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PROJECT 296

K-55-3

PLACER EXPLORATION LIMITED

RELINQUISHMENT REPORT. 1989

EXPLORATION LICENCE EL 47/88

MAGNET, TASMANIA

90-3070 O/F

HOBART

DECEMBER 1989

P.D. ELLIS.

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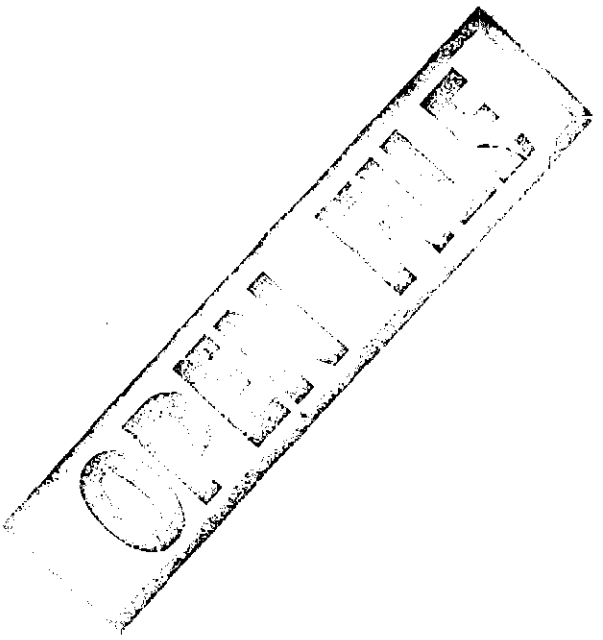

KEYWORDS

TASMANIA	EXPLORATION
EL 47/88	GOLD
SK 55-03	SILVER
MINERALIZATION	LEAD
MAGNET	ZINC
DRAINAGE GEOCHEMISTRY	COPPER
MINE	ARSENIC
PETROLOGY	GEOLOGY
ARTHUR RIVER	7915

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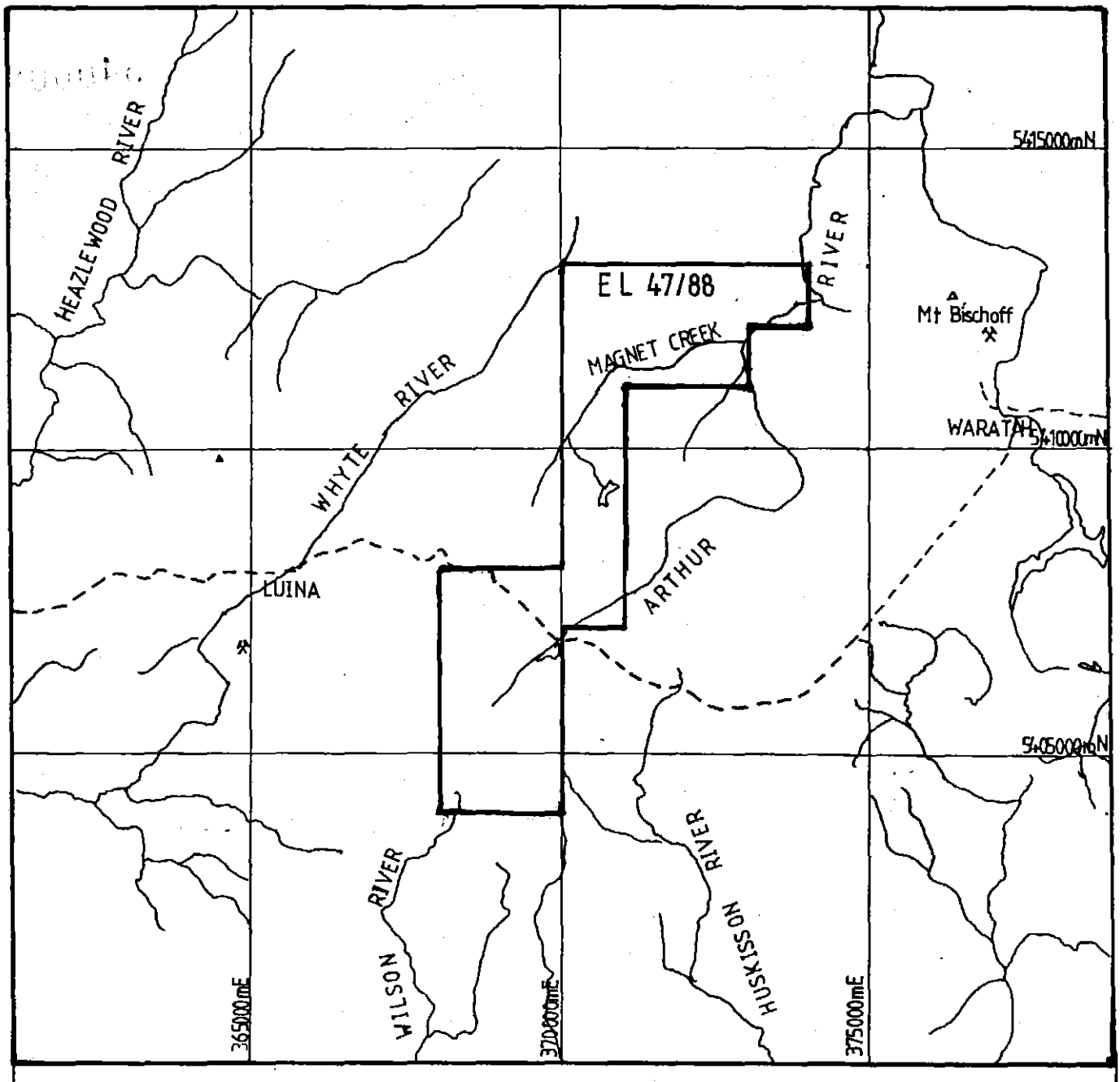

