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OPEN FILE

Mt. Stromach

Quarterly Rpt

— to Nov 1981

HELLYER (SANSTOS).

SPL 772 MOUNT STROMACH - QUARTERLY
REPORT

82-1752

82-1752.

O.H.M.S.

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10 MAR 1982

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REF. No: 1787/82				M & IL

S.P.L. 772 MOUNT STRONACH

QUARTERLY EXPLORATION PROGRESS REPORT

FOR PERIOD ENDING

3RD NOVEMBER 1981

HELLYER MINING & EXPLORATION PTY. LTD.

MARCH 1982

82-1752.

1.0 WORK COMPLETED

1.1 Gridding

Gridlines as proposed in the Quarterly Report for the period ending 3rd August, 1981 were completed (Attachment 1).

1.2 Geological Mapping

The Mt. Stronach area was geologically mapped along surveyed traverses. The results of this work are summarised in Attachment 2. Plans are currently being drafted.

1.3 Geochemical Sampling and Analysis

Soil, and where possible, rock chip samples were collected at 50 m intervals along the gridlines. These were assayed for copper, lead, zinc, silver, molybdenum, tin and tungsten. A brief geological interpretation of these results comprises Attachment 3. Geochemical distribution plans are currently being drafted.

1.4 Diamond Drilling

Diamond drill-hole DMS 1 was completed to a depth of 100 metres with 100% core recovery. The hole was drilled through medium grained pink to white, biotite rich granite to granodiorite. Minor chlorite alteration was observed and overall the core displays very minor alteration. Sparse molybdenite mineralisation was recorded between 4.0 metres and 4.2 metres depth. The core from this hole has been lodged with the Department of Mines in Hobart. A graphic drill log is currently in preparation.

2.0 PROPOSED WORK

Additional exploratory work will be considered after the results of the work already completed have been fully assessed.

