

Grizzly, Winter, Toolbox, Silver Helicopter Logging Assessment

9/13/02

Rick Toupin – Regional Logging Engineer

Introduction and Process:

Helicopter logging is often feasible if these conditions are met:

- Flight distances with elevation factored in are short (3000 to 4000 feet maximum) for material with marginal value.
- Service and log landings are located so that they are both large enough, and close enough to the harvest units to minimize yarding time.
- There must be sufficient wood available to be yarded so that the helicopter is utilized to capacity on every turn. The helicopter that appears to be appropriate for this salvage effort is a Vertol or S61 class machine. A Kmax will also work well for some of the project.
 - At the project elevation, the helicopter is capable of lifting about 6,500 pounds. To be feasible, it must be able to do this on nearly all of the turns.
 - In salvage operations, it is common for logs to be pulled together to make turns. You must have sufficient volume within about a 150 foot diameter circle that can be pulled together to make a 6,500 pound turn. If we were concerned with operations in green timber, the circle diameter would be 100 feet. This volume should consist of probably no more than seven pieces.
- It is not possible to yard loads over powerlines.

In order to meet these conditions, I looked at landing locations to see if their location in relation to the harvest volume would keep flight distances short. Volume estimates were available for the units although detailed unit volume was not available.

For the most part, landing location was completed by District employees. They did a very good and thorough job. In most cases I just verified what they had already completed.

I viewed the project areas with District employees. On the Winter, Toolbox, and Silver project areas, we verified the landing locations and recorded GPS points on most of them. We made sure there were sufficient log and service landings to yard the helicopter volume.

Grizzly (Cub):

Jim Ehli, Terry Spivey and I looked at possible helicopter landing locations. It looks like there are sufficient landing opportunities to successfully log with a helicopter. There is one unit (I don't know the number) where it looks like the volume is insufficient to make

turns. My advice is to not use a helicopter in those portions of the unit where it is not possible to gather a 6,500 pound turn in a 150 radius circle.

Winter, Toolbox, Silver:

Chuck Dill and Frank Puddy did a great job locating the landings.

In these project areas, We have GPS points for most of the landings. Following is a table containing landing descriptions, a table with the GPS points, and a series of maps that show the landing locations.

A landing that begins with a “L” is a log landing. One that begins with either an “S” or an “R” is a service landing.

Landings L8, L9, and L10 are above the rim. GPS points were not recorded for them and they were not visited. It is likely that they will be important log landing locations. It is also necessary to find a service landing location in their vicinity. Service landing S6 was also not GPS measured. It is adjacent to L16. Service landing S7 was also not GPS measured. These landings do not show up on the maps included in this report.

Landing	Type	Comments
S1	Service	At intersection of roads 29 and 372. Plenty of room for a service landing.
L1	Log	Located on 11 road in NE ¼ section 14. Other locations are possible along the 11 road.
L2	Log	Located on Harvey Flat on 11 road in dead timber. It is adjacent to the open flat.
S2	Service	Located on Bennett Flat.
L3	Log	Located at the end of Big Flat. NW ¼ section 27 at intersection of 12 and 349 roads. It is adjacent to the boundary of Fremont Sawmill land.
L31	Log	Log landing on road 12. This is a road landing. Many places between L3 and L31 will work to land logs.
L4	Log	Located at end of switchback on road 12. NW ¼ section 22. The landing needs to be built beyond the end of the switchback.
L5	Log	Landing in NW ¼. Needs easement through Fremont Sawmill land.
S4	Service	Located upslope from road 12 near the intersection of roads 12 and 398. Minimal construction.
L6	Log	Located on the end of the 386 spur. The road needs reconstruction.
L7	Log	Located on a bench on the 314 road. It may not be necessary if L8 is used. L7 is very important if L8 is not used.
L8	Log	Located on a point in the NW ¼ section 15 near the 314 road. Very, very important landing.
L81	Log	Not GPS'd or visited. On top of rim at the end of the 172 spur in the NW ¼ section 34.