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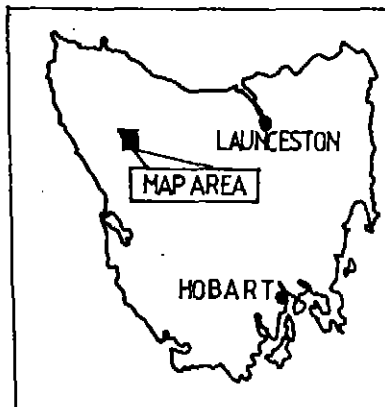

FIG. 1 LOCATION PLAN MAGNET EL47/88

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1. INTRODUCTION

EL 47/88 (Magnet) was obtained by Placer Exploration Limited as a result of a Tender Application for part of Tenement Application ETA 53 in August 1988. This was to explore a part (50 Sq km) of EL 5/63 (formerly held by Comstaff) for gold mineralization associated with Cambrian high magnesia and/or low titania volcanics. EL 47/88 was granted to Placer Exploration Limited on the 6th January 1989 over an area of 19 Sq km. This area has an expenditure commitment of $40,000 over the first two years of tenure.

The Licence is located 65km south south-west of Burnie, a major industrial town and port on the north-west coast of Tasmania (Figure 1). The Licence is centered on the abandoned Magnet Mine and extends from the Magnet Range south to Wombat Hills and from the Arthur River/Magnet Creek confluence westward almost to Luina.

The area has potential for gold mineralization related to Cambrian mafic volcanics, similar to that observed in some Western Australian, Victorian and South African gold areas. The mafic volcanics are adjacent to an Eo-Cambrian basic volcanoclastics sequence containing carbonate rich horizons (such as at the Cleveland Mine). The Devonian Meredith Granite has intruded the Cambrian sequence.

Known mineralization in the area includes lead-zinc-silver at the Magnet Mine and at small shows along Magnet Creek, tin-copper-lead-zinc adjacent to the Magnet Dam greissen tin associated with the Meredith Granite at Wombat Flat and tin associated with porphyrics at Mt Bischoff.

After the discovery of tin at Mt Bischoff in 1871 the Waratah-Magnet area was extensively prospected in the 1872-1895 period. The Magnet Mine was worked from 1891 until 1940 with only limited exploration in the vicinity. In recent times the area has been briefly explored by RioTinto; (1956-60); EZ (1963); Cleveland Tin (1968) and Comstaff (1971-1988). Access to the mine was greatly improved in 1973 when EZ removed the tailings for zinc recovery through their Rosebery plant. Mining Lease 51 M/73 (over the tailings) and Mining Purposes Lease 8 W/74 (over the access track) are both currently held by EZ.

Recently the Government has nominated a 1 sq. km area (over the Magnet Mine) as a Fossicking Area with public rights to the top 15m. This includes part of EL 47/88, E.Z.'s 51 M/73 and part of 8 W/74 and R. Webb's Miners Right.

This report summarizes the investigations completed by Placer Exploration since obtaining the EL 47/88 area on the 6th January 1989.