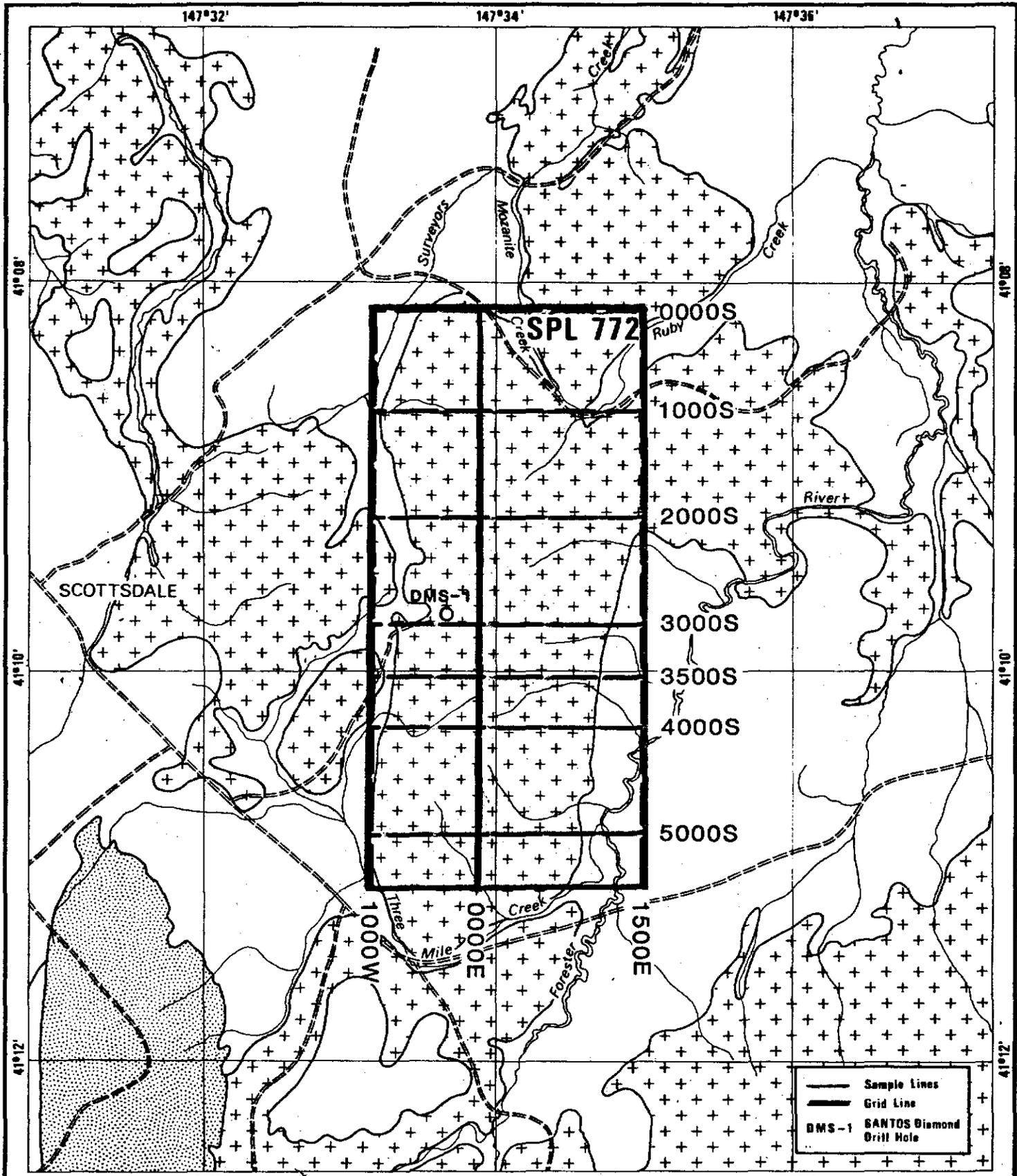
3.0 EXPENDITURE

Expenditure for the three months period was as follows:-

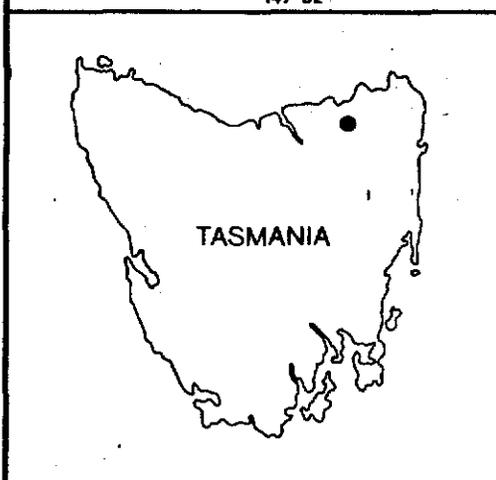
Salaries & Associated Costs	\$ 116
Contract Services	\$ 7
Materials	\$ 75
Office Costs	\$ 4
Geochemical/Geophysical Services	\$ 7,022
Drilling	\$ 4,160
	<hr/>
TOTAL	\$13,664
	<hr/> <hr/>

Attachment 1

Location Plan



— Sample Lines
 — Grid Line
 DMS-1 SANTOS Diamond Drill Hole



LEGEND

- CAINOZOIC
- UPPER DEVONIAN-LOWER CARBONIFEROUS-Granitoids
- SILURO-DEVONIAN-Mathinna Beds

HELLYER MINING & EXPL. PTY. LTD.

