approx 800' uphill to the landing. Therefore this ground will be appraised for skyline yarding. The timber along the eastern boundary is larger, and the stand has large enough trees for intermediate supports if required. The average yarding distance is approx 350'.



Unit No: 350 Elevation: 2400 %Slope: 10-30 Volume MBF/ac:

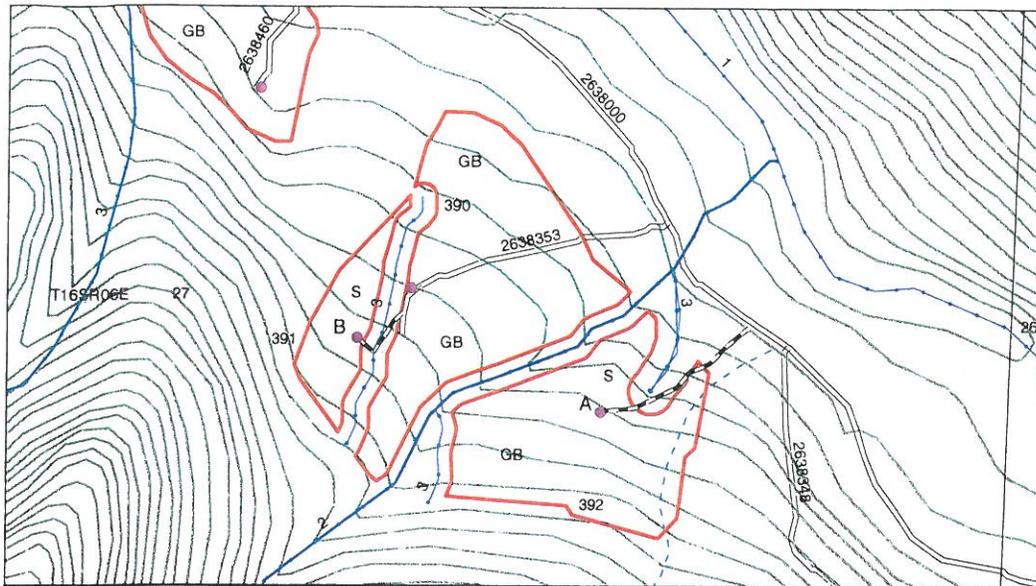
Township: 17S Range: 6E Section: 12

Thinned Canopy %: Spacing:

Prescribed System Acres

S 13

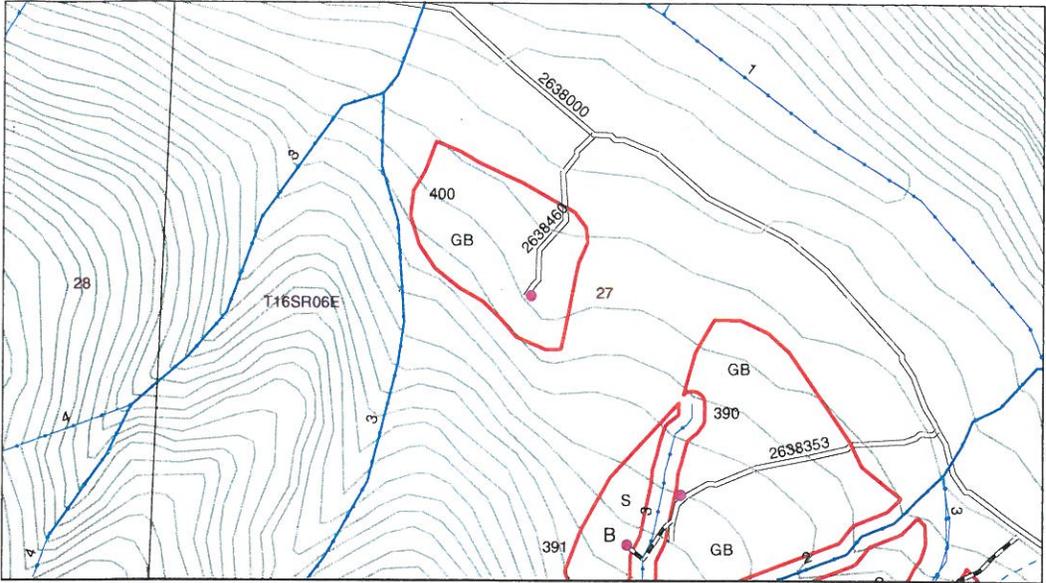
Discussion: The unit can be skyline yarded to the 2638356 road. The eastern boundary is along a large Alder patch. The long skyline reach is approx 1300'. Tail spars and intermediates are good in this unit. The average yarding distance is approx 500'.



