

Q26 No 1

REPORT ON CHROMITE
AREAS

MONTAGU SWAMP

E.L. 5/68

OCEAN MINING & EXPLORATION NL.

by J. VOLKER
26/8/69

chromite areas, Montague Swamp
E.L. 5/68 (Ocean Mining)

by
J. Volker 26/8/69

69-573

MICROFILMEDREPORT ON CHROMITE AREAS, N.W. TASMANIA

A testing programme on the above area was carried out during the months of June, July and early August.

Results :

A total of 73 holes were put down in 6 separate areas, for a total footage of 854'. Drilling commenced on June 18, 1969, and was completed on August 1, 1969.

The results were disappointing as in only two holes economic values were obtained, namely A.W.Q5 which over a depth of 51' averaged 56 lbs. of magnetic concentrate per cubic yard and hole A.W.Q6 which over a depth of 6' averaged 70.1 lbs. of magnetic concentrate per cubic yard. All other holes were well below these values.

Determination of drilling targets :

Drilling targets were selected following a thorough examination of the whole area contained within Exploration Licence 5/68 of 100 square miles, by A. Walker of Smithton.

The existing gravel pits, which showed appreciable quantities of banded heavy mineral were used as examples. These areas were the subject of reports by the Tasmanian Mines Department, the results of which are published in Technical Report No. 1 of 1956.

Similar areas to the above were selected and Mr. Walker sank some test pits and panned grab samples from the excavated material and determined visually the existence of heavy mineral. No attempt was made at this stage to qualify the values.

The areas selected for drilling on the result of this activity were :-

- 1) Sapling Road and extension;
- 2) Bark Hut Road;
- 3) 300 acre area;
- 4) Lovell Creek Road;
- 5) A. Walker Quarry area;
- 6) White Road.

Sapling Road and Easterly extension :

Along Sapling Road a total of 16 holes were drilled. Holes were spaced 10 chains apart along the ridge.

The first 3 holes yielded no results at all, as did the last 4 holes, all were in grey/white slate with hardly any alluvial cover. Holes 4 to and including 11 contained values ranging from 1.6 lbs. of chromite per cubic yard in Hole 5 to 12.9 lbs. of chromite per cubic yard in Hole 10. All these holes bottomed in brown/black clay, which overlies brown/black shale.

16 holes were drilled in Sapling Road extension, this road extended laterally from Sapling Road at peg No. 4 and crossed a swamp-like area intersected by low hills. Holes here were drilled at 4 chain intervals and all 16 holes were shallow and none contained values higher than 2.5 lbs. of magnetic concentrate per cubic yard. All holes were either bottomed in yellow or brown clay or rock.

Bark Hut Road :

12 holes were drilled in this area, B.H11 had a value of 11.0 lbs. of magnetic concentrates per cubic yard and bottomed in grey/white slate at 8 ft. This was the highest value in this area. The deepest hole B.H7 went to 34' and bottomed on black/brown shale. Value at 1.1 lbs. of magnetic concentrate per cubic yard was low.

300 acre area :

Nine holes were put down in this area. This area differed from previous areas in that the material consisted out of extremely fine sand and contained no gravel at all. All holes contained values ranging from 6.8 to 24.5 lbs. of magnetic concentrate per cubic yard. Average depth of holes was only 5'6". All holes were bottomed in either yellow clay or brown/black shale.

Lovell Creek Road :

Six holes were put down in this area, only 3 holes contained values. These holes were bottomed on grey/white slate.

A. Walker Quarry :

This area was the subject of reports by the Tasmanian Mines Department. Two faces are exposed in this quarry ranging in height from 15 - 25 ft. Both faces show bands of heavy mineral concentrations.

A.W.Q1 was drilled approximately 30' behind face 1, depth was 34' and bottom grey/black shale. Value of hole was 5.1 lbs. of magnetic concentrates.