NORTH EAST TASMANIA

SPL 772-MT. STRONACH

GENERALIZED GEOLOGY

Location Of Grid Lines
For Geochemical Sampling

SCALE 1:50000

KILOMETRES

5 cm

784005

ATTACHMENT II

GEOLOGICAL REPORT

S.P.L. 772

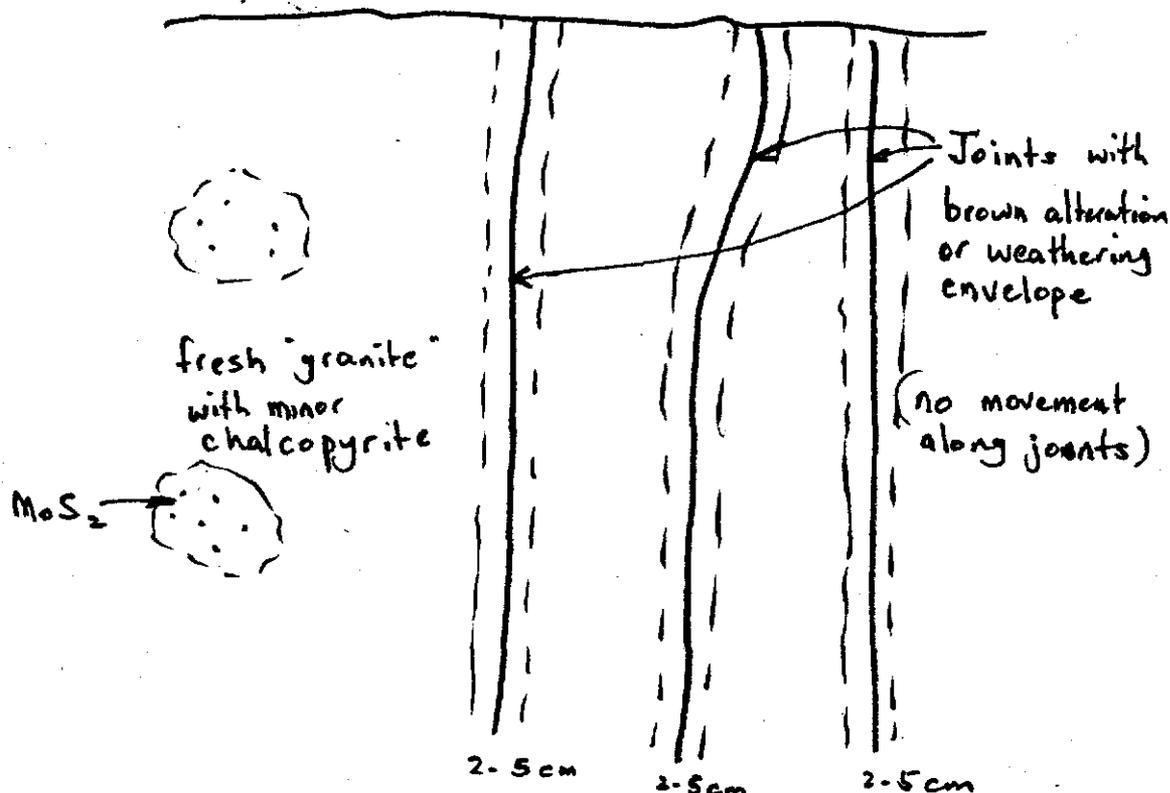
BY

N. LANGSFORD

MT. STRONACH S.P.L. 772

- Location:** Mt. Stronach - Lucky Strike Peak granite lies within S.P.L. 772 of 14 sq.km. held by Hellyer Mining and Exploration Pty. Ltd., and is about 4 km. E of Scottsdale in N.E. Tasmania.
- Access:** The prospect area can be reached via the North Scottsdale Road (northern section) and St. Helen's Road (southern section). A good gravel road passes through the N.E. section. Tracks of varying quality diverge from this to other parts of the mountain; the most important track passes along the ridge to the top of Mt. Stronach.
- Topography:** The S.P.L. is largely occupied by two considerable granite peaks, Mt. Stronach to the south, and Lucky Strike Peak to the north. Generally the E and W flanks of Mt. Stronach are very steep; the N and S flanks are more gentle. The slopes of Lucky Strike Peak are relatively gentle apart from the steep N flank.
- All of the granite hills are clothed with eucalypt forest of varying impenetrability. There are some scrub choked creeks and areas of thick re-growth.
- Geology:** The granite hills are a complex of Devonian granitic rocks. The Mines Department map shows them as adamellites and plagioclase was observed in fresh rock.
- Most of the hills are underlain by medium to coarse grained pink, white and orange biotite "granites". The biotite is generally notably finer-grained than the quartz-felspar.
- Within the area bounded by 3000 S, 4000 S and the baseline, there is an abundance of aplite and fine grained low biotite granite. The aplite is pink to dark red. Minor "pegmatite" (e.g. quartz-microcline-biotite) veins also occur in this area.
- A notable feature of the granite is the poorly developed jointing; only in a few places were joints observed to be well developed.
- Mineralization:** Very coarse grained pods of molybdenite occur in granite on the west side of Mt. Stronach. The occurrences are well exposed in two "bulk" sample sites. Roughly circular masses up to 15 cm. diameter occur in fresh grey equigranular biotite "granite". There is no evidence of any hydrothermal alteration, and the molybdenite is not directly associated with any fracturing. Very minor chalcopyrite is disseminated within the "granite" around the molybdenite.
- Please see sketch overleaf showing relationship between "joints" and molybdenite pods.

