

Ground truthing WTRMP geophysical interpretations south of Macquarie Harbour

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Introduction

Airborne magnetic and radiometric data acquired as part of the Western Tasmania Regional Minerals Program were interpreted by MRT staff in late 2002. In January 2003, three days were spent ground truthing the interpretations in the Macquarie Harbour-Elliott Bay area, supported by helicopter. An additional field day was spent in the Spero River and another part-day on the northern side of Point Hibbs.

The aims of the field work were to:

- Characterise rock types which are bounded by geophysical discontinuities. These could then be readily incorporated into maps.
- Evaluate possible sites of alteration, as indicated by high potassium (K), which commonly occur in magnetically anomalous horizons.
- Test possible outcrops of volcanic rocks within the Moores Valley Tertiary graben.
- Acquire geochemical data from remote localities (e.g. Jurassic dolerite and Bonds Range porphyry correlate) to add to the Tasmanian database.

Nearly 70 target sites were chosen, and then prioritised based on the importance of the site and probable accessibility. A total of 30 sites were eventually visited, all south of Hibbs Bay (Table 1). Grid references use the Australian Map Grid (AGD66 datum).

A review of the geology in the area by Corbett (2003), while not completed at the time of the field work, was available during writing up, and his nomenclature for the volcanic units has been adopted in this report.

Noddy Creek Volcanics

A large area (10 km long and up to 1 km wide) of anomalously high radiometrics (including K) and high magnetic intensity within the western part of the Moores Valley Tertiary graben corresponds to the

location of an un-mapped Cambrian window known to Department of Primary Industries, Water and Environment geologists. The window was sampled where it is traversed by the Spero River, and also located to the south.

In the Spero River (373 300 mE, 5 278 200 mN, site 20, fig. 2), the westernmost 300 m is mildly chlorite-altered quartz + feldspar (dacitic, Ti/Zr = 24) crystal tuff and quartz + sericite altered rhyolite in which a ghost shard texture may be preserved (samples 7405, 7406 in fig. 1). In this area at least, the sequence dips and faces west. The bulk of the window (another 750 m wide) comprises variably unaltered to mildly chlorite-altered plagioclase + pyroxene andesitic/basaltic lava and lava breccia. Geochemically, the lava is high in TiO₂ (2.0%), low in SiO₂ (< 50%), has low P₂O₅/TiO₂ (0.10) and very high Ti/Zr (88), which does not fit well into the classification of Crawford *et al.* (1992) (samples 7405, 7406, 7410 and 7411 in fig. 1).

The Spero window contains about 70% primary volcanic rocks, higher than is usual for the Noddy Creek Volcanics, which typically contain only 25% lavas and intrusive rocks (Corbett, 2003). Strongly quartz + sericite, epidote + carbonate + silica and Fe-altered andesite occurs in a 200 m wide zone near the eastern edge of the window (e.g. sample 7412).

The south end of the window was sampled three kilometres south of the Spero River (373 200 mE, 5 274 700 mN, site 25) and comprises massive and laminated greywacke. Although the magnetic high continues north from the Spero River for five kilometres, the radiometric anomaly thins to a very narrow band just one kilometre north of the Spero River. At a site three kilometres north of Spero River, no Cambrian rocks were found associated with the narrow radiometric high (sites 16 and 66). The extent of the Spero window is shown in Figure 2.

One of the andesite bodies interpreted from magnetics in the southern parts of the Noddy Creek Volcanics

