

S P L 27 – SOUTH DUNDAS

PROGRESS REPORT

FEBRUARY 1968

68_501

PROGRESS REPORT FEBRUARY, 1968.

During the past six months, the geological staff of Renison Limited have operated in the Central and Northern part of the lease on a part-time basis. This limitation was due to the pressure of duties on the operating Federal Mine.

However during this time a geological map of the area involved has been prepared and a programme of stream and rock sampling has been commenced.

SURFACE MAPPING

The enclosed '400' scale geological plan is based on a careful and detailed examination of surface exposures mainly located in the many stream beds which traverse the area. These were positioned by tape and compass and by the use of '200' scale plans prepared by the Hydro-Electricity Authority.

As may be seen from the plan the geological boundaries and even rock types bear little relationship to those given by Elliston in 1954 and differ considerably from Blissett. No attempt has been made to use the Stratagraphical succession that has been used in the past in the area, as we feel that the people who invented this succession were misled by the similarity and dense-like character of the conglomerate beds in the Dundas area.

At the present time the Stratagraphical succession may be regarded as being:-

- | | | |
|--------|--|------------------------|
| | (6) Shales | |
| DUNDAS | (5) Conglomerate | 0'-600' thickness |
| GROUP | (4) Tuffaceous siltstones and sandstones | 2,000' " |
| | (3) Conglomerate | 0'-900' " |
| | (1) <u>Lava Flow?</u> (2) <u>Siltstone & chert</u> | ← Ultrabasic Intrusion |
| | Argillite | |

CRIMSON CREEK

SERIES

- (1) An intensely altered igneous rock, completely chloritised and silicified. However the texture suggests that it is a devitrified, very fine grained extrusive type and may be a trachyte or andesite.
- (2) The exact relationship between this rock group and the underlying lava flow is not known as the contact is only inferred. The rocks themselves appear to consist of dark shales and siltstones with some chert bands.
- (3) This group consists of rocks grading from coarse sandstone to conglomerate with pebbles up to six inches in diameter. The basal conglomerate band contains fragments of the underlying lavas, thus there was probably a break in deposition between the two. The conglomerate bands are composed of subrounded to rounded pebbles of quartz, chert, micaceous sandstone and siltstone in a matrix of chlorite and quartz. Some shearing of the conglomerate is evident. Much of the conglomerate is haematitic.
- (4) Greenish-grey banded siltstones with interbedded coarser sandstone probably tuffaceous.
- (5) A similar group to (3) but appears to be more haematitic.
- (6) Finely bedded dark shales, contorted in some areas. This is apparently the highest rock horizon so far examined on the lease.

A sill-like intrusion of serpentinite and gabbro is located between the Argillites of the Crimson Creek series and the lava (1). This igneous body is the main target for geochemical sampling.

Ignoring the lense like character of the rock groups the succession may be described as being conformable although some disconformity may occur between conglomerate (3) and the underlying lava (1).

As an illustration of the lense-like character of the beds it has been observed that on Renison Limited's Mining Lease the succession is:-

- (5) Conglomerate
- Serpentinite
- Argillite

Thus in the distance of approximately one mile beds (1), (2) (3) and (4) have terminated.

To the west of Kapi Creek the rocks have a strike trending east-west and dip at an average of 45° to the south. At Kapi Creek the strike swings abruptly to almost a north-south trend with steep dips to the east. Vertical movement could have taken place along this line but no field evidence has been obtained to support this. Some displacement has occurred however along the line of the Grand Prize workings, where what appears to be a north-south trending fault offsets the outcrop of Conglomerate (3). The throw of the fault may be regarded as insignificant as the horizontal displacement of the surface trace of conglomerate (3) is very small. A line of ironstone may be traced through the Melba workings but this appears to have no significant structural effect on the surrounding rocks.

KAPI WORKINGS

The workings below the tram in Kapi Creek intersect a lode or lode system trending approximately north-south and occupying a position on the contact of serpentinite with a dark shale dipping steeply to the east. The lodes are very narrow and consist of siderite with sphalerite, galena, arsenopyrite and minor crocoite and malachite. A 2 foot vein of quartz with chalcopryrite, siderite and malachite occurs in an adit on a tributary of Kapi Creek above the tram.

MELBA WORKINGS

A band of ironstone may be traced for 2,500 feet through the Melba workings. The actual workings are rather inaccessible and little can be seen of the lode material except on the dump. The mouth of a lower adit has been located but the adit requires draining before any examination may be made.

GEOCHEMICAL SAMPLING

A preliminary rock and stream sediment sampling programme was commenced on and around the Serpentine Hill Ultrabasic Complex.

003

This area is considered particularly interesting due to the proximity of the Cuni copper-^{nickel}~~nickel~~ lodes and their association with the ultrabasics.

Stream sampling was carried out along the Argent River and Melba Creek and in their tributaries. In many cases both a sediment sample and a soil sample were collected from the same locality. All assay work was carried out on the minus 80 mesh fraction of the samples using Atomic Absorption.

The rock samples were taken from different rock types within the complex. Quite a number were also taken for comparison from Renison Limited's Mining Lease, particularly where the basic sill cuts the south-east corner of the lease in the Pine Hill area.

Since we are still awaiting the assay results for most of these samples, we cannot arrive at any conclusion on the completion of this preliminary work.

S P L 27 – SOUTH DUNDAS

PROGRESS REPORT

FEBRUARY 1968

PLANS

68_501

LIST OF PLANS:

1. SPL 27 – South Dundas
Surface Geology 1 inch : 400 feet
2. SPL 27 – South Dundas
Geochemical Sampling 1 inch : 400 feet

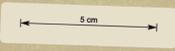


LEGEND

- CONGLOMERATE TALUS
- ALLUVIUM
- SHALE
- CONGLOMERATE
- TUFFACEOUS SILTSTONE
- CONGLOMERATE
- LAVA
- ARGILLITE
- SERPENTINITE

- GEOLOGICAL BOUNDARY
- GEOLOGICAL BOUNDARY INFERRED
- FAULT
- FAULT INFERRED
- DIP & STRIKE
- ADIT

Plan I



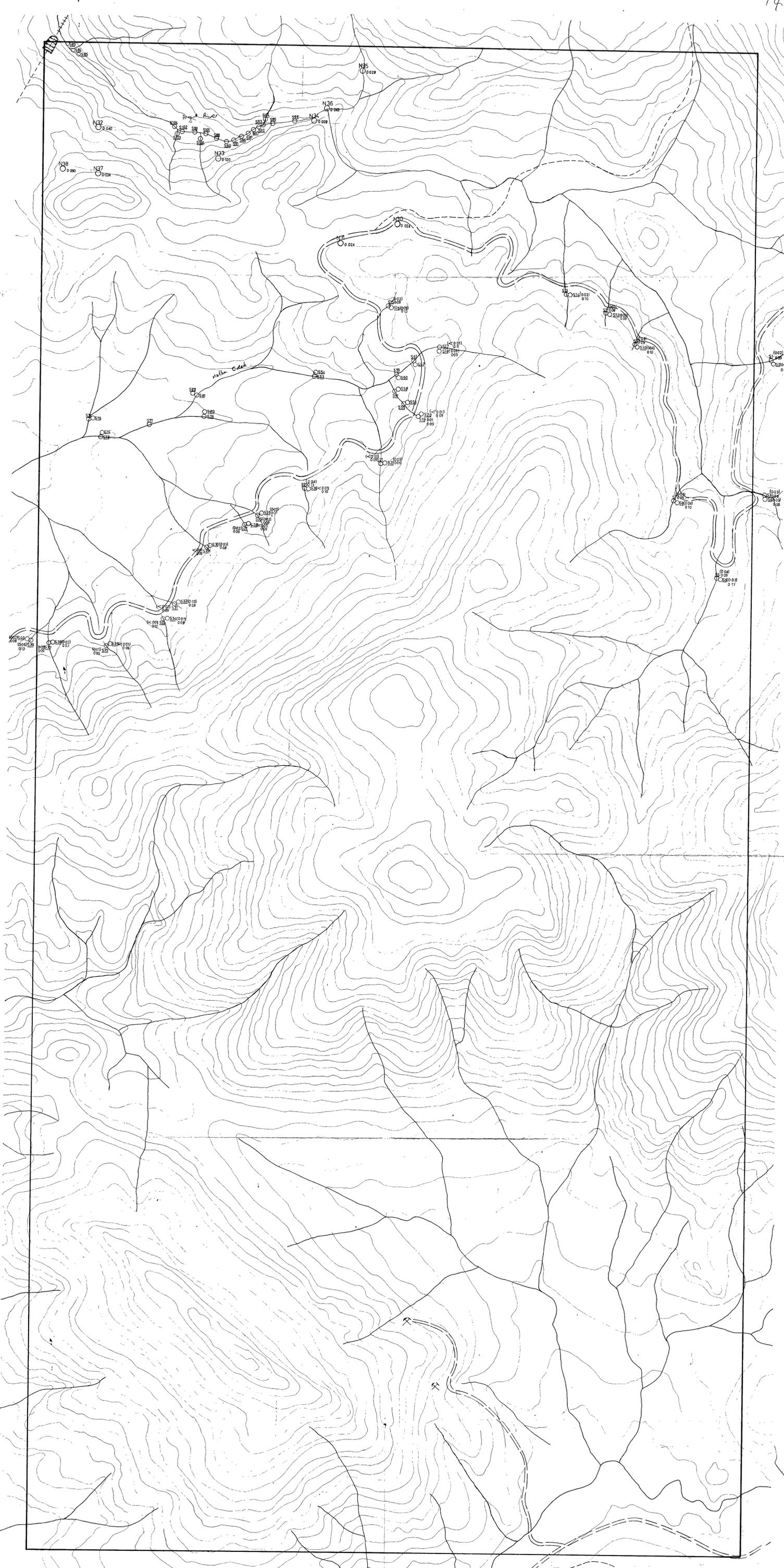
RENISON LIMITED	
SCALE	1" = 400'
DRAWN	A. C.
DATE	15-1-68

SPL 27 — SOUTH DUNDAS
SURFACE GEOLOGY

138008

68-501

1489



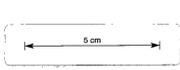
138009

Plan 2

LEGEND

STREAM SEDIMENT SAMPLE
 SOIL SAMPLE
 ROCK SAMPLE

DATA ON MINUS 80 MESH FRACTION
Showing Cu and Ni Assays
Cu Assay within Brackets



RENISON LIMITED	
SCALE	1" = 400'
DRAWN	A. C.
DATE	16-1-68
SPL 27 - SOUTH DUNDAS GEOCHEMICAL SAMPLING	

68-501

1486