A.W.Q2 was drilled approximately 30' behind face 2, where the bands of heavy mineral were more pronounced than in face 1. A.W.Q2 was drilled to 68' below surface equal to approximately 44' below quarry floor. The section of the hole equal to the height of the face exposed only gave a value of 20 lbs. of magnetic concentrate per cubic yard, which appears to be much less than is showing in the face. As the hole advanced the gravels became coarser and contained dark brown silts. The last 8'6" of the hole, from 60' - 68'6", returned a value of 80.9 lbs. of magnetic concentrate per cubic yard. The overall value of the hole is 29.2 lbs. of magnetic concentrate per cubic yard.

It is thought that this hole was not bottomed on basement, but that a boulder prevented further progress. Following the result of A.W.Q2 it was decided to surround this hole at short distances with other holes in an attempt to find an extension of this deep gutter or depression if possible.

002

A.W.Q5 was drilled 1 chain S.W. of 2, the collar of this hole was some 24' below that of No. 2. The section from 30' - 45' showed an average value of 104 lbs. of magnetic concentrate per cubic yard. The average value of the whole hole was 56 lbs. of magnetic concentrate per cubic yard. The hole bottomed at 48' into grey/white slate.

Hole A.W.Q7 was drilled a further 99' S.W. and bottomed at 11' into grey/white slate. The grade dropped off sharply and the value was only 18.6 lbs. of magnetic concentrate per cubic yard.

Hole A.W.Q6 was situated 66' N.W. of the line between holes 5 and 7. This hole was bottomed at 5' in grey/white slate, but returned a value of 70.1 lbs. of magnetic concentrate per cubic yard.

Hole A.W.Q8 was situated 80' S.E. of Hole 2 and bottomed in rock at 64'. The collar of this hole was some 14' below the collar of No. 2. The overall value of the hole was 13.2 lbs. of magnetic concentrate per cubic yard. The section from 5' - 25' contained substantial quantities of pyritic minerals.

Two holes were put down N.E. of No. 2, A.W.Q10, 3 chains and A.W.Q12, 1½ chains. A.W.Q12 bottomed in yellow clay at 4' and returned no values. A.W.Q10 bottomed in brown/grey clay at 19' and only contained low values in the top 5'.

Hole A.W.Q9 was situated some 5 chains N.N.W. of No. 2 and bottomed at 3' in yellow clay.

The situation in this area is confusing, no pattern of the existence of economic values was found.

White Road :

3 holes were put down in this area. The road traverses typical swamp country. The three holes were spaced fairly widely but all were shallow 4' to 7' and bottomed on grey/black hard shale. No worthwhile values were found.

Drilling practice :

A combination auger/percussion rig was used. The holes were commenced by augering, until the water table was reached, casing was then inserted in the hole and the hole was continued using percussion methods. The samples were collected in 5' section. Generally, the recovered volumes corresponded fairly well with the theoretical volumes. In some holes running in occurred in coarse gravels due to ground water pressure, this was prevented as much as possible by keeping the casing filled with water and driving the casing as far ahead as possible.

Treatment practice :

All 5' samples were collected in 12 gall. drums. In the treatment plant the contents of the drums were transferred to a measuring bucket and accurately measured for volume. The material was then washed through on 12 mesh screen and the volume of oversize recorded.

003

The undersize was carefully fed over a 18" x 40" Wilfley concentrating table and a heavy mineral concentrate produced. This concentrate was dried and weighed. Each sample was sent to the Tasmanian Mines Department Laboratories in Launceston where magnetic separations were carried out. The values of the holes were calculated from the results of these analysis.

J. Volker

J. VOLKER

Accompanying Maps

- 1 082/2 Bark hut + sampling roads
- 2 082/3 Salmon river - 300 ac area
- 3 082/4 White road

August 26, 1969.

NOTES ON ASSAY RESULTS

The Mines Department Laboratory produced composite samples from the 5 batches of samples submitted.