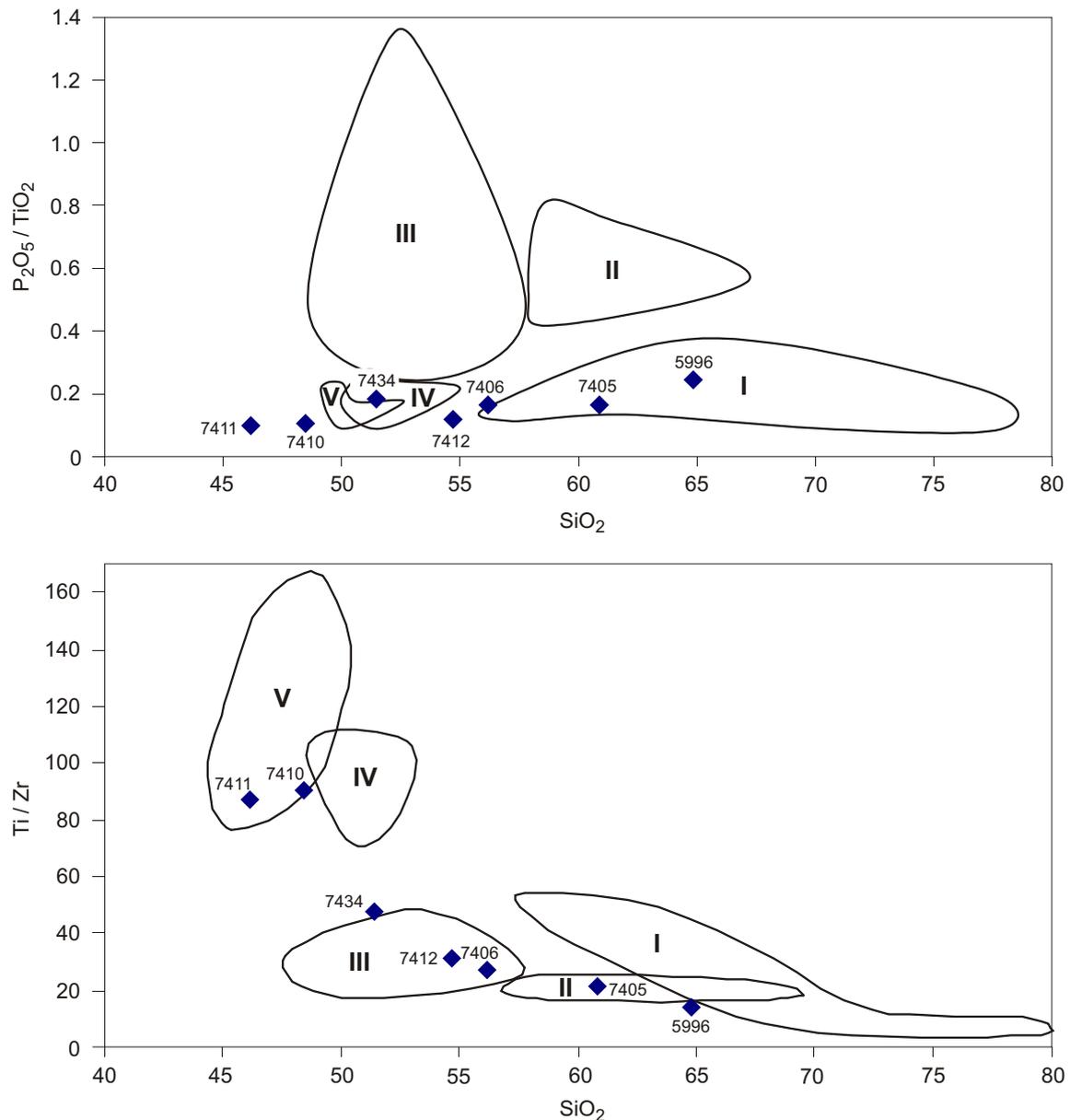


Figure 1

Volcanic samples plotted on the discrimination diagrams of Crawford *et al.* (1992). Types I-V fields are approximate.

was sampled at the south end of Endeavour Bay (site 64). This body comprises vesicular and non-vesicular chlorite-altered plagioclase + pyroxene-phyric andesite. The geochemistry is characterised by moderately high TiO_2 (0.8%), low SiO_2 (51%), low P_2O_5/TiO_2 (0.18) and high Ti/Zr (48), which corresponds to Suite III of the Crawford *et al.* (1992) classification (sample 7434 in fig. 1).

A large, intense radiometric high in the Wanderer River (378 600 mE, 5 264 600 mN, site 36, fig. 3) corresponds to an entry in MRT's Mineral Deposit database named the Wanderer River North Pb-Zn prospect. Mapping at 1:25 000 scale by Vicary *et al.* (1992) shows an 800 m wide zone of strongly cleaved and sheared rocks (associated with a major fault zone) in this area. The map also indicates quartz veins and lamprophyres, and an andesite within a dominantly

feldspar-phyric volcanoclastic sequence. Five samples from the area comprised monomict quartz + sericite-altered quartz-phyric (rhyolitic/dacitic) tuff and quartz \pm feldspar-phyric (dacitic) lava (sample 7423). Analysis of sample 7423 shows the rock to be massively silicified and anomalously enriched in cobalt.

Western quartz-phyric sequence (Western Lewis River Volcanics)

A bulls-eye radiometric low within an area of high radiometrics (including K), located inland from Veridian Point (378 900 mE, 5 244 600 mN, site 49, fig. 3), corresponded with outcrop of fine-grained rhyolite and quartz-phyric rhyolite. There was no sign of cover or alteration.

Eastern quartz-phyric sequence (Eastern Lewis River Volcanics and correlates)

A spot radiometric high (including K) northeast of Wart Hill that does not correspond to any mapped alteration (382 000 mE, 5 250 600 mN, site 43, fig. 3) is sourced from sericite-altered quartz-phyric rhyolite that was found to have moderate total counts (from K, Th and U) measured on a portable scintillation counter.

A coincident weak magnetic linear and radiometric (including K) spot high located near the Bonds Range Porphyry correlate contact was investigated (385 300 mE, 5 249 200 mN, site 46, fig. 3). The only outcrops in the vicinity were of massive quartz (magnetic susceptibility 0.2×10^{-3} SI units) and were some metres in size.

Samples of float obtained from near a moderate magnetic linear within the Bonds Range Porphyry correlate had almost zero magnetic susceptibility and therefore are not the source of the anomaly (388 300 mE, 5 249 900 mN, site 44). The samples were quartz + feldspar + biotite \pm chlorite \pm white mica porphyry.