Unit No: 390	Elevation: 2160	%Slope: 10-55	Volume MBF/ac:
Township: 16S	Range: 6E	Section: 27	
Thinned Canopy %:		Spacing:	
<u>Prescribed System</u>	<u>Acres</u>		
S	12		
GB	28		

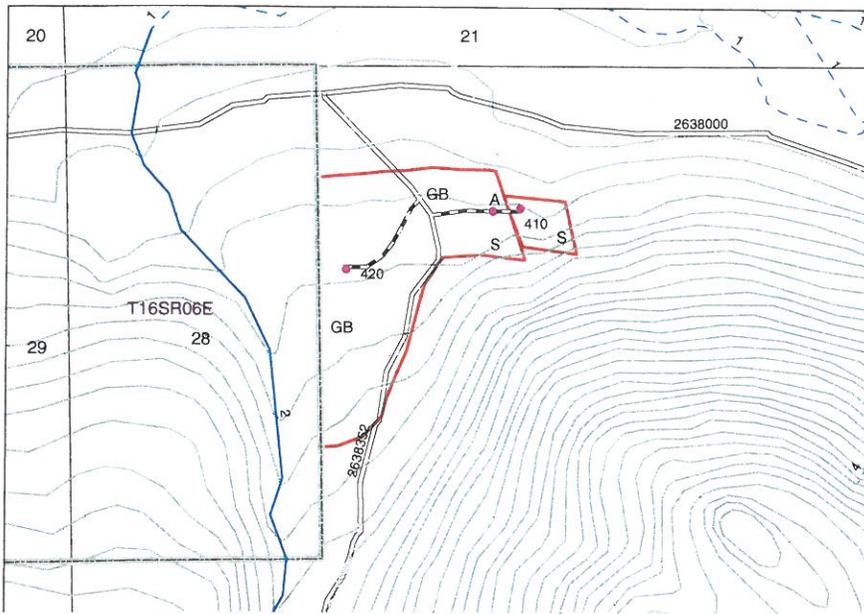
Discussion: There is 1000' proposed temp spur roads for this unit. The spur to landing "A" will require ramping down to road 2638. The grade to landing a will run up to 18-20%. There is a short 100' piece at the end of the spur to the landing which will require a small amount of cut. The ground based skidding to the south of the spur may require portions of shovel yarding. The long skid to the south is approx 750'.

The average yarding distance is approx 300'. The skyline portions of the unit will have maximum reaches of approx 750'. Average skidding distance is approx 350'.



Unit No: 400 Elevation: 2160 %Slope: 10-30 Volume MBF/ac:
 Township: 16S Range: 6E Section: 27
 Thinned Canopy %:
Prescribed System Acres
 GB 11

Discussion: Small ground based unit with a maximum skid of approx 700', averaging approx 375.



Unit No: 410 Elevation: 1900 %Slope: 10-50 Volume MBF/ac:
 Township: 16S Range: 6E Section: 28
 Thinned Canopy %: Spacing:
Prescribed System Acres
 S 3

Discussion: The unit will require downhill yarding to a single landing at the end of the proposed temp spur. The temp spur will access this unit through unit 420 with a large landing at the end of the spur. . The maximum reach is approx 400'. Average yarding distance is approx 175'. Tail spars are good in the unit. Distances between corridors can be closer with prior approval. Corridor widths may also be modified with approval. The landing area is big enough to provide for adequate run out for the yarding operations. There is an additional 50' of temp spur extending in to 410 off the spur into 420.