The procedure was :-

1. Every individual sample was magnetically separated into a magnetic and non-magnetic fraction. The results were expressed in grams and from these figures the value of the holes was calculated and expressed in lbs. of magnetic concentrate per cubic yard.
2. The magnetic fractions of each sample were riffled half retained and the other half combined with the other sample of the batch.
3. The same procedure was followed for the non-magnetic fraction.
4. The magnetic composite from each batch was assayed for Cr. content and the Cr_2O_3 content calculated.
5. The non-magnetic composite from each batch was tabled and the concentrate resulting from this tabling was magnetically separated and the non-magnetic product assayed for Sn. The result of this assay was calculated back to the whole composite comprising magnetic and non-magnetic fractions and expressed in parts per million.
6. Thus as an example, A.W.Q3 :-
 - (a) Total volume - 4.5 cu. ft.
 - (b) Total weight of concentrate - 791.4 grs.
 - (c) 791.4 grams contains - .0379% Sn.
 - (d) or - .30 grams of Sn. in 4.5 cu. ft.
 - (e) or - .006 lbs. of 70% Sn. per cubic yardwhich means that the amount of tin is negligible.

005

| Location & No. | Depth | lbs. M. H.M. per cu. yd. | Assay Cr. | Assay Cr ₂ O ₃ |
|----------------|-------|--------------------------------|--------------|---|
|----------------|-------|--------------------------------|--------------|---|

Sapling Road

| | | | | |
|----|-------|------|-------|-------|
| 0 | 10 | - | - | - |
| 1 | 15 | - | - | - |
| 2 | 5'6" | - | - | - |
| 4 | 13'6" | 3.2 | 31.8% | 46.5% |
| 5 | 9'6" | 2.3 | 31.8% | 46.5% |
| 6 | 8 | 8.6 | 31.8% | 46.5% |
| 7 | 25 | 10.3 | 31.8% | 46.5% |
| 8 | 5 | 8.7 | 31.8% | 46.5% |
| 8A | 11 | 16.6 | 31.8% | 46.5% |
| 9 | 12'6" | 17.4 | 31.8% | 46.5% |
| 10 | 17 | 19.0 | 31.8% | 46.5% |
| 11 | 5 | 3.0 | 34.5% | 50.4% |
| 12 | 5 | - | - | - |
| 13 | 1'6" | - | - | - |
| 14 | 2'6" | - | - | - |
| 15 | 2'6" | - | - | - |

Lateral Off 4

| | | | | |
|-------|------|-----|-------|-------|
| 4-E4 | 9 | 1.7 | 34.5% | 50.4% |
| 4-E8 | 7'6" | Tr. | - | - |
| 4-E12 | 8'6" | Tr. | - | - |
| 4-E16 | 5 | Tr. | - | - |
| 4-E20 | 10 | 2.0 | 34.5% | 50.4% |
| 4-E24 | 10 | 2.5 | 34.5% | 50.4% |
| 4-E28 | 5 | Tr. | - | - |
| 4-E32 | 7'6" | Tr. | - | - |
| 4-E36 | 2'6" | Tr. | - | - |
| 4-E40 | 2'6" | - | - | - |
| 4-E44 | 10 | 1.2 | 34.5% | 50.4% |
| 4-E48 | 7 | Tr. | - | - |
| 4-E52 | 7'6" | Tr. | - | - |
| 4-E56 | 4'6" | Tr. | - | - |
| 4-E64 | 4 | Tr. | - | - |
| 4-W3 | 8'6" | Tr. | - | - |

Bark Hut Road

| | | | | |
|-------|-------|------|-------|-------|
| B.H1 | 15'6" | Tr. | 34.5% | 50.4% |
| B.H2 | 27'6" | 2.9 | 34.5% | 50.4% |
| B.H3 | 8 | 7.6 | 34.5% | 50.4% |
| B.H4 | 13 | 4.7 | 34.5% | 50.4% |
| B.H5 | 17 | 1.5 | 34.5% | 50.4% |
| B.H6 | 15 | Tr. | 34.5% | 50.4% |
| B.H7 | 34 | 1.1 | 34.5% | 50.4% |
| B.H8 | 15 | 2.1 | 34.5% | 50.4% |
| B.H9 | 2 | Tr. | - | - |
| B.H10 | 4 | 2.0 | 34.5% | 50.4% |
| B.H11 | 8 | 11.0 | 34.5% | 50.4% |
| B.H12 | 2 | Tr. | - | - |