2. SUMMARY

Exploration of EL 47/88 commenced in January 1989. An initial review of previous exploration showed that although the early prospectors had found gold in the area, most exploration had concentrated on locating Pb-Zn-Ag. Most work had been in the vicinity of Magnet Mine.

An initial confirmed very strong gold anomaly (32470 ppb) in a bulk cyanide leach sample was found to be a laboratory error. Follow-up drainage sampling showed the Magnet Creek to have an anomalous gold content (3-13 ppb in bulk leach samples and 2-220 ppb in -80A stream sediments).

Detailed sampling of the streams in the Au anomalous zone showed the gold was only in the lowermost parts of a few of the streams in the Magnet Mine - Lunch Creek area. This suggested a possible contamination from the Magnet Mine mineralization. However, samples of the mineralization and gossan showed only very low to negligible gold values.

An alternative explanation for the gold source may be the line of small basemetal prospects extending from the Arthur River to the Magnet Mine area. This line of vein lead/zinc occurs in the Cambrian/PreCambrian sediments adjacent to the Magnet Creek. Again, samples of this mineralization showed no significant gold.

A third alternative is: the gold is associated with boninitic lavas, tuffs and breccias in the lower part of the "Magnet Dyke".

Further rock chip sampling may determine the source of the gold. However, the main anomaly is only from two small areas of very limited area, and is not worthy of any further follow-up.

No significant zones of alteration or geochemical anomalies exist outside the Magnet Creek area of EL 47/88.

3. LOCATION AND GENERAL.

The EL 47/88 area is centered 6 km west of Waratah and 55 km southwest of the northwestern Tasmanian port of Burnie. The 6 km (E-W) by 9 km (N-S) area is between the tin rich areas of the Mt. Bischoff and Cleveland mines and centered on the lead-zinc-silver concentration of the Magnet Mine (Figure 1).

Good access to the area is provided by the sealed Corinna Road (Waratah-Luina-Savage River-Corinna) which runs through the central portion of the Licence from east to west. The E.Z. constructed gravel road provides reasonable access to the Magnet Mine tailings area. Other tramways and rough exploration tracks provide access ways to most parts of the Licence.

Most of the Licence is underlain by Cambrian basic to intermediate volcanic related rocks (tuffs, sediments, basalts), with a cap of Tertiary Basalt on the higher areas. These volcanics originally supported a thick eucalypt and/or rainforest cover, but now are mostly covered by thick regrowth. A wedge of Precambrian slates (shales) and quartzites in the Magnet valley supports only low scrub and ti-tree.

EL 47/88 is drained dominantly by headwater tributaries of the Arthur River. Minor southern areas of the Licence are drained by the headwaters of the Wilson and Ramsay Rivers,while parts of the western area are drained by tributaries of the Whyte River. The streams are deeply incised resulting in a steep, hilly topography ranging in elevation from 330 to 820 m above sea level.

4. PREVIOUS EXPLORATION

Intensive prospecting of the Waratah area commenced in 1871 after the discovery of tin at Mr Bischoff. This led to the discovery of the Magnet gossan in 1877. No further work was completed in the area until the re-location of the Magnet gossan in 1890 and the subsequent commencement of mining in 1891. During the early years of the mining at Magnet a series of small mineralized pods were located and prospected on the north bank of the Magnet Creek between the Magnet Mine and the Arthur River. This initial exploration phase (with associated mining) continued until the 1933-1940 period when mining and exploration of the area ceased. During the life of the mine (1891-1940) it is estimated 38,000 tonnes of lead and 248 tonnes of silver were extracted from 630,000 tonnes of ore running at 6% lead, 7.3% zinc and 394ppm silver.

In the 1956-63 period, Rio Tinto explored northwest Tasmania (SPL 302 and EL 4-59), completing airborne EM and magnetic surveys over most of the prospective and/or mineralized zones. Air photograph geological interpretations, with some ground confirmation mapping, were made in areas of known mineralization (including Magnet). Results were generally discouraging and the Exploration Permits were allowed to expire.

In the early 1960's E.Z. completed limited exploration in the area of the Magnet Mine. Two drill holes (WP 83 and WP 84) failed to intersect economic mineralization but showed a low angle fault or thrust (mapped on the surface) displaced the mineralized zone. The only other interest E.Z. showed in the area was in 1973 when a Mining Lease was obtained over the old Magnet tailings. These tailings were processed for their high zinc content.

In the 1963-68 period the Magnet area was held by Cleveland Tin as part of EL 1/63. Three further holes (M1, M2, and M3) were drilled with only minor traces of mineralization being observed.

