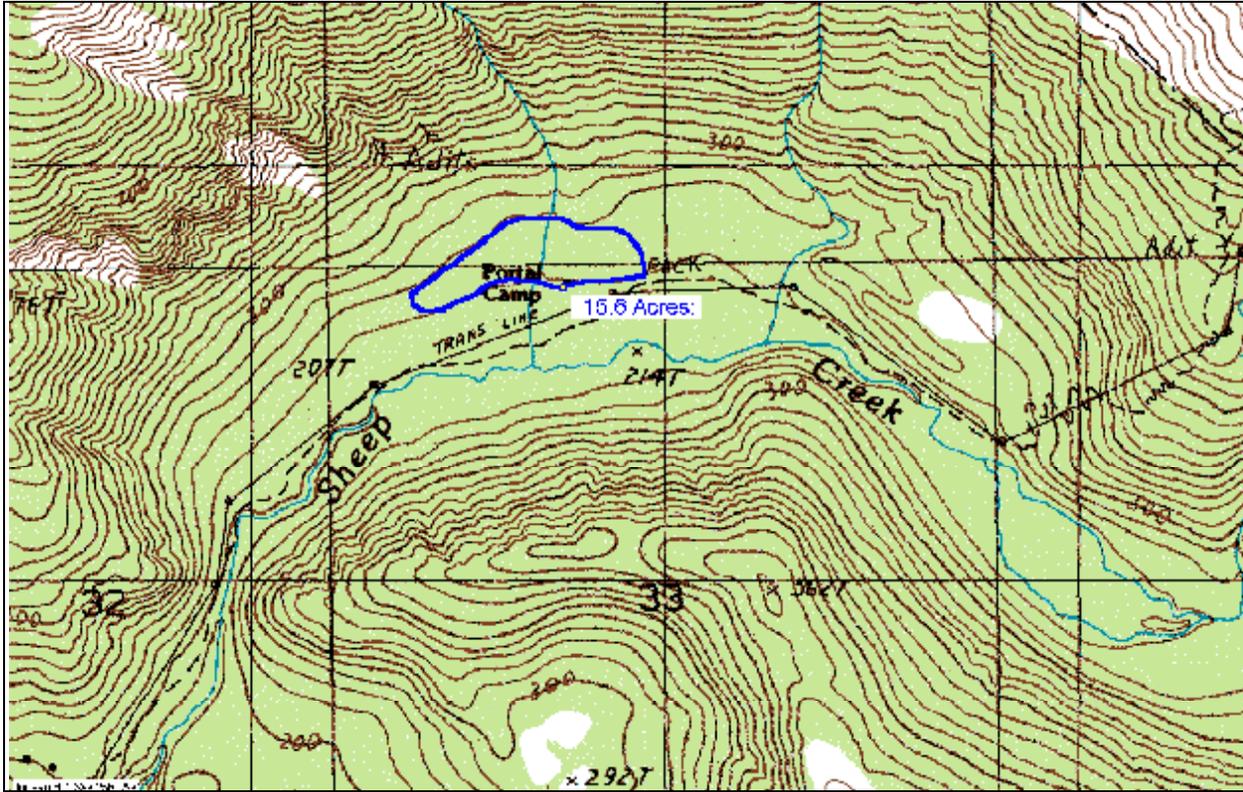


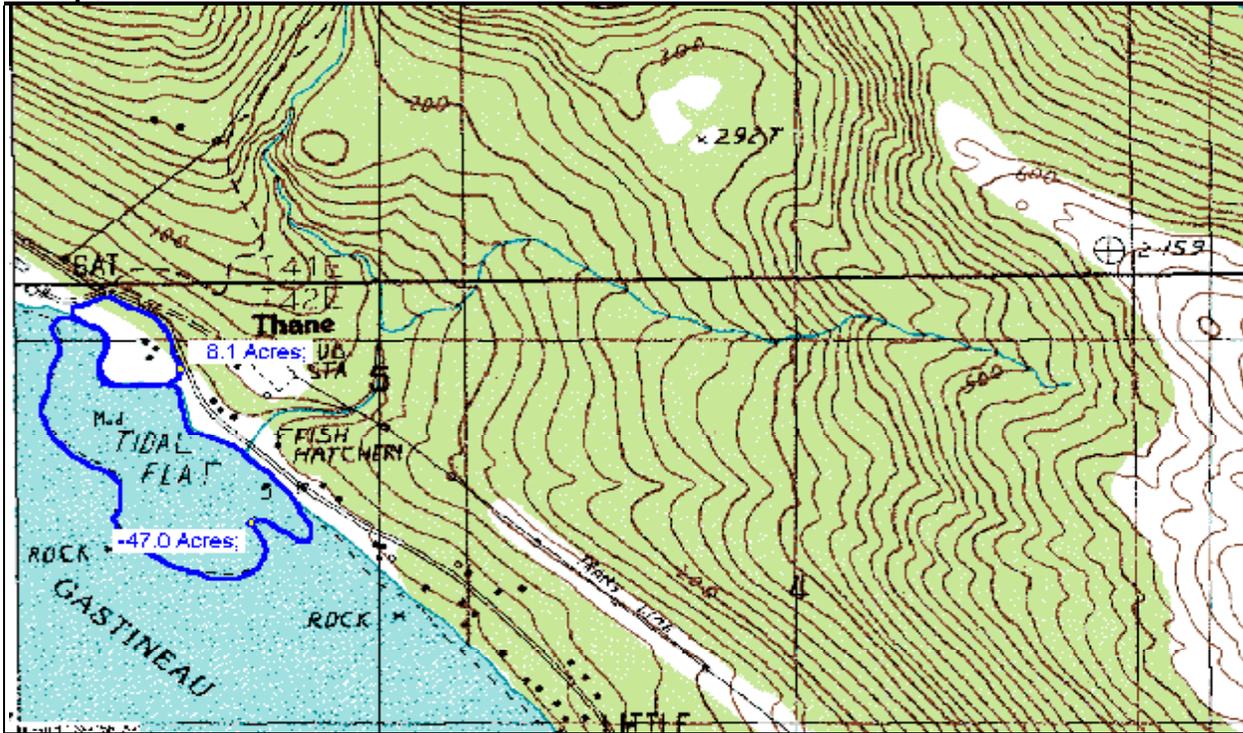
4.2 Alternate Level 4 Sites

4.2.1 Upper and Lower Sheep Creek Combined Sites



Land Ownership:	AEL&P		
Physical:	12 to 20 acre site	700' to 800' elevation	
Terrain Features:	Mine portal is on the valley floor of Sheep Creek Valley. A one-acre gravel pad is adjacent to Mine Portal and structures.		
Adjacent Terrain Features:	Sheep Creek Valley is a glacially formed hanging valley surrounded by mountain peaks ranging from 1826' to 4238'. A narrow gorge forms the mouth of the valley at 700'. The Annex Creek power line runs through Sheep Creek Valley.		
Existing Infrastructure:	Electricity	Well water	Mine warehouse & outbuildings
Access:	5.8 miles from Marine Park		34 minute drive from Marine Park
Road Description:	Thane road, a two lane-winding road without a paved shoulder, for 3.2 miles. The Mine Portal road is a narrow single lane gravel road with a steep grade and two switchbacks as it climbs up to Sheep Creek Valley.		
Type of Traffic:	Commercial traffic extends to the Sheep Creek Mine cut off. Residential traffic extends to end of road. A commercial tour operator is currently running tours utilizing the first mile of the Sheep Creek Road.		
Nearest Fire Station:	Downtown Juneau Fire Station, 6.3 miles.		