006

| Location & No. | Depth | lbs. M. H.M. per cu. yd. | Assay Cr. | Assay Cr ₂ O ₃ |
|----------------|-------|--------------------------------|--------------|---|
|----------------|-------|--------------------------------|--------------|---|

300 acre area

| | | | | |
|-------|------|------|-------|-------|
| 300-1 | 7'6" | 6.8 | 32.5% | 47.5% |
| 300-2 | 8 | 24.5 | 32.5% | 47.5% |
| 300-3 | 6'6" | 11.2 | 32.5% | 47.5% |
| 300-4 | 5 | 20.4 | 32.5% | 47.5% |
| 300-5 | 2 | 21.5 | 32.5% | 47.5% |
| 300-6 | 5 | 11.0 | 32.5% | 47.5% |
| 300-7 | 6'6" | 17.1 | 32.5% | 47.5% |
| 300-8 | 4'6" | 22.5 | 32.5% | 47.5% |
| 300-9 | 3'6" | 12.2 | 32.5% | 47.5% |

Lovell Creek Road

| | | | | |
|------|----|-----|-------|-------|
| L.C1 | 8 | Tr. | - | - |
| L.C2 | 5 | Tr. | - | - |
| L.C3 | 2 | Tr. | - | - |
| L.C4 | 7 | 6.0 | 32.5% | 47.5% |
| L.C5 | 19 | 3.5 | 32.5% | 47.5% |
| L.C6 | 21 | 2.8 | 32.5% | 47.5% |