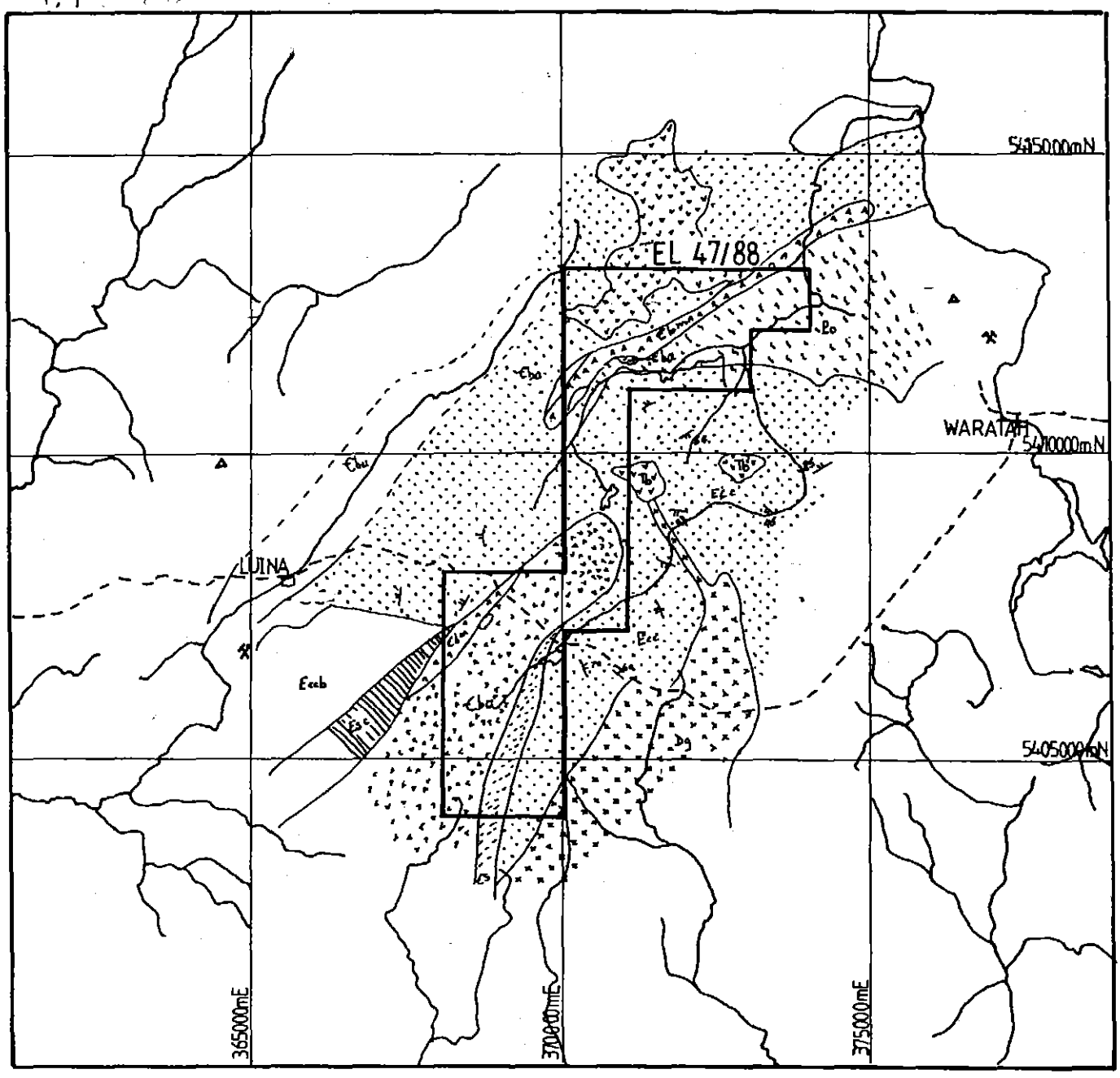
The drilling by E.Z and Cleveland Tin was designed to explore for mineralization below the main gossanous area.