Mineralization (cont.):-



The relationship between the joints and the MoS_2 mineralization is not clear, as the pods of sulphide are not seen to be associated with any fractures. However, the joints were seen at both major molybdenite sites, and in two places where similar joints were seen, careful search found some molybdenite. Nowhere was an intense development of the joints seen.

Very small flakes of molybdenite were noted within small short quartz veins near 3000 S 0000 E, together with minor molybdic ochre. Again, nowhere was a notable concentration of quartz veins observed, although floaters are relatively common.

At the Southern "bulk sample site" on line 3500 S yellow clay has formed along some joints, probably due to preferential weathering rather than alteration. There also appears to be some secondary biotite in "clots" associated with pegmatitic veins.

Overall the grade of the molybdenite mineralization would be exceedingly low, notwithstanding that some selected specimens would show high grades.

Gridding:

A base line was laid out at 347° magnetic. This was cut 5 km. from the northern margin of the S.P.L. Slopes were measured in the field and corrections applied using tables to give a slope corrected 25m. spacing on a horizontal projection.

Crosslines were cut 1.5 km. E and 1 km. west at 0000 S, 1000 S, 2000 S, 3000 S, 3500 S, 4000 S, 5000 S. These were slope corrected also.

Sampling:

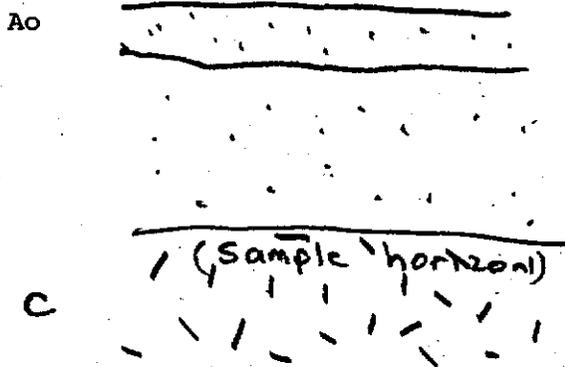
The intention was to collect soil and rock samples at each point. However this proved to be impracticable; where outcrop occurs there is generally poor development of soil and vice versa.

Outcrop is essentially 100% on the crest, and upper third of the hill slopes. Down slope outcrop becomes less common and towards the base of the hill becomes rare. Generally "soil" or deeply weathered granite can be found at depths of 30 cm. or so.

Rock samples were taken from the freshest outcrop available near the grid point. Chips were taken from a number of different outcrops at each side.

Soil samples consist of yellow to brown sandy clays, representing deeply weathered granite. Typical soil profiles are sketched below:

(1) Soil profile on lower slopes



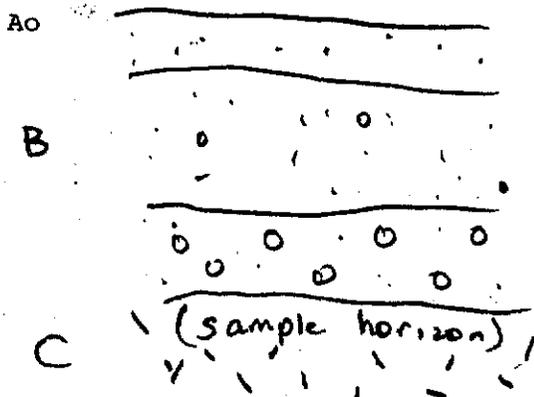
Organic layer; up to 10 cm.

Sand Coarse grained, grey to black.

Organic matter common in upper section. Up to 40 cm.