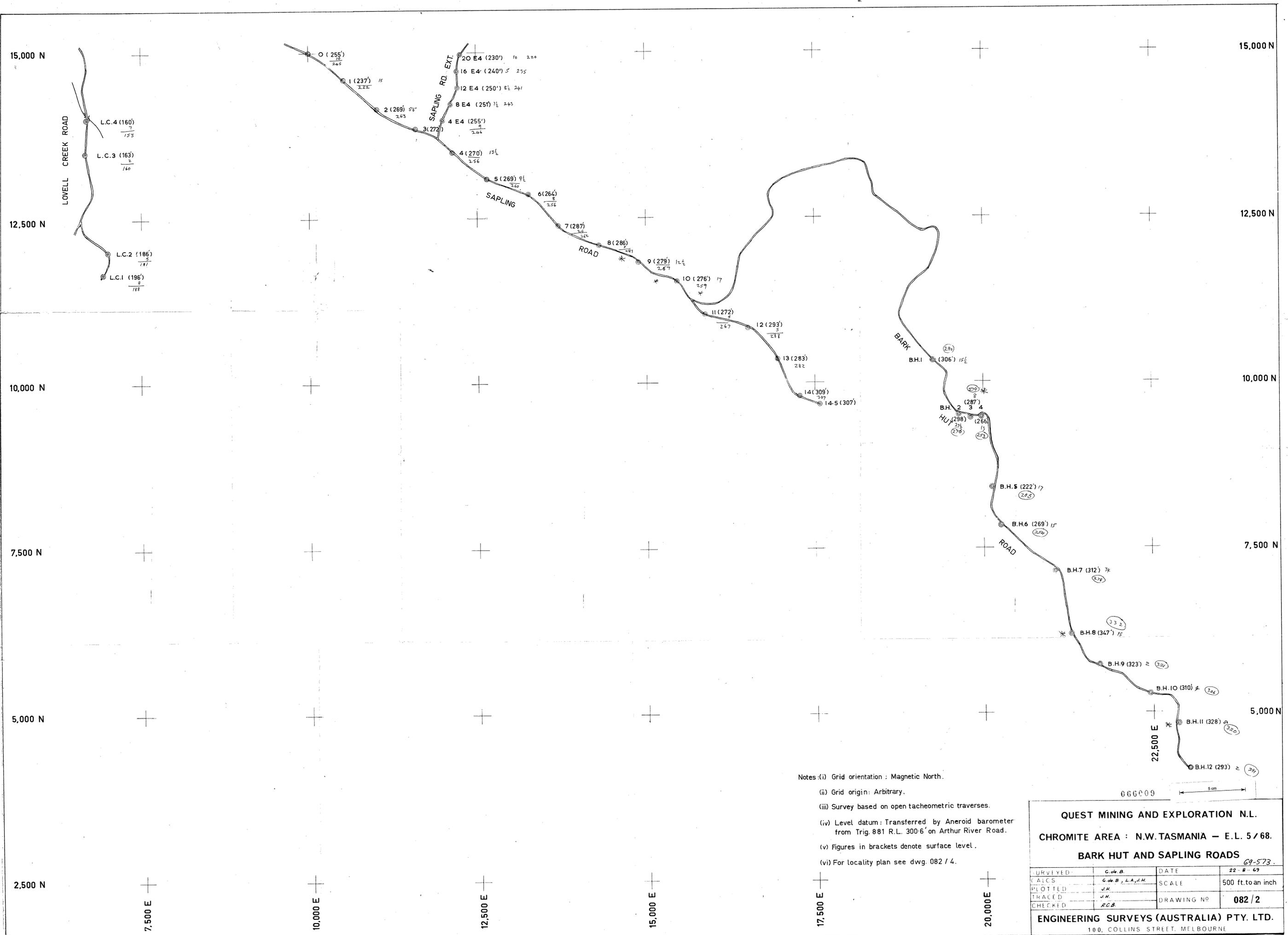
A. Walker Quarry

| | | | | | |
|---------|-------|------|-------|-------|-------------|
| A.W.Q1 | 34 | 5.1 | - | - | |
| A.W.Q2 | 68'6" | 29.2 | 37.3% | 54.5% | |
| A.W.Q3 | 25 | 16.4 | 37.3% | 54.5% | |
| A.W.Q4 | 15 | - | - | - | |
| A.W.Q5 | 51 | 56 | 37.3% | 54.5% | |
| A.W.Q6 | 6 | 70.1 | 33.4% | 48.8% | Over 5' |
| A.W.Q7 | 11 | 18.6 | 33.4% | 48.8% | |
| A.W.Q8 | 64 | 13.2 | 33.4% | 48.8% | |
| A.W.Q9 | 5 | 8.3 | 33.4% | 48.8% | |
| A.W.Q10 | 19 | 8.4 | 33.4% | 48.8% | Over top 5' |
| A.W.Q11 | 0 | 0 | - | - | |
| A.W.Q12 | 10 | Tr. | - | - | |

White Road

| | | | | | |
|------|---|-----|-------|-------|-------------|
| W.R1 | 5 | 9.0 | 33.4% | 48.8% | |
| W.R2 | 7 | 3.3 | 33.4% | 48.8% | Over top 5' |
| W.R3 | 4 | 2.8 | 33.4% | 48.8% | |

August 26, 1969.