In the early 1970's Comstaff included the Magnet area in EL 5/63. Comstaff's interest was the zinc resource possibly left over from the silver-lead mining. This interest was further increased when another gossan (5% zinc) was exposed in the E.Z. access track into the Mine tailings. The area from the Arthur River/Magnet Creek intersection southwest to beyond the Magnet Mine was gridded with nineteen 200m spaced lines at 328deg. magnetic. These lines were traversed with geological mapping, -80 mesh Ao soil sampling at 20m intervals and analysed for Cu, Pb, Zn, Ba, Mo, Sn, Ag and Ni and ground magnetics. The Mine area was also mapped in detail. This work was interpreted to show the Magnet Lode had a 900m strike length, open to the south and was surrounded by an arcuate prophylitic alteration zone of pervasive quartz veining and minor chalcoppite/pyrite of up to 1800m by 400m. The Magnet mineralization may occur in upwards of three pipe-like zones formed at the convergence of intersecting hanging wall and footwall shear sets within locally thickened ultramafics.

On the basis of this interpretation Comstaff drilled two holes to test the width and grade of the Magnet lode at depth. Results were disappointing with a 9m ore zone grading 4.94% Pb-Zn and 138.9 ppm Ag in MAG 1 and a 27m zone grading 2.87% Pb-Zn 41.89 ppm Ag in MAG 2. A third hole was drilled in the northeast of the griddled area on a geochemical anomaly with a coincident INPUT anomaly. Again the results were disappointing with only a sequence of mudstones, greywackes and argillites being intersected throughout the hole (BAB 1).

The only other work completed in the area was a Digham survey in 1983/84. No significant anomalies were evident.

Placer's regional evaluation suggested potential for gold mineralization related to the boninitic associated volcanics with the low titanium tholeiites and/or high magnesium andesites. EL 47/88 was obtained by tender application to ETA 53 for the former Comstaff ground of EL 5/63.



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- Ecc — CRIMSON CREEK FORMATION
- Esc — SUCCESS CREEK GROUP
- Po — OONAH FORMATION
- Tb — TERTIARY BASALT
- Dg — DEVONIAN GRANITE
- Ebm, Ebu — LOW Ti THOLEIITE
- Eba — HIGH Mg ANDESITE

FIG 2 GEOLOGY SUMMARY EL 47/88

5. GEOLOGY

The oldest rocks in the Licence area (Figure 2) are correlates of the PreCambrian Oonah Formation known locally as the Bischoff Series. These are a series of thinly bedded mudstones, siltstone, shales, quartz sandstones and quartz lithic wackes. In the Waratah area they contain carbonate rich horizons. Rocks of the Oonah Formation are characterised by refolded isoclinal folds which have been regional folded by deformation considered to be related to the Penguin Orogeny. Early northerly and later north-westerly phase of Devonian deformation overprint the above folding (Brown, 1986).

In the Pieman River area the Oonah Formation is unconformably overlain by an EoCambrian succession of dominantly siliceous shallow water sediments known as the Success Creek Group. These consist of mixtite, sandstone, laminated siltstones, mudstones and carbonate with some interbedded conglomerate and sandstone. In the Magnet area a sequence of quartz-wackes with minor mudstones occurring southwest of Whyte Hill (faulted between Crimson Creek Formation thoeliitic basalts and Cambrian andesites) is thought to be a correlate of the Success Creek sediments.

Stratigraphically above the Success Creek Group is a turbiditic sequence of volcaniclastic lithicwacke and laminated siltstone and mudstone interbedded with thoeliitic basalt known as the Crimson Creek Formation.

Structurally the Success Creek Group and the Crimson Creek Formation are similar, both having undergone similar deformation. This deformation is consistent with that occurring during the mid-Devonian.

The oldest igneous activity in the area was the thoelictic basalts of the Crimson Creek Formation. These form discrete lava fields as well as occurring as individual flows in the sedimentary sequence. The basalts are the main source of the sand-sized sediments of the Crimson Creek Formation.

Cambrian rocks in the Licence area are all volcanic related. An initial phase of high-magnesian andesite volcanism resulted in the formation of interlayered pillow lavas, hyaloclastites, breccias and thin flows. These andesitic volcanics have been intruded and overlain by low titanium thoeliites. Elsewhere (Black Hills, Brown 1986) these thoeliites interdigitate with the Lower Dundas Group Red Lead Conglomerate. These thoeliites are aphyric but with any flow having variations from pillow-structures tops down through fine, medium and coarse to very coarse basalt (resembling fine gabbro).

Cambrian tonalitic rocks intrude the high magnesian andesites and the low titanium thoeliites. These tonalites have been dated with a zircon age of 520 Ma.

The Devonian Meredith Granite has intruded the above rocks. In the area to the south of Magnet the granite is dominantly porphyritic, medium to very coarse grained, biotite granite/adamellite. Late stage volatiles associated with this granite are thought to be related to the Sn mineralization at Mt Bