GLACIER RETRACTION & SNOWLINE AT JUMBO GLACIER RESORT

The four glaciers accessed by the project, Glacier Dome, Jumbo, Commander and Farnham Glacier, are in a phase of slow retraction and were initially examined by Peter Lev, a meteorologist and avalanche forecaster, who in the early 90s was at Alta, Utah, providing avalanche forecasting and control, and who is also one of the most renowned Exum guides from Jackson Hole, Wyoming.

Peter Schaerer, the foremost avalanche expert of the Canadian National Research Council who did the avalanche studies and reports for the 1995 Master Plan and for the 2003 Master Plan, confirmed the mapping and reviews of Peter Lev. **In 1993 and following years Dr. Max Maxwell, a glaciologist at UBC and later with Golder Associates in Vancouver, examined the project glaciers and determined that their level of potential retraction was not going to be significant for the proposed project in the foreseeable future of the project.**

The summer ski training on Farnham Glacier, started by CODA in 2003, has given prime evidence of the soundness of the assessment of the experts.

Despite global warming concerns glacier retraction is not to be expected everywhere or to be the same everywhere. Glacier size and movements are in proportion with precipitation and growth or decrease of the collection area. When collection due to precipitation in the form of snow is greater than the loss due to ablation the glacier increases in size, when collection is insufficient the glacier decreases. Local climate is essential: glaciers in the drier interior are at higher elevations than glaciers in the coastal region, gifted with an enormous amount of precipitation in winter.

In the Jumbo Glacier Resort (JGR) area in the last twenty years there has been no dramatic decrease in precipitation in the form of snow or increase in ablation. The local microclimate has remained relatively stable in the Purcell Mountains.

Of greater significance than slow glacier retraction is the issue of snow line. Currently the snow line in winter in southern B.C. averages between 1,000 and 1,200 meters, and has been rising toward 1,200 meters and above. All B.C. ski resorts are currently under the snow line or near the snow line at the base, with the consequence that snow making is becoming indispensable to guarantee skier access to the mountain base. Already a white Christmas cannot be assured at many B.C. ski resorts.

At the sawmill site that will be the base of Jumbo Glacier Resort the elevation will be 1,700 meters (5,580 ft), more than 500 meters (1,640 ft) above the current snow line and twice the height of the average B.C. ski area base. By comparison Whistler has a village base at 650 meters (2130 ft), Revelstoke at 550 meters (1,800 ft), and Kicking Horse Mountain Resort at 1,200 meters (3,900 ft). Despite the high elevation at the base, JGR

will have a 1,300 meters (4265 ft) vertical drop in the Jumbo Valley drainage and a 1715 meters (5625 ft) vertical drop in the Commander and Farnham Creek drainage, because the top elevation is 3,000 meters (9,842 ft) at Glacier Dome and 3419 meters (11,217 ft) at Jumbo Mountain. JGR will have not only the biggest vertical drop in North America, but will also be **the ski area and resort that will be entirely above the snow line in winter, as well as the only ski area with true year round skiing.** This will be without snow making, **working with climate and nature at the right elevations.**

The above observations explain why JGR is the only true year round ***"green and white"*** mountain resort of North America.

Oberti Resort Design, February 2010.