Clays Yellow-brown sandy clay. Fe oxide concentrations in upper layer. Grades down into weathered granite.

(2) Profile on flats E of hills



Organic layer; minor sand.

Sand Grey, friable, minor pebbles.

Organic matter near top.

Pebbly sand; sometimes strongly cemented. Sn wash?

Clays Yellow-brown clays, grading to deeply weathered granite.

The profile above is typical of the flats E of the hills; the pebbly sands are probably equivalent of the stanniferous drift worked extensively in the Forester River Valley.

(3) To the west, the overburden thickens rapidly from the foot of the hills.

Previous Work:

A soil sampling and rock powder sampling programme was carried out by Aust. Hanna in 1970-71. Soil samples were collected on a 400 ft. square grid. Maximum soil values were 80 ppm, threshold 25 ppm, outlining an "anomalous" area about 500m long N-S and 250m wide. This is not coincident with known mineralization.

The rock powder sampling outlined "anomalous" area near the top of Mt. Stronach. The anomaly is based on only a few samples but would be near an area of joints as described under known mineralization.

The area outlined by Hanna's soil anomaly was briefly ground checked but no mineralization detected. Some small quartz veins occur in the area.

Summary:

Past prospecting has shown that pods of molybdenite mineralization occur on the W face of Mt. Stronach.

Evidence from Hanna's work suggests that several other occurrences exist in the same general area. The same sampling suggests that:-

- (i) background values are low, less than 2 ppm.
- (ii) anomalies are "spotty" and suggestive of isolated poddy mineralization.

Observations of the "mineralized" area to date indicate:-

- (i) sparse poddy molybdenite occurs within an area bounded by 3000 S 000 E and 3800 S.
- (ii) There is no evidence of alteration or fracturing, disseminated molybdenite or veinlet occurrences.
- (iii) the mineralization is associated with an arcuate aplitic phase (see air photo) and locally but not directly with a minor joint set.

N.R. Langsford

October 1981

ATTACHMENT III

NOTES OF THE

GEOLOGICAL AND GEOCHEMICAL SURVEY

MOUNT STRONACH

J.B. WESTHOFF

NOTES ON THE GEOLOGICAL AND GEOCHEMICAL SURVEY, MOUNT STRONACH

The data from this survey have been plotted on a base map at a scale of 1:5,000 and the following points can be made.

1. Molybdenum

There is general agreement between the molybdenum results of this survey and that of Hanna in 1970. There is some doubt, however, as to the precise co-ordinates of the Hanna base point on the current grid.

There may be some relationship between high molybdenum values and a generally fine grained, biotite poor granitic/aplitic phase within the main granitic intrusion. The approximate boundary of this phase has been tentatively drawn on the geological plan. It is interesting to note that all anomalous molybdenum values in this survey and most of those of Hanna's survey occur within this boundary, close to the western and southern edge of this phase.

There is no regular or obvious relationship between molybdenum values in fresh rock and highly weathered granitic clays.

2. Copper

There are nine samples with readings greater than a threshold of 10 ppm Cu. The three highest, between 3000S 600W and 700W, are immediately west (down hill) of the anomalous molybdenum area, indicating a relationship between copper and molybdenum mineralization in this area.

3. Zinc

Most samples of rock returned values between 10 and 40 ppm, with no really anomalous readings. Values of weathered granite and soil samples were generally considerably lower than the rock samples.

4. Lead

Most samples returned values less than 20 ppm, with only two samples greater than 30 ppm.

5. Silver

A few samples were on the detection limit of 1 ppm; most were below.

6. Wolfram

Only one sample, 3500S 1350E, at 50 ppm, can be regarded as possibly anomalous.

7. Tin

The best samples - 1000S 1050E at 38 ppm and 1000S 1500E at 50 ppm have probably been concentrated by eluvial or alluvial processes. Within the rock or weathered granite samples, there are several

7. (cont.)

samples above a regional threshold of about 20 ppm. The highest value, at 3000S 00E at 32 ppm may be due to mineralization associated with quartz-feldspar veins noted in the field.

J. B. Westhoff

15.10.81

JBW:gj