A strong magnetic linear from the southernmost parts of the Eastern quartz-phyric sequence near Little Rocky River corresponds to the Voyager 14 prospect of Geopeko (reported in Large, 1981). The magnetic anomaly is ascribed to a unit of chlorite + sericite + opaque (probably magnetite)-altered quartz + feldspar-phyric dacite sampled at 387 650 mE, 5 244 000 mN (site 61, sample 5996 in fig. 1). The magnetic linear crosses the north-south trend of the porphyry belt at an angle and is associated with other magnetic anomalies that, taken together, could be interpreted as a single folded unit or as a number of unfolded units. This body could not be mapped using the magnetics alone.

A long, sharply defined and strong magnetic linear running from southeast of Thirkell Hill south toward Moores Valley was sampled at two locations (385 000 mE, 5 270 800 mN and 385 200 mE, 5 268 800 mN, sites 30 and 27, fig. 3). The rocks with high magnetic susceptibilities were mildly to strongly sericite-altered monomict quartz + feldspar-phyric crystal tuff and polymict quartz + feldspar + chloritised pyroxene?-phyric crystal tuff (magnetic susceptibility 0.7 to 2.7×10^{-3} SI units), which are accompanied by non-magnetic quartz-phyric rhyolite and altered quartz + feldspar-phyric dacite.

Magnetic and radiometric anomalies with Tertiary cover

A number of potential windows through the Moores Valley Tertiary graben (sites 29, 32, 34 and 38, fig. 3) were identified by coincident sharply-defined

magnetic and radiometric highs. None proved to contain outcropping Cambrian rocks.

A wedge of rocks at the southeastern end of the Thirkell Hill block of volcanic rocks is mapped as Tertiary (site 33), but is characterised by magnetics and radiometrics indicative of the adjacent Mount Read Volcanics. Unfortunately, access was not practicable on this field trip, but the thick, forested vegetation was similar to the vegetation covering the adjacent MRV rocks but not similar to the adjacent grassy areas underlain by Tertiary sedimentary rocks.

Cambrian ultramafic rocks

An ultramafic body, interpreted from magnetic data within the Noddy Creek Volcanics in the Point Hibbs area, was sampled near the mouth of the Spero River (363 700 mE, 5 278 100 mN, site 57, fig. 2). The sample was a 500 mm angular block probably from a nearby outcrop (sample 7431). The rock was a serpentinised pyroxenite with a magnetic susceptibility of 12×10^{-3} SI units and contained 1750 ppm Ni.

This sample confirms that this eastern arm of the belt of ultramafic rocks associated with the western side of the Noddy Creek Volcanics is not tectonic in nature, but is probably equivalent to the western arm north of Point Hibbs.

Ordovician sedimentary rocks

A fossil locality in the Owen Group, from which samples were previously lost, was revisited, but despite a thorough search, no fossils were found (Wanderer River area, 380 100 mE, 5 262 400 mN, site 37, fig. 3).

Jurassic dolerite

Dolerite was sampled from Moores Valley (387 150 mE, 5 257 500 mN, site 59, sample 5988) and from Point Hibbs (357 850 mE, 5 280 500 mN, site 65) for the purpose of adding to Tasmania's geochemical database. A slow helicopter traverse around Point Hibbs was used to search for additional inliers in the dolerite, but none were observed (site 18).

Lamprophyre

An additional lamprophyre (hornblende + pyroxene + plagioclase) dike was located at Conder Point (362 960 mE, 5 277 000 mN (site 63, sample 7432). This dike was five metres thick and trended 038 degrees, dipping 78 degrees southeast.

Precambrian (Tyennan)

Repeating and parallel magnetic linears in the Tyennan rocks were sampled at one location in Little Percy Creek (391 500 mE, 5 272 670 mN, site 26). The anomaly was found to be due to a 20 m thick grey quartz + feldspar + biotite phyllite (with foliation oriented 005/64W) in a region dominated by quartzite.