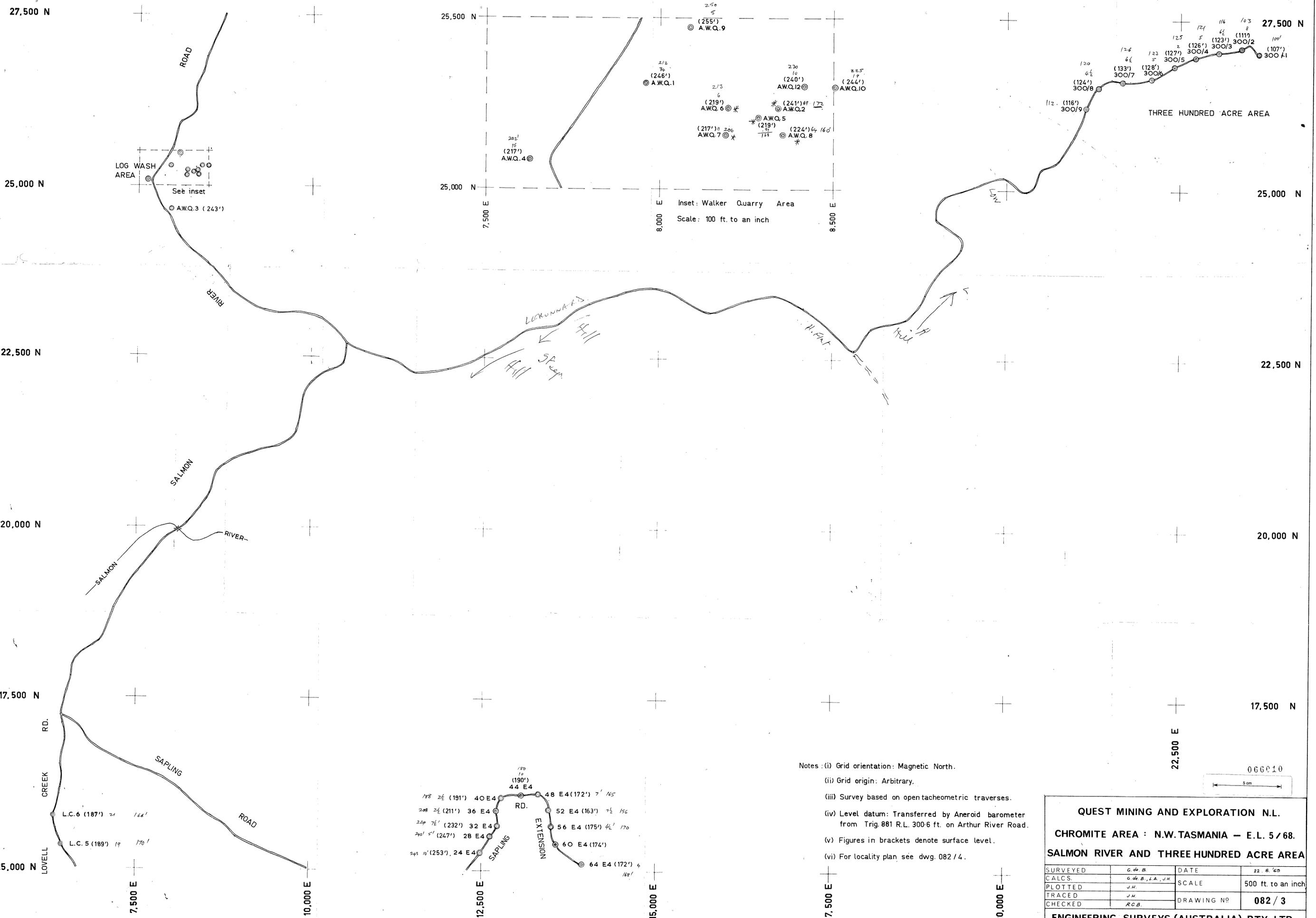


- Notes: (i) Grid orientation : Magnetic North.
(ii) Grid origin: Arbitrary.
(iii) Survey based on open tacheometric traverses.
(iv) Level datum: Transferred by Aneroid barometer from Trig. 881 R.L. 300.6' on Arthur River Road.
(v) Figures in brackets denote surface level.
(vi) For locality plan see dwg. 082 / 4.

QUEST MINING AND EXPLORATION N.L.
CHROMITE AREA : N.W. TASMANIA — E.L. 5 / 68.
BARK HUT AND SAPLING ROADS
69-573.

| | | | |
|----------|-----------------------|------------|--------------------|
| SURVEYED | G. de B. | DATE | 22-8-69 |
| CALCS | G. de B. & L.A., J.H. | SCALE | 500 ft. to an inch |
| PLOTTED | J.H. | DRAWING NO | 082 / 2 |
| TRACED | J.H. | | |
| CHECKED | R.C.B. | | |

ENGINEERING SURVEYS (AUSTRALIA) PTY. LTD.
100, COLLINS STREET, MELBOURNE

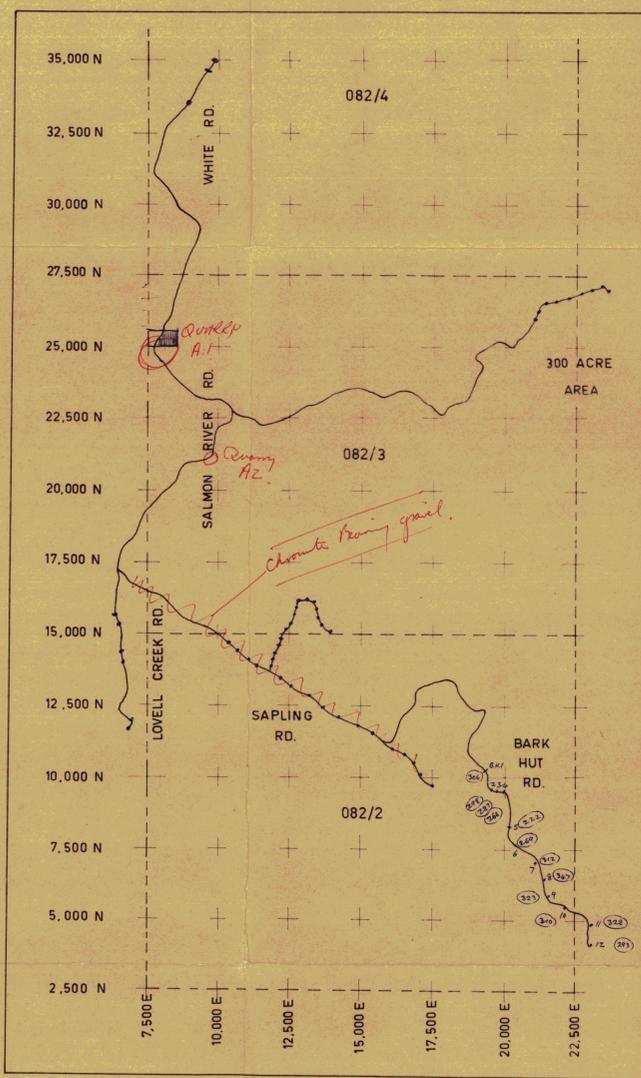
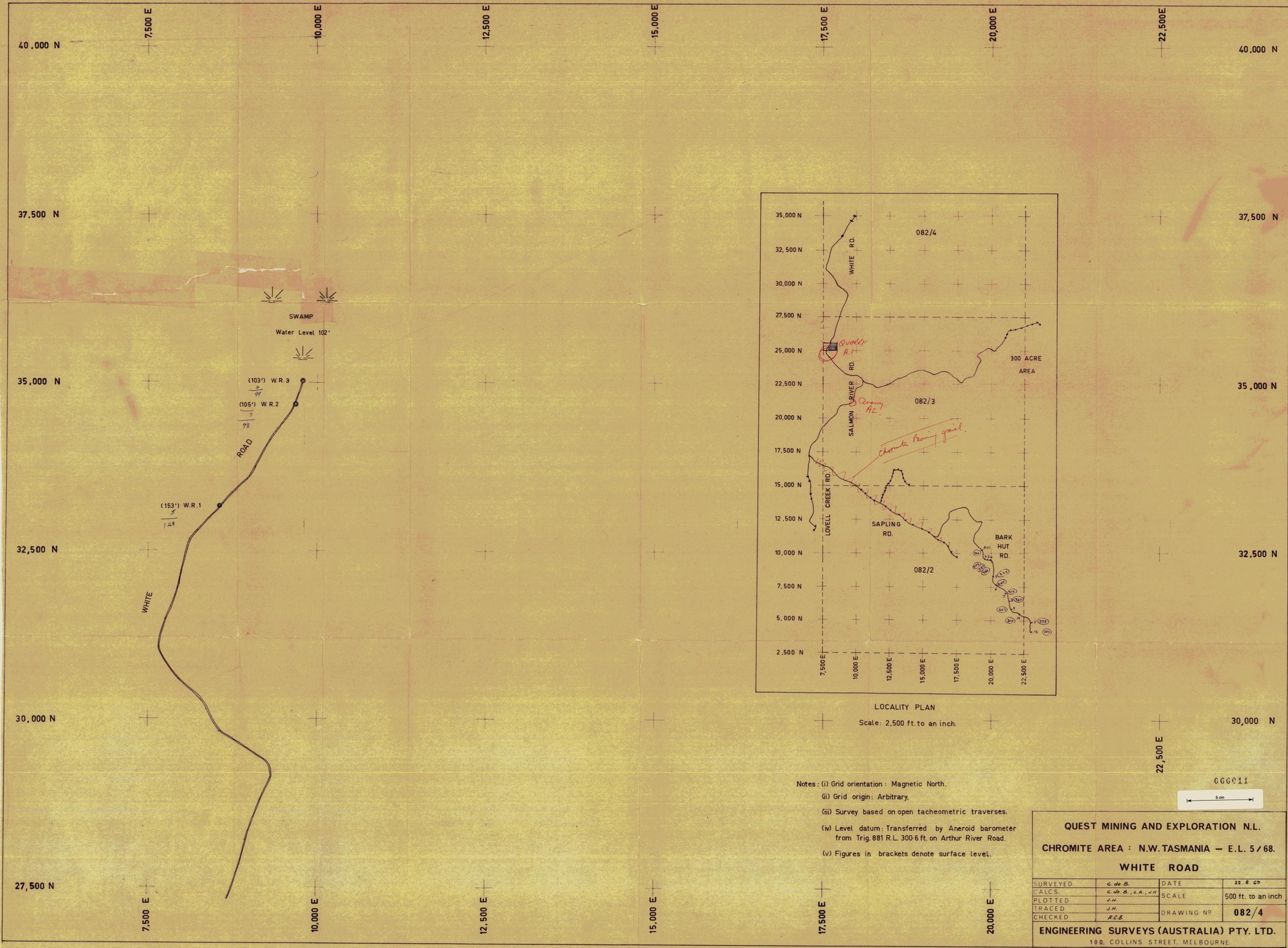