Sheep Creek Delta



Land Ownership:	AEL&P
Physical:	8.1 acres upland, 47 acres 0' to 50' elevation inter tidal
Terrain Features:	Beach front and inter tidal area. Mud flats along the south and southwest borders extend over a 47-acre area and are exposed at low tide.
Adjacent Terrain Features:	The Thane Ore House, Sheep Creek Fish Hatchery and residential areas border this area.
Existing Infrastructure:	Electricity City water and sewer to Big Rock Dump.
Access:	3.8 miles from Marine Park 9 minute drive from Marine Park
Road Description:	Thane road, a two-lane winding road without a paved shoulder.
Type of Traffic:	Commercial traffic extends to the Sheep Creek Mine cut off. Residential traffic extends to end of road.
Nearest Fire Station:	Downtown Juneau Fire Station, 4.3 miles.

Noise

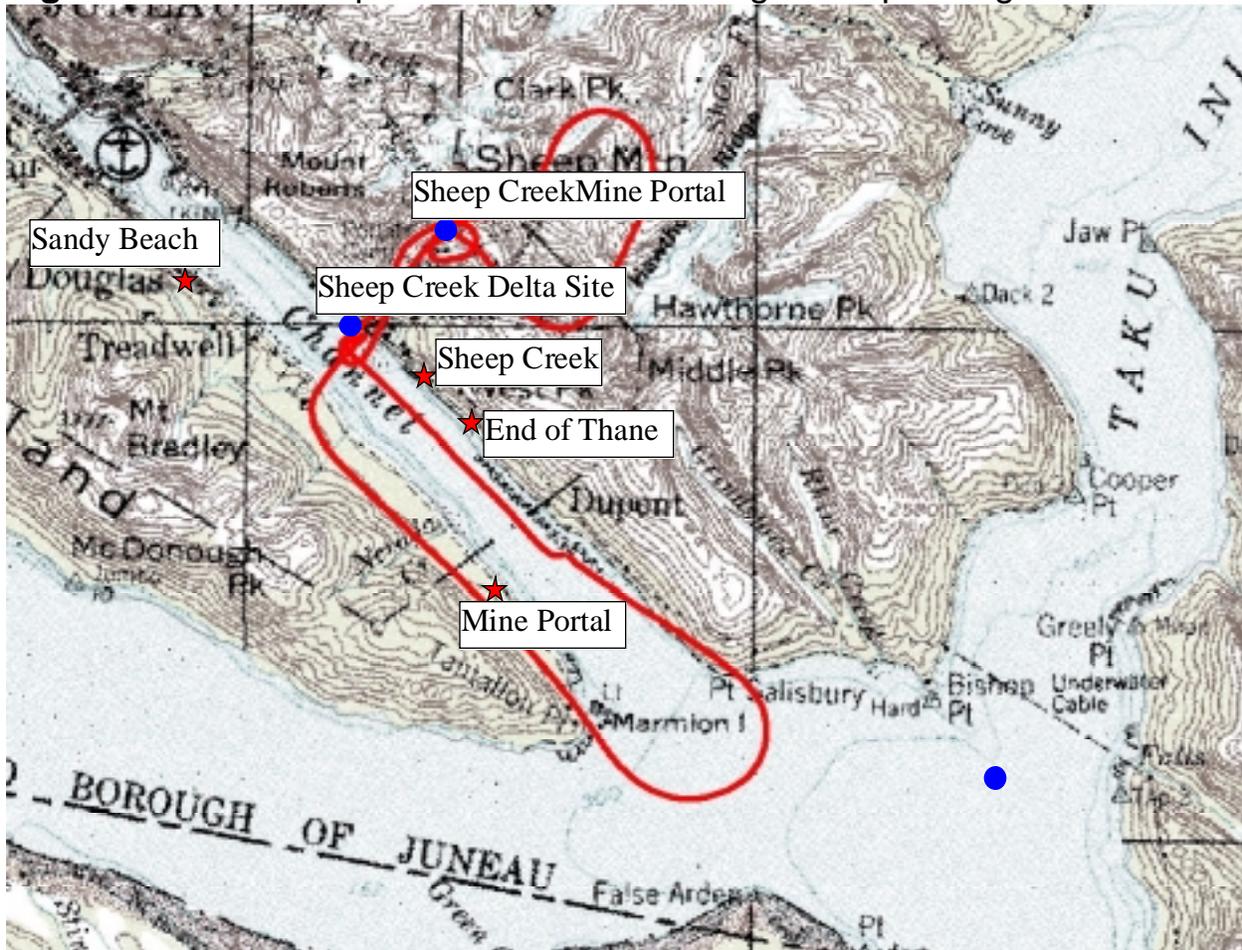
The Sheep Creek site is presented as a combination of two sites. The upper site offers excellent noise reduction benefits, but may only be used on those days when the ceiling is above 3,000 feet to allow helicopters to pass through Powerline Gulch to the northeast of the site. Sound monitoring showed that helicopter takeoffs, landings, and flights through Powerline Gulch are not audible at the Sheep Creek pull-off on Thane Road, the end of Thane Road, Lucky Me, or at Sandy Beach.

**Figure 4.2.1.3
Sheep Creek Mine Portal and Sheep Creek Delta
Flight Routes and Noise Contours**



	3000' Noise Corridors	6000' Noise Corridors
Affected Land Parcels	89	164
Affected Housing Units	49	85

Figure 4.2.1.4 Sheep Creek Noise Monitoring Helicopter Flight Route



**Table 4-2-1 Noise Measurement Results (Maximum dBA)
Sheep Creek Heliport Site**

Time	Procedure	Sandy Beach	Sheep Creek	End of Thane	Lucky Me
		S101	S102	S103	S104
12:46	Existing Procedure (Noise Abatement Down Channel Procedure and up Sheep Creek)	63	58	45	48
12:52	Depart Mine Portal to Glacier	NA	NA	NA	NA
12:55	Fly from Mine Portal to Lower Sheep Creek	50	66	NA	48
12:56	Hover and Land at Lower Sheep Creek	50	58	NA	45
12:58	Depart from Lower Sheep Creek down channel	54	56	45	49
13:00	Flying Down Channel on Douglas Side Using Noise Abatement Path	52	52	51	63

Weather records from the NOAA weather station indicate the ceiling has been above 3,000 feet at the airport about three quarters of the time for the past two summers. Ceiling conditions along ridgelines are often lower and operators have estimated the ridgelines may be crossed roughly 50 % of the time. Despite the excellent noise reduction benefits of the Sheep Creek Portal Site, as well as the existence of a road and other infrastructure, a site that eliminates 25 to 50% of an operator's flights is not feasible from an economic or safety standpoint.

The lower Sheep Creek site is small and would present increased noise for some Thane residents who live close to Sheep Creek. The way the operation of the combined sites is envisioned is that on days when the ceiling is high enough, helicopters would fly up to the upper portal site and operate from there for the remainder of the day, flying through Powerline Gulch to access the Icefield. The helicopters would return to the lower site after the last flight of the day. On days when the ceiling was too low for use of the upper site, helicopters would fly out of the lower site throughout the day and use the same route down Gastineau Channel currently being used on low weather days.

Takeoff and landings at lower Sheep Creek measured 56-58 dBA at the Sheep Creek pull-off. These levels are higher than the current levels because the helicopters are operating at a lower elevation. For all other measurement locations the noise levels are the same or lower. These activities were not audible at the end of Thane and measured 50dBA at Sandy Beach and 45-49 dBA at Luck Me. Please see Table 4.2.1 for full details. At the Sandy Beach monitoring site, the noise from operations at the lower Sheep Creek heliport site is lower than occurs during the existing flyovers. However, the activities on the helipad are audible and represent a change in the character of the noise.

The combination of the two sites could be developed in a manner that would offer substantial noise reductions to most residents of Juneau, including most Thane residents. The current ERA flight paths encompass 3,777 residences in their noise footprint. The Sheep Creek noise footprint would cover 85 homes and (Figure 4.2.1.3) most of these would only be exposed to helicopter noise on days with low ceilings. However, the split operation and redundant facilities would be more expensive for the initial development as well as the operation. The noise reduction benefits are not as great as the Dupont site.