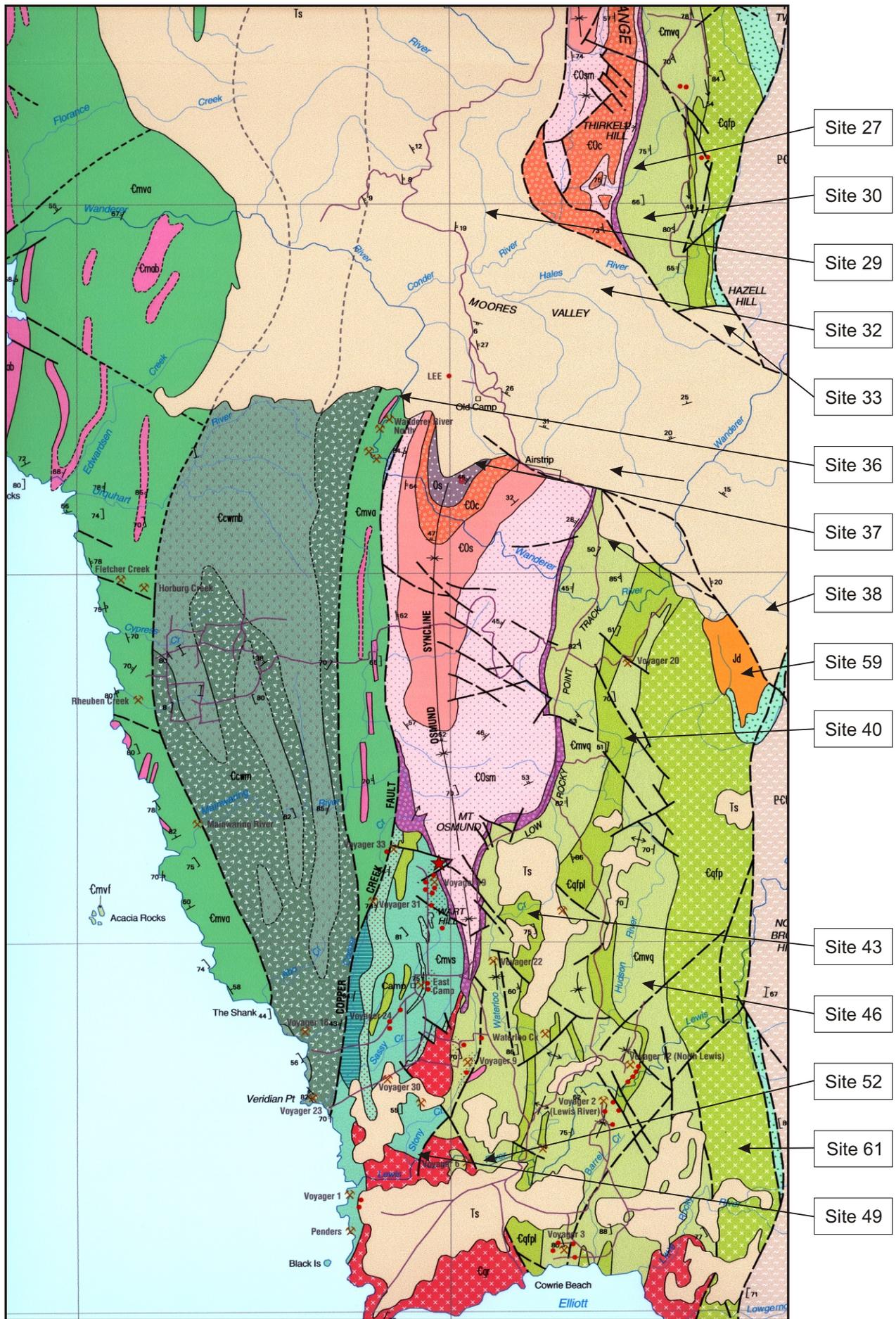


Figure 3

Locations of some of the sites visited (base map from Corbett, 2003). Grid lines are spaced 10 km apart.

A strong magnetic linear along the crest of the Charles Range could not be ascribed to any outcropping rock (393 900 mE, 5 271 000 mN, site 62), which was generally quartz schist (with schistosity oriented 145/22SW).

Conclusions

Undoubtedly the most significant find was the additional outcrop of Mount Read Volcanics crossing the Spero River. Interestingly, the unit is volcanic-rich and is strongly altered in the easternmost outcrops.

Other new alteration was found near Wart Hill (sericite, site 43), within the Bonds Range Porphyry correlate (chlorite + sericite + opaque alteration, site 61) and within the Eastern quartz-phyric sequence (massive quartz, site 46).

References

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- VICARY, M. J.; PEMBERTON, J.; BRADBURY, J.; CORBETT, K. D. 1992. *Mount Read Volcanics Project Geological Map Series. Map 11. Geology of the Wanderer River - Moores Valley area*. Division of Mines and Mineral Resources Tasmania.

[12 August 2003]