- Notes:
- (i) Grid orientation: Magnetic North.
 - (ii) Grid origin: Arbitrary.
 - (iii) Survey based on open tacheometric traverses.
 - (iv) Level datum: Transferred by Aneroid barometer from Trig. 881 R.L. 300.6 ft. on Arthur River Road.
 - (v) Figures in brackets denote surface level.
 - (vi) For locality plan see dwg. 082/4.

QUEST MINING AND EXPLORATION N.L.
CHROMITE AREA : N.W. TASMANIA — E.L. 5/68.
SALMON RIVER AND THREE HUNDRED ACRE AREA

| | | | |
|----------|--------------------|-------------|--------------------|
| SURVEYED | G.H.B. | DATE | 22.8.68 |
| CALCS. | G.H.B., L.A., J.H. | SCALE | 500 ft. to an inch |
| PLOTTED | J.H. | DRAWING NO. | 082/3 |
| TRACED | J.H. | | |
| CHECKED | R.C.B. | | |

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LOCALITY PLAN
Scale: 2,500 ft. to an inch.

- Notes: (i) Grid orientation: Magnetic North.
(ii) Grid origin: Arbitrary.
(iii) Survey based on open tacheometric traverses.
(iv) Level datum: Transferred by Aneroid barometer from Trig. 881 R.L. 300.6 ft. on Arthur River Road.
(v) Figures in brackets denote surface level.



QUEST MINING AND EXPLORATION N.L.
CHROMITE AREA : N.W. TASMANIA — E.L. 5/68.
WHITE ROAD

| | | | |
|----------|-----------------------------|------------|--------------------|
| SURVEYED | <i>C. de B.</i> | DATE | 22.8.68 |
| CALCS. | <i>C. de B., L.A., J.H.</i> | SCALE | 500 ft. to an inch |
| PLOTTED | <i>J.H.</i> | DRAWING NO | 082/4 |
| TRACED | <i>J.H.</i> | | |
| CHECKED | <i>R.C.B.</i> | | |

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