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Lac Minerals Ltd.
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THE 1992 CORDILLERAN ROUNDUP "SPOTLIGHT SESSION"

**GEOLOGIC SETTING AND MINERALIZATION
OF THE LAC MINERALS RED MOUNTAIN DEPOSIT**

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deceased

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The Red Mountain Prospect is located at the western margin of the "Stewart Complex", a Lower Jurassic volcano-plutonic arc system, which forms part of the Intermontaine Tectonic Belt of the Canadian Cordillera. The seven claim, 128 unit property is located approximately fifteen kilometres east of the port town of Stewart.

A portion of the Red Mountain property located east of the Bromley Glacier is underlain by rocks of the Lower Jurassic Unuk River Formation. These intermediate pyroclastic rocks consist of ash-dust tuffs, coarse ash tuffs, lapilli tuffs, finely banded argillites and tuffaceous sediments, and limestones. A hypabyssal, hornblende-plagioclase porphyritic intrusion (Goldslide Intrusion) occupies the cirque as well as the western and eastern slopes of Red Mountain. A Lower Jurassic date of 200 Ma has been determined on a hornblende sample by argon-argon methods. A wide contact zone occurs between the volcano-sedimentary package and the intrusion. This zone is strongly brecciated and contains argillite and/or pyroclastic rock fragments within an intrusive matrix. Quartz stockwork is locally developed within the border phase, with weak to intense silicification, sericitization and propylitization associated with these quartz stockwork zones. An extensive zone of pyritization and sericitization surrounds the Goldslide Intrusion and is responsible for the gossany appearance of Red Mountain. A granodioritic to quartz monzonitic intrusion (Erin Stock) is exposed at the southern tip of Red Mountain and appears to continue south under Bromley Glacier onto Lost Mountain. A Lower Tertiary date of 45 +/- 2 Ma has been determined from a biotite sample by argon-argon methods.

Rocks of the Upper Jurassic Salmon River Formation, a sequence of fine to coarse-grained clastic sediments and fossiliferous limestones, are exposed west of Bromley Glacier. The Betty Creek and Mount Dilworth Formations which stratigraphically underlie the Salmon River Formation are not present in the Red Mountain area.

The most prominent fold in the Red Mountain area is a large antiform with a north-northwest trending axis running from the Bromley Glacier north to Bear River. Grove (1986) recognized a fold in this same area which he described as a syncline. Detailed mapping, however, shows the structure to be an antiform. Most of the rocks on the east dip steeply to the east and many of the rocks on the west side dip steeply to the west. Where tops could be determined, most face outward.

Discussions with Anderson, Alldrick and Greig (pers. comm., 1991) lend support to the identification of the Salmon River Formation unit. This creates a problem with the structural interpretation as the sequence outwards from the centre of the fold is Salmon River Formation then Unuk River formation rocks. The correlations in the Red Mountain area are based largely on lithologic similarities. It is possible that the lithologic similarities are coincidental and that the apparent "Salmon River Formation" is in fact Triassic in age. If, however, the correlations are correct, then a major

structural dislocation must be hypothesized in order to place younger rocks in the centre of the apparent antiform. It is possible that Unuk River Formation rocks have been thrust over Salmon River rocks and that the resulting sequence was then warped into an antiform

At least ten gold showings (Rio Blanco, Dickesito, Marc Zone, MCEX, Brad, Rapido, Meg, Silver Shear, Singh and MacAdam Point) have been identified at Red Mountain, an extensive gossan located between Bromley Glacier and the Cambria Icefield. To date, the majority of the work on Red Mountain has concentrated on the Marc Zone gold showing.

The Marc Zone occurs as irregularly shaped sulphide lenses (North, Main and East) associated with the brecciated contact of the Goldslide Intrusion. The mineralization consists of densely disseminated to massive (>60%) pyrite and/or pyrite stringers and veinlets and variable amounts of associated pyrrhotite and sphalerite as well as minor chalcopyrite, arsenopyrite, galena, tetrahedrite and various tellurides. Several phases of mineralization and deformation are indicated by the presence of different generations of pyrite as well as breccia fragments consisting of pyrite. High grade gold values are usually associated with the semi-massive, coarse-grained pyrite aggregates, but also occur with stockwork pyrite stringers and veinlets. Visible gold is rare and was noted only in one instance within a small quartz vein. Gold occurs as native gold, electrum and as tellurides.

Native gold as observed in polished thin sections ranges in size from 10 to 500 microns and occurs as threads, interstitial pockets, and partial networks within the pyrite as well as moulded on to the periphery of pyrite fragments within the gangue and altered wall rock. Hessite (Ag_2Te), altaite (PbTe), petzite (Ag_3AuTe_2), calaverite (AuTe_2), sylvanite (AuAgTe_4), native tellurium, aurostibite (AuSb), bournontite (PbCuSb_3), hedleyite (?) (Bi_7Te_3), native bismuth and bismuthinite (Bi_2S_3) contain a significant amount of the gold and are closely associated with native gold and electrum.

Small quartz veinlets carrying up to 5% weakly argentiferous galena and light yellow, honey-coloured sphalerite are crosscutting the Marc Zone mineralization and represent a younger phase of mineralization.

Continuous Marc Zone mineralization has been outlined between sections 0+25S and 1+25N. The most significant intersections were obtained from hole MC90.35 with a core interval of 55.5 metres yielding 12.08 gAu/t and from hole MC90.40 which yielded 36.37 gAu/t over 25.50 metres. In addition, Marc Zone style mineralization with values of up to 8.78 gAu/t over a core length of 18 metres was intersected in holes on sections 2+25N to 2+75N. A mineral inventory of 913,725 tonnes with a grade of 12.20 gAu/t (uncut) and 36.08 gAg/t has been calculated. Mineral inventory

blocking was calculated using a 3 gram cutoff over a minimum width of 3 metres.

A UTEM geophysical anomaly (UTEM Zone) overlying the north end of the Marc Zone is a silver-rich sphalerite and pyrrhotite zone with associated anomalous gold, lead, and copper values. This zone was intersected in holes on sections 2+25N to 2+75N, up to 200 metres above Marc-Zone style mineralization. The mineralization consists of 5-8% sphalerite, 3-5% pyrrhotite, 2-4% pyrite, and traces of chalcopyrite. The sulphides occur as matrix fill, anastomosing stringers and fine laminae parallel to bedding within a moderately to highly brecciated sequence of intercalated argillites and tuffs. Values range up to 0.58 gAu/t, 69.22 gAg/t, 5.60% zinc, 0.47% lead and 0.06% copper over a core length of 9.0 metres. This sphalerite zone could be related to the Marc Zone mineralization by zonation. Silver/gold ratios for the UTEM zone are considerably higher than those for the Marc Zone gold mineralization (40 to >100 versus 1-10).