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MEMORANDUM

ESSO MINERALS CANADA

File: 94E/6
September 6, 1988

TO: R.M. Britten

FROM: H. Marsden

SUBJECT: CHAPELLE PROPERTY - PROPOSED MULTINATIONAL
FARM-OUT - AREAS 1 AND 2

Location:

The areas examined are in the southeast corner of NTS sheet 94E/6 between latitudes 57°16' north and 57°19' north and longitudes 127°00' west and 127°04' west. The western portion of Area 2 and Area 1 can be accessed on foot from the Baker Mine road, the rest of Area 2 can only be easily accessed by helicopter from the Sturdee airstrip.

Ownership:

The property is owned by Multinational Resources Inc. and consists of numerous two-post claims and a 16 unit claim that are in good standing until 1992 to 1995; a second modified grid claim 8028 that is good until 1990 and two others 8986, 8987, that will receive some assessment work this year.

History:

The area was investigated by Kennco (Western) Limited from 1970 through 1972. They did regional silt, soil and rock sampling and geological prospecting that led to the discovery of the 'A' vein on the Chapelle Property. DuPont Canada optioned the property in 1974. They put the Baker Mine into production in 1981 and mined approximately 90,000 tons of ore grading 0.9 oz/ton Au using a 100 ton per day mill until 1983 when they had depleted the available reserves.

Multinational Resources now controls the property and are currently defining reserves on the recently discovered 'B' vein hoping to define sufficient tonnage to make rehabilitation of the existing mill economically feasible.

The areas being considered for option have been prospected and sampled previously by Kennco Ltd. between 1970 and 1972 (A.R. 3417, 3418, 3419 and 4065) and again in 1980 (A.R. 9889).

Work Done:

The area indicated in Figure 2 was mapped and sampled by H. Marsden and T. Burlingame during three days between July 4 and 6, 1988. Ten rock samples, 29 soil samples and six screened silt samples were collected and analyzed at Acme Analytical Labs for 30 elements by ICP and Au by Fire Assay.

Geology:

The area mapped was entirely within the Toodoggone volcanics a dominantly sub-aerial, Mid-Jurassic sequence of intermediate to felsic volcanics and associated epiclastic volcanic sediments and shallow intrusives. This informally named sequence (Carter, 1972) is the eastern margin of the Intermontane Belt in this area and is correlative with other Jurassic volcanics of the Hazelton Group exposed further west around the edges of the Bowser Basin.

The area indicated in Figure 2 is underlain by seven different geologic units. These are, from oldest to youngest:

1. The Metsantan volcanics. These rocks are exposed only on the northeast side of the Saunders Fault in Canyon Creek where there are two distinct units. The lowest(?) is a grey-green to maroon feldspar phyrlic lapilli tuff with maroon and green chloritic feldspar phyrlic lapilli. The latter are moderately to highly flattened. The degree of welding increases upsection. These rocks are in fault contact with dark green fine-grained, locally amygdaloidal pyroxene-feldspar flows and interbedded grey-green laminated volcanic siltstone. Both units are strongly epidotized and strike northwesterly with a moderate southwesterly dip.
2. Heterolithic quartz-bearing lapilli tuff. East of the Saunders Fault near the north black gossan are several exposures of a green and maroon, quartz-hornblende-feldspar crystal-bearing heterolithic lapilli tuff. Much of the alteration is within this unit and so the unit is poorly understood. Exposures in a southeasterly flowing creek east of the north black gossan exposes green hornblende-feldspar phyrlic lapilli tuff with some bombs of green to maroon hornblende-feldspar porphyry.

3. The lapilli tuff is overlain by a brown to purple, purple weathering hornblende-biotite-feldspar porphyry flow.
4. The flow is conformably overlain by thin bedded, thinly laminated grey-green, maroon and black epiclastic volcanic siltstone, sandstone and pebbly sandstone. These are capped by a distinctive brown weathering quartz-biotite-hornblende and feldspar-bearing lapilli tuffs.
5. The youngest unit present is the Saunders grey dacite; a commonly fresh, magnetic dark grey to chocolate brown to green, moderately welded quartz-hornblende-biotite and feldspar-bearing lapilli tuff. The unit is characterized by sub- to uncrowded elongate clasts with medium-grained, subhedral feldspars within a matrix with crowded, smaller, broken crystals and a eutaxitic fabric.
6. Pink to grey green, sub-crowded, medium-grained hornblende-feldspar phyric intrusive rocks are exposed in Canyon Creek near the junction between the north and west forks and as a small northwest-trending stock east of the north black gossan. These rocks are not exposed in contact with the Saunders dacite but are probably older since they do not intrude the dacite and similar intrusive clasts are locally present within the dacite.