Table 1
Details of sites visited

| Site No. | Target | AMG (east) | AMG (north) | Location | Geophysical signature | Interpretation | Result (including Tasrock numbers) |
|----------|---------------------------------|------------|-------------|--|--|--|--|
| 16 | Noddy Creek Volcanics | 372503 | 5281199 | SE of Thomas Creek | Magnetic linear | North end of Spero River window into MRV | Tertiary |
| 18 | Dolerite | 357500 | 5279500 | Pt Hibbs and Hibbs Pyramid | Mixed radiometric and magnetic signals | Inliers in dolerite | Dolerite only |
| 20 | Noddy Creek Volcanics | 373300 | 5278200 | Spero River | Highest K anomaly on sharp magnetic high | MRV window in Tertiary cover | MRV tuff and andesite (7401-16) |
| 25 | Noddy Creek Volcanics | 373226 | 5274722 | South of Spero River | Blue-green radiometrics indicative of MRV | Possible new window through Tertiary cover | MRV greywacke (7417-18) |
| 26 | Tyennan | 391503 | 5272668 | Percy Creek | Long, linear magnetic high adjacent mappable radiometric high | Pelite | Quartz + feldspar + biotite schist (7430) |
| 27 | Lewis River Volcanics correlate | 385015 | 5270829 | North of Hales River, south of Thirkell Hill | Linear magnetic high and radiometric high | Mappable unit in volcanic rocks | Polymict quartz ± feldspar ± chloritised pyroxene?-phyric crystal- lithic tuff and rhyolite/dacite (7427-29) |
| 29 | Tertiary | 381500 | 5269850 | North of Conder River | K blip | Possible new window through Tertiary cover | Tertiary |
| 30 | Lewis River Volcanics correlate | 385185 | 5268821 | North of Hales River | Sharp magnetic linear | Mappable unit in volcanic rocks | Sericite-altered quartz + feldspar-phyric (dacitic) tuff (mag. sus. 0.7–2.7 SI) (7425-26) |
| 32 | Lewis River Volcanics correlate | 384700 | 5267000 | Moores Plain | Linear, sharp K high | Alteration of underlying volcanics | Tertiary |
| 33 | Lewis River Volcanics correlate | 387900 | 5266050 | Wanderer River | Highest K anomaly on sharp magnetic high | Possible new window through Quaternary cover | Thick bush indicating MRV |
| 34 | Lewis River Volcanics correlate | 388700 | 5265000 | Wanderer River | Sharpest magnetic anomaly (with small K anomaly) | Possible new window through Quaternary cover | No outcrop |
| 36 | Lewis River Volcanics correlate | 378622 | 5264630 | Upper Wanderer River | Large, intense radiometric high | Alteration | Quartz + sericite-altered quartz + feldspar-phyric dacite and dacitic tuff (7419-24) |
| 37 | Owen Group | 380100 | 5262400 | Wanderer River | Fossil locality (J Pemberton) | Owen Group | Fossils not found |
| 38 | Lewis River Volcanics | 388300 | 5258600 | Moores Plain | Coincident magnetic high and radiometric high (K) | Possible new window through Tertiary cover | Tertiary (mag. sus. 0–0.03 × 10 ⁻³ SI) |
| 39 | Lewis River Volcanics | 383267 | 5258434 | Wanderer River | Spot K high | Alteration | Rhyolitic tuff (5987) |
| 40 | Lewis River Volcanics | 384695 | 5255010 | Hudson River | Coincident folded linear magnetic high and spot radiometric low (K) near fault | Alteration | Navigational error; missed target |
| 41 | Tyennan | 387929 | 5253990 | North of Lewis River | Coincident weak magnetic high and strong K high on fault | Alteration? | Quartzite conglomerate (mag. sus. 0) (5990) |
| 43 | Lewis River Volcanics | 382000 | 5250600 | North of Lewis River | Radiometric high | Alteration | Quartz + feldspar-phyric dacite (Mag sus 0, high total counts) (5991) |

| Site No. | Target | AMG (east) | AMG (north) | Location | Geophysical signature | Interpretation | Result (including Tasrock numbers) |
|----------|-----------------------|------------|-------------|---|--|--|--|
| 44 | Lewis River Volcanics | 387034 | 5250000 | West of Lewis River | Coincident weak linear magnetic high and weak spot radiometric low | Alteration | Quartz + feldspar + biotite ± chlorite ± white mica porphyry (5993-95) |
| 46 | Lewis River Volcanics | 385295 | 5249199 | Hudson River | Coincident weak magnetic and weak radiometric spot highs | Alteration | Massive quartz (mag. sus. 0.22×10^{-3} SI) (5992) |
| 49 | Lewis River Volcanics | 378914 | 5244546 | Inland of Veridian Point, Lewis River tidal limit | Bulls-eye radiometric low | Tertiary? | Quartz-phyric and aphyric rhyolite (5998-6000) |
| 52 | Lewis River Volcanics | 381000 | 5243300 | Lewis River | U high | Not granite | No outcrop |
| 57 | Ultramafic | 363733 | 5278054 | Spero Bay | Magnetic linear | Ultramafic | Pyroxenite (mag. sus. 12×10^{-3} SI) (7431) |
| 59 | Dolerite | 387151 | 5257511 | Moore's Valley | Magnetic linear | Dolerite | Dolerite (5988) |
| 61 | Lewis River Volcanics | 387667 | 5243987 | Little Rocky River | Sharp, linear magnetic high, with spot K high | Mappable unit in massive porphyry. This range is the source of the second highest stream sed Au found in southwest | Quartz + feldspar-phyric dacite with chlorite + sericite + opaque alteration (mag. sus. $0.7-0.9 \times 10^{-3}$ SI) (5996-97) |
| 62 | Tyennan | 393886 | 5271391 | Charles Range | Magnetic linear | Pelitic schist | Quartzite |
| 63 | Noddy Creek Volcanics | 362985 | 5260985 | Conder Point | Complex magnetics | Magnetic stratigraphy | Lamprophyre in extensive greywacke country rock (7432) |
| 64 | Noddy Creek Volcanics | 366100 | 5275550 | Endeavour Bay | Magnetic linear | Andesite | Andesite (7433-34) |
| 65 | Dolerite | 357848 | 5280476 | Point Hibbs | High magnetics | Dolerite | Dolerite (7435) |
| 66 | Noddy Creek Volcanics | 372284 | 5281587 | SE of Thomas Creek | Magnetic linear | North end of Spero River window into MRV | Tertiary |