Air Safety

The flight entrance to the upper site is formed by a narrow gorge about 500 feet above the portal site. Careful design would be required for the approach surface to clear this gorge and the access road to the site. Only one approach/departure path would be available on the upper site, although more than one TLOF could be developed. This may require the full-time use of the lower site for passenger operations.

With the approach and departure path routed through the gorge at elevation 1,300 feet MSL, the site would be significantly affected by the low scattered or broken ceilings that tend to make up the inclement weather in the area. Therefore, this site would not be a reliable location for the flightseeing operations, and would need to be supplemented with the lower site. With the adjacent terrain protecting the site from all sides, winds would be a relatively small factor at the Sheep Creek upper site.

Since the lower site is located along the Gastineau Channel, the airspace is relatively clear along the channel side (northwest and southeast), as well as for approximately one mile across the channel to the southwest, except for maritime traffic. The normal large ship route down the middle of the channel is approximately 2,500 feet from the east bank at that location; the 8:1 approach surface would clear about 300+ feet over the ship route, which would clear the channel for cruise and cargo ships. The FAR 77 heliport approach surfaces would be placed in south-southeasterly and west-northwesterly directions, angling into the channel to avoid ship traffic.

Being at a relatively low elevation, the site would remain below most of the low scattered or broken ceilings that tend to make up the inclement weather in the area. With the ridgeline behind the site, the stronger northeast winds would be relatively small factor for the lower site.

Both sites are approximately 11 miles from the Juneau Airport along the final approach course to Runway 26 (or departure course from Runway 8). At that location, approaching airline jet aircraft would be at approximately 3,800 feet MSL; departing flights would be higher. Therefore, there would be no airspace conflicts with Juneau airspace or IFR approach/departure procedures.

The Sheep Creek combined site would be able to meet the requirements in FAA AC 150/5390-2A Heliport Design given that:

1. the sites have sufficient area for the functional elements of an alternative heliport;
2. the sites have a relatively gradual grade for site preparation; and
3. there are sufficient areas for approach, departure and protection zones.

Physical Description

The Sheep Creek combined sites are located approximately 4 miles southeast of downtown Juneau on the northeast side of the Gastineau Channel at the Sheep Creek delta and at the mine portal camp area.

Upper Site: The Sheep Creek mine portal site is located about 1.5 miles from the Gastineau Channel up Sheep Creek. The general site is composed of a relatively level site of about 16 acres and ranging in elevation from 700 to 800 feet MSL. This would be marginally sized for the heliport site. The grade rises steeply on three sides of the site.

Lower Site: The lower delta site is gradually sloping and linear along the edge of the channel at an elevation of 0-50 feet MSL, with 2:1 slopes to the northeast toward a ridgeline at 2,000 to 3,800 feet MSL. The lower site is open to water toward the southeast. Since the site has only about 8 total acres available, it would be adequate for only limited facilities, such as the FATO's, terminal buildings, limited bus parking, and helicopter parking positions. Hangars, fuel farm, and bus staging would have to be placed in the upper site.

Infrastructure

Electricity is available at both sites. City water and sewer extend down Thane Road to the Big Rock Dump. Both upper and lower sites have existing wells and septic systems though these would probably need to be upgraded. At the upper site there are a number of existing mine buildings, some of which could probably be adapted for heliport use.