L9	Log	Not GPS'd or visited. On top of rim at the end of the 061 spur near the section line between sections 28 and 33.
L10	Log	Not GPS'd or visited. On top of rim at the end of the 169 spur in the NW ¼ section 21.
		It is still necessary to find a service landing in the vicinity of L81, L9, and L10
L11	Log	Located at the intersection of roads 2901 and 128. N ½ section 34. Very little clearing work required.
L12	Log	Located on the bench at the switchback on 13 road NW ¼ section 33.
L13	Log	Located on I think the 115 road. The log landing should be about 500 feet closer to the rim than the GPS point. NE ¼ section 6.
S5	Service	NE ¼ section 6. It is located on a flat. There are multiple places it can be located on this flat.
S3	Service	Located on horse pasture. Important landing.
L14	Log	Located on the 210 road NW ½ section 2.
L15	Log	Located on the 15 road section 35. Powerline in area
L16	Log	The landing is located on the 12 road NE ¼ section 33.
S6	Service	Located on 12 road near L16. Not GPS measured.
L17	Log	Located on 39 road N ½ section 4.
L18	Log	Located on 29 road SW ¼ section 4.
L19	Log	Located at the end of 30 road N ½ section 6. The GPS point is not at the end of the road. The landing needs to be beyond the GPS point.
L20	Log	Located by Foster Butte on 66 road near the private boundary in the SE ¼ section 29.
S7	Service	Not GPS measured or visited. Near Foster Lake on Foster Flat. Possibly on the 33 road.
L21	Log	Located on 450 road near Foster Butte.
L23	Log	Located at the intersection of 482 and 481 roads.
L24	Log	Located above 482 road.
S8	Service	SW ¼ section 32.
L25	Log	Located near end of 013 road in NW ¼ section 32.
L26	Log	Located on 011 road in the NE ¼ section 29.
L27	Log	Located on 292 road in the SW ¼ section 2.
L28	Log	Located on road 292 in the NW ¼ section 10.
L29	Log	Located on road 016 in the SW ½ section 2.
S9	Service	Located on 016 road in the SW ½ section 2.

The following table contains GPS points for many of the landings. There are a few that were not GPS measured. The datum used was NAD 27.

Datum => NAD 27 Clarke 1866				
WayPoint				
Name		UTM Coordinates		Landing Type
L1	10T	681,485	4,731,079	Log
L11	10T	678,606	4,764,418	Log
L12	10T	676,387	4,764,676	Log
L13	10T	673,744	4,763,215	Log
L14	10T	670,232	4,762,706	Log
L15	10T	669,785	4,764,157	Log
L16	10T	667,847	4,764,524	Log
L17	10T	667,441	4,762,830	Log
L18	10T	667,264	4,761,908	Log
L19	10T	667,177	4,760,301	Log
L2	10T	681,199	4,732,366	Log
L20	10T	666,196	4,755,984	Log
L21	10T	665,446	4,754,697	Log
L23	10T	655,898	4,762,027	Log
L24	10T	656,634	4,761,470	Log
L25	10T	655,825	4,764,063	Log
L26	10T	656,508	4,765,667	Log
L27	10T	650,311	4,761,789	Log
L28	10T	650,029	4,760,786	Log
L29	10T	651,762	4,761,905	Log
L3	10T	680,008	4,737,492	Log
L31	10T	678,680	4,737,984	Log
L4	10T	678,572	4,738,614	Log
L5	10T	679,072	4,738,551	Log
L6	10T	682,276	4,732,449	Log
L7	10T	678,761	4,741,518	Log
L8	10T	678,630	4,740,173	Log
S1	10T	683,929	4,732,097	Service
S2	10T	681,214	4,734,047	Service
S3	10T	679,884	4,741,252	Service
S4	10T	680,211	4,737,226	Service
S5	10T	673,681	4,763,272	Service
R8 (S8)	10T	656,843	4,763,765	Service
S9	10T	652,234	4,761,669	Service

The following maps show the landing locations.