Table 2
XRF analyses of samples

| Tas Rock No. | 7410 | 7411 | 7434 | 7412 | 5996 | 7405 | 7406 | 7423 | 5988 | 7431 |
|---|--------------|--------------|--------------|----------------------|--------------|-----------------|----------------|------------------|--------------|--------------|
| | Andesite | Andesite | Andesite | Epid-alt andesite | Rhyolite | Dacitic tuff | Dacite lava | Dacite | Dolerite | Pyroxenite |
| SiO ₂ | 48.47 | 46.16 | 51.45 | 54.69 | 64.84 | 60.88 | 56.19 | 90.56 | 52.87 | 37.85 |
| TiO ₂ | 1.95 | 1.96 | 0.80 | 1.24 | 0.43 | 0.65 | 0.58 | 0.02 | 0.47 | 0.01 |
| Al ₂ O ₃ | 13.69 | 13.90 | 15.96 | 11.50 | 13.38 | 16.20 | 16.82 | 4.55 | 13.45 | 0.77 |
| Fe ₂ O ₃ | 11.42 | 7.19 | 3.65 | 8.37 | 3.67 | 1.13 | 1.47 | 0.05 | 0.89 | 9.69 |
| FeO | 1.87 | 5.60 | 4.83 | 1.87 | 3.67 | 4.57 | 5.60 | 0.06 | 7.73 | 1.87 |
| MnO | 0.15 | 0.18 | 0.14 | 0.11 | 0.70 | 0.06 | 0.10 | 0.01 | 0.17 | 0.11 |
| MgO | 6.40 | 9.44 | 4.98 | 3.85 | 2.79 | 4.56 | 2.92 | 0.04 | 9.53 | 36.57 |
| CaO | 7.36 | 6.61 | 9.10 | 14.94 | 0.89 | 4.07 | 5.32 | 1.35 | 11.24 | 0.05 |
| Na ₂ O | 4.50 | 3.85 | 4.65 | 0.66 | 0.22 | 1.41 | 3.92 | 0.05 | 1.61 | 0.35 |
| K ₂ O | 0.68 | 0.29 | 1.15 | 0.02 | 4.87 | 1.90 | 1.21 | 1.14 | 0.63 | 0.01 |
| P ₂ O ₅ | 0.20 | 0.19 | 0.15 | 0.15 | 0.11 | 0.11 | 0.10 | 0.00 | 0.08 | 0.02 |
| SO ₃ | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 |
| CO ₂ | 0.02 | 0.03 | 0.02 | 0.08 | 0.61 | 0.21 | 2.21 | 0.21 | 0.16 | 0.16 |
| H ₂ O ⁺ | 2.99 | 4.47 | 2.81 | 2.18 | 3.16 | 3.50 | 3.23 | 1.15 | 0.97 | 11.93 |
| Total | 99.71 | 99.88 | 99.71 | 99.67 | 99.37 | 99.24 | 99.68 | 99.19 | 99.80 | 99.39 |
| LOI | 2.80 | 3.88 | 2.29 | 2.05 | 3.36 | 3.20 | 4.82 | 1.35 | 0.27 | 11.89 |
| P ₂ O ₅ /TiO ₂ | 0.10 | 0.10 | 0.18 | 0.12 | 0.24 | 0.16 | 0.16 | 0.00 | 0.17 | 2.00 |
| Ti/Zr | 90.1 | 87.1 | 48.0 | 31.1 | 14.1 | 21.0 | 26.8 | 19.7 | 39.0 | 10.6 |
| Th (ppm) | <10 | <10 | 10 | <10 | 27 | 11 | 11 | <10 | <10 | <10 |
| Sr (ppm) | 185 | 220 | 400 | 3800 | 33 | 230 | 320 | <5 | 115 | <5 |
| U (ppm) | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Rb (ppm) | 8 | 7 | 26 | <5 | 280 | 98 | 51 | 25 | 25 | <5 |
| Y (ppm) | 27 | 39 | 19 | 12 | 44 | 30 | 28 | <5 | 18 | <5 |
| Zr (ppm) | 130 | 135 | 100 | 240 | 185 | 185 | 130 | 6 | 72 | 5 |
| Nb (ppm) | 7 | 8 | 6 | <3 | 16 | 9 | 7 | <3 | <3 | <3 |
| Mo (ppm) | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Cr (ppm) | 210 | 220 | 95 | 170 | 91 | 28 | 115 | 10 | 240 | 4600 |
| V (ppm) | 320 | 350 | 330 | 360 | 81 | 200 | 230 | 21 | 260 | 50 |
| Sc (ppm) | 38 | 37 | 31 | 27 | 12 | 24 | 25 | <9 | 45 | 10 |
| Co (ppm) | 53 | 62 | 50 | 73 | 31 | 25 | 36 | 71 | 73 | 100 |
| As (ppm) | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 | <20 |
| Bi (ppm) | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Ga (ppm) | 18 | 18 | 17 | 19 | 16 | 17 | 18 | 6 | 14 | 5 |
| Zn (ppm) | 105 | 140 | 79 | 40 | 250 | 70 | 66 | 5 | 69 | 30 |
| W (ppm) | 43* | 31* | 115* | 360* | 175* | 55* | 71* | 500* | 210* | <10 |
| Cu (ppm) | 59 | 25 | 110 | 34 | 5 | 11 | 14 | 7 | 57 | <5 |
| Ni (ppm) | 94 | 105 | 51 | 55 | 36 | 14 | 37 | 8 | 115 | 1750 |
| Sn (ppm) | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 | <9 |
| Pb (ppm) | <10 | <10 | <10 | <10 | 16 | 10 | <10 | 27 | <10 | <10 |
| S (%) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 _v | 0.0 | 0.0 |
| Nd (ppm) | <20 | 28 | 21 | <20 | 56 | 30 | 28 | <20 | <20 | <20 |
| Ce (ppm) | <28 | <28 | 56 | <28 | 150 | 72 | 69 | <28 | <28 | <28 |
| La (ppm) | <20 | <20 | 26 | <20 | 83 | 34 | 32 | <20 | <20 | <20 |
| Ba (ppm) | 125 | 90 | 720 | <23 | 980 | 400 | 340 | 290 | 150 | <23 |