Ownership

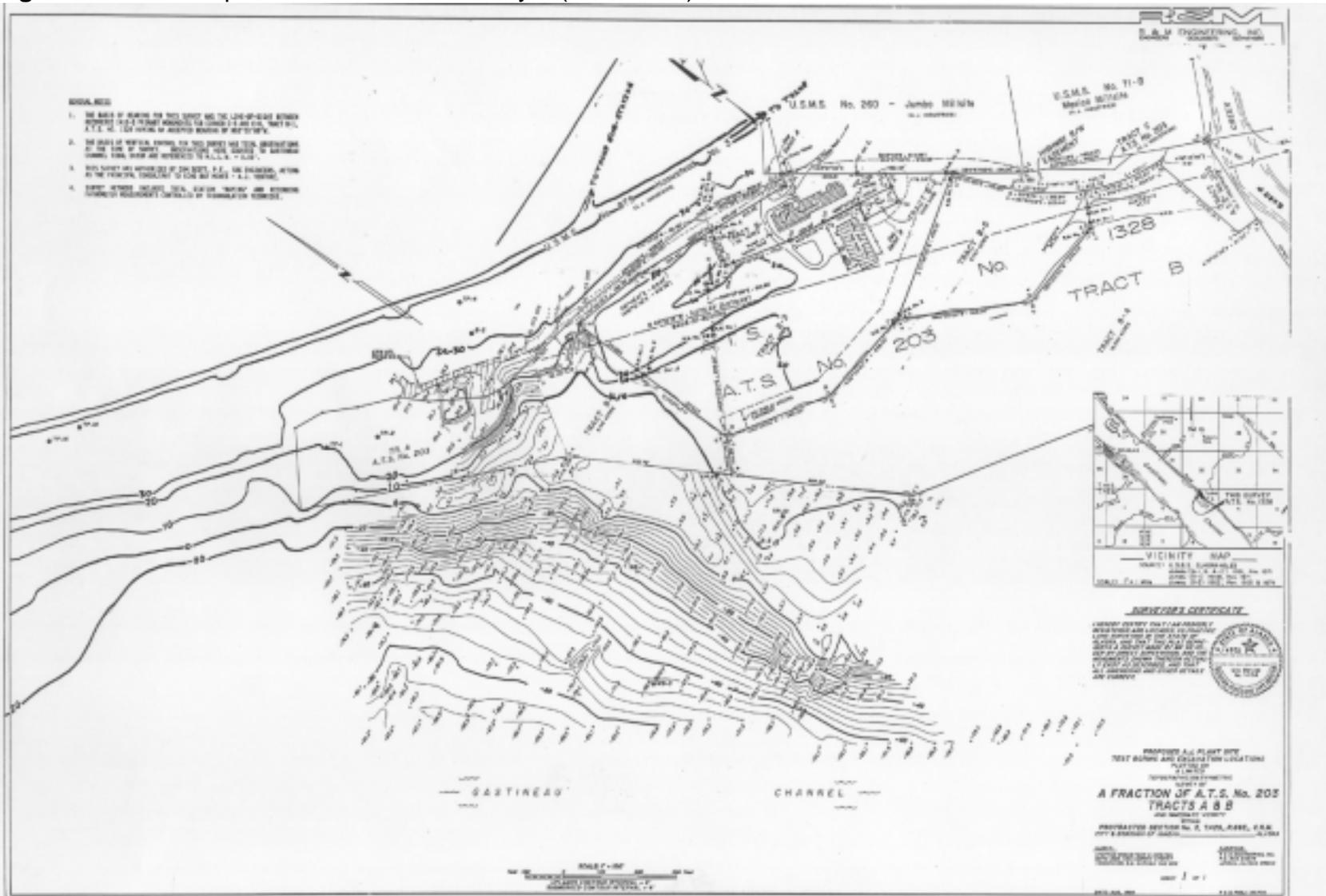
Alaska Electric Light and Power owns both the upper and lower Sheep Creek sites. Representatives of the company have advised they are open to discussing lease or

sale of the property with the city and borough. (Figure 4.2.1.4)

Access

These sites lie approximately 3.2 miles down Thane road. Thane Road is a narrow two-lane winding road without a paved road. Residences begin on Thane Road just past Sheep Creek. The Mine Portal road is a narrow single lane gravel road with a steep grade and two switchbacks as it climbs up to Sheep Creek Valley. It would require some upgrading, but can be used by buses. Commercial traffic extends to the Sheep Creek Mine cut off. A commercial tour operator is currently running tours utilizing the first mile of the Sheep Creek Road. Residential traffic extends to end of road.

Figure 4.2.1.5 Sheep Creek Delta Land Survey – (Lower Site)



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Please See Page 74 Next Section