Hydrothermally Altered Rocks:

Altered and mineralized rocks form four distinct gossans, labelled by Multinational Resources C, E, F and G on Figures 2 and 3.

Gossan G is a result of strong quartz-sericite-pyrite alteration with local zones of strong quartz-clay. This area was worked by Kennco in 1972 when they did geological mapping, soil, silt and rock sampling and a magnetometer survey. The area is consistently anomalous in gold and silver. Soils ran 0.16 to 1.16 ppm Au and 1.1 to 3.2 ppm Ag. Chip samples across two trenches ran 0.64 ppm Au and 1.5 ppm Ag and 0.24 ppm Au and 1.0 ppm Ag. Two grab samples of float ran 1.80 ppm Au and 9,500 ppm Ag and 0.30 ppm Au and 12.0 ppm Ag (Assessment Report No. 4065). Soil sampling by Lacana on the Artful Dodger claim in 1981 overlapped onto this area and confirmed the presence of a weak gold in soils anomaly (0.02 to 0.100 ppm Au). Samples collected during this program were less impressive. Five soil samples 8HMR-4 to R-7 had highs of 2.3 ppm Ag and 0.150 ppm Au, while three rock samples (8HM 23-6 a,b,c) carried anomalous Ag and Au.

Gossan E lies south of G and is west of the Saunders Fault, hosted by the Saunders grey dacite. This is also a zone of sericitic alteration with local silicification and argillization. Kennco did a soil line across this area and found only background Au and Ag in 1971 (Assessment Report No. 3419). Two soil samples (8HM R-1, R-2) and a rock sample (8HM 23-1) of strong quartz-sericite fine-grained pyrite from an old blast trench ran low Au and Ag except for the rock sample which contained 15.1 ppm Ag and 0.05 ppm Au.

Gossan F is in Canyon Creek and is an exposure of a weakly altered, pink hornblende-feldspar phyric intrusive with numerous small fractures and shears carrying pyrite and rare chalcopyrite, galena(?) and sphalerite(?). Kennco (1971, Assessment Report No. 3419) obtained values up to 12.7 ppm Ag, 120 ppb Au, 1400 ppm Pb, 1200 ppm Zn and 430 ppm Cu from a rock sample in the north fork of Canyon Creek. Soils, rocks and silts collected further downstream lacked significant anomalies. Two silt samples (8HM S-3, 04) collected in 1988 lacked significant Au-Ag values and a rock sample of quartz-carbonate veinlets with pyrite, chalcopyrite and sphalerite (8HM 23-15) was only moderately anomalous in Cu and Ag.

Gossan C is the north black gossan, an impressive 900m long zone of strong quartz-sericite-pyrite to quartz-sericite-chlorite-pyrite alteration zone with locally abundant float of vuggy, banded quartz, quartz-barite(?) and quartz pyrite veins in a 200m² area at the north end of the gossan. Soil samples collected by Kennco in 1971 (Assessment Report No. 3418) carry only 0.01 to 0.04 ppm Au and 0.9 to 3.0 ppm Ag, values similar to those obtained in soils 8HMR-11 through 29, consistently weakly anomalous in Au and Ag. One soil sample (8HMR-26) contained 0.293 ppm Au and low Ag with some anomalous Mo. Three rock samples of quartz vein float from the north end of the gossan (8HM 25-9 a to c) had a single high value of 0.495 ppm Au and 2.5 ppm Ag (8HM 25-9 c).

Structure:

Three important faults transect the map area; the northwest-trending Saunders Fault, a major throughgoing fault of probable right-lateral displacement of roughly 5 km (Larry Daikow, pers. comm., 1988), a roughly north-south fault that has down-dropped the grey dacite on its east side and a second northwest-trending fault of unknown displacement that juxtaposes the heterolithic lapilli tuffs against the Saunders dacite.

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for H. Marsden

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Encl.