Note: Samples were crushed in a tungsten-bearing bowl.

Table 3
Tasrok database

| Tasrok num. | AMG East | AMG North | Lithology | Age | Thin sect. | Polish sect. | Chem anal. | Field book | Geologist | Field num. | Mag. Sus. | Rock |
|-------------|----------|-----------|--|-------------|------------|--------------|------------|-------------|-----------|------------|-----------------------------|---------------------------------|
| 5987 | 383267 | 5258434 | Rhyolitic tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 5987 | | Lewis River Volcanics |
| 5988 | 387151 | 5257511 | Dolerite | Jurassic | 1 | | 1 | DCG_2002-03 | DCG | 5988 | | Dolerite |
| 5989 | 384695 | 5255010 | Rhyolite? | Cambrian | | | | DCG_2002-03 | DCG | 5989 | | Lewis River Volcanics |
| 5990 | 387929 | 5253990 | Quartzite conglomerate | Precambrian | 1 | | | DCG_2002-03 | DCG | 5990 | 0 | Tyennan |
| 5991 | 382000 | 5250600 | Quartz + feldspar-phyric dacite | Cambrian | 1 | | | DCG_2002-03 | DCG | 5991 | 0 | Lewis River Volcanics |
| 5992 | 385295 | 5249199 | Massive quartz | Cambrian | | | | DCG_2002-03 | DCG | 5992 | 0.22×10^{-3} SI | Lewis River Volcanics |
| 5993 | 387034 | 5250000 | Quartz + felspar schist | Precambrian | 1 | | | DCG_2002-03 | DCG | 5993 | | Lewis River Volcanics |
| 5994 | 387034 | 5250000 | Quartz + felspar schist | Precambrian | 1 | | | DCG_2002-03 | DCG | 5994 | | Lewis River Volcanics |
| 5995 | 387034 | 5250000 | Quartz + feldspar + biotite \pm chlorite \pm white mica porphyry (5993-95) | Cambrian | 1 | | | DCG_2002-03 | DCG | 5995 | | Lewis River Volcanics |
| 5996 | 387667 | 5243987 | Quartz-phyric rhyolite with chlorite + opaque alteration | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 5996 | $0.7-0.9 \times 10^{-3}$ SI | Lewis River Volcanics |
| 5997 | 387667 | 5243987 | Quartz + feldspar-phyric dacite/rhyolite with chlorite + sericite + opaque alteration | Cambrian | 1 | | | DCG_2002-03 | DCG | 5997 | $0.7-0.9 \times 10^{-3}$ SI | Lewis River Volcanics |
| 5998 | 378914 | 5244546 | Aphyric rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 5998 | | Lewis River Volcanics |
| 5999 | 378914 | 5244546 | Aphyric rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 5999 | | Lewis River Volcanics |
| 6000 | 378914 | 5244546 | Quartz-phyric rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 6000 | | Lewis River Volcanics |
| 7401 | 373300 | 5278200 | Quartz + feldspar-phyric crystal tuff with chlorite alteration | Cambrian | 1 | | | DCG_2002-03 | DCG | 7401 | | Noddy Creek Volcanics |
| 7402 | 373300 | 5278200 | Feldspar-phyric crystal tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7402 | | Noddy Creek Volcanics |
| 7403 | 373300 | 5278200 | Aphyric (rhyolitic) tuff with ghost shard texture | Cambrian | 1 | | | DCG_2002-03 | DCG | 7403 | | Noddy Creek Volcanics |
| 7404 | 373300 | 5278200 | Quartz + feldspar-phyric crystal tuff with chlorite alteration | Cambrian | 1 | | | DCG_2002-03 | DCG | 7404 | | Noddy Creek Volcanics |
| 7405 | 373300 | 5278200 | Monomict fine grained dacitic crystal? tuff with chlorite alteration | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7405 | | Noddy Creek Volcanics |
| 7406 | 373300 | 5278200 | Feldspar-phyric dacite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7406 | | Noddy Creek Volcanics |
| 7407 | 373300 | 5278200 | Monomict pyroxene + plagioclase andesite breccia | Cambrian | 1 | | | DCG_2002-03 | DCG | 7407 | | Noddy Creek Volcanics |
| 7408 | 373300 | 5278200 | Chlorite-altered pyroxene + plagioclase andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7408 | | Noddy Creek Volcanics |
| 7409 | 373300 | 5278200 | Chlorite-altered pyroxene + plagioclase andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7409 | | Noddy Creek Volcanics |
| 7410 | 373300 | 5278200 | Chlorite-altered pyroxene + plagioclase andesite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7410 | | Noddy Creek Volcanics |
| 7411 | 373300 | 5278200 | Chlorite-altered pyroxene + plagioclase andesite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7411 | | Noddy Creek Volcanics |
| 7412 | 373300 | 5278200 | Epidote + quartz-altered andesite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7412 | | Noddy Creek Volcanics |
| 7413 | 373300 | 5278200 | Quartz + sericite-altered andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7413 | | Noddy Creek Volcanics |
| 7414 | 373300 | 5278200 | Hematite-altered andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7414 | | Noddy Creek Volcanics |
| 7415 | 373300 | 5278200 | Chlorite-altered pyroxene + plagioclase andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7415 | | Noddy Creek Volcanics |
| 7416 | 373300 | 5278200 | Dacite/rhyolite? | Cambrian | 1 | | | DCG_2002-03 | DCG | 7416 | | Noddy Creek Volcanics |
| 7417 | 373226 | 5274722 | Greywacke | Cambrian | 1 | | | DCG_2002-03 | DCG | 7417 | | Noddy Creek Volcanics |
| 7418 | 373226 | 5274722 | Laminated greywacke | Cambrian | 1 | | | DCG_2002-03 | DCG | 7418 | | Noddy Creek Volcanics |
| 7419 | 378622 | 5264630 | Monomict quartz + sericite-altered quartz + feldspar-phyric dacitic/rhyolitic tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7419 | | Lewis River Volcanics correlate |
| 7420 | 378622 | 5264630 | Monomict quartz + sericite-altered quartz + feldspar-phyric dacitic/rhyolitic tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7420 | | Lewis River Volcanics correlate |
| 7421 | 378622 | 5264630 | Quartz + feldspar-phyric dacite/rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7421 | | Lewis River Volcanics correlate |
| 7422 | 378622 | 5264630 | Quartz + feldspar-phyric dacite/rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7422 | | Lewis River Volcanics correlate |

| Tasrok num. | AMG East | AMG North | Lithology | Age | Thin sect. | Polish sect. | Chem anal. | Field book | Geologist | Field num. | Mag. Sus. | Rock |
|-------------|----------|-----------|--|-------------|------------|--------------|------------|-------------|-----------|------------|-------------------------------|---------------------------------|
| 7423 | 378622 | 5264630 | Quartz + feldspar-phyric dacite/rhyolite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7423 | | Lewis River Volcanics correlate |
| 7424 | 378622 | 5264630 | Quartz + feldspar-phyric dacite/rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7424 | | Lewis River Volcanics correlate |
| 7425 | 385185 | 5268821 | Sericite altered quartz + feldspar-phyric dacitic tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7425 | 0.7-2.7 × 10 ⁻³ SI | Lewis River Volcanics correlate |
| 7426 | 385185 | 5268821 | Strongly sericite altered quartz + feldspar-phyric (dacitic) tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7426 | 0.7-2.7 × 10 ⁻³ SI | Lewis River Volcanics correlate |
| 7427 | 385015 | 5270829 | Polymict quartz + feldspar +chloritised pyroxene?-phyric crystal-lithic tuff | Cambrian | 1 | | | DCG_2002-03 | DCG | 7427 | | Lewis River Volcanics correlate |
| 7428 | 385015 | 5270829 | Quartz-phyric rhyolite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7428 | | Lewis River Volcanics correlate |
| 7429 | 385015 | 5270829 | Quartz + feldspar-phyric rhyolite/dacite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7429 | | Lewis River Volcanics correlate |
| 7430 | 391503 | 5272668 | Quartz + feldspar + biotite schist | Precambrian | 1 | | | DCG_2002-03 | DCG | 7430 | | Tyennan |
| 7431 | 363733 | 5278054 | Pyroxenite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7431 | 12 × 10 ⁻³ SI | Ultramafic |
| 7432 | 362985 | 5260985 | Hornblende + pyroxene + plagioclase lamprophyre | Cretaceous | 1 | | | DCG_2002-03 | DCG | 7432 | | Noddy Creek Volcanics |
| 7433 | 366100 | 5275550 | Vesicular chlorite-altered pyroxene + plagioclase-phyric andesite | Cambrian | 1 | | | DCG_2002-03 | DCG | 7433 | | Noddy Creek Volcanics |
| 7434 | 366100 | 5275550 | Chlorite-altered pyroxene + plagioclase-phyric andesite | Cambrian | 1 | | 1 | DCG_2002-03 | DCG | 7434 | | Noddy Creek Volcanics |
| 7435 | 357848 | 5280476 | Dolerite | Jurassic | 1 | | 1 | DCG_2002-03 | DCG | 7435 | | Dolerite |
| 7436 | 357500 | 5279500 | Fossiliferous mudstone | Permian | | | | DCG_2002-03 | DCG | 7436 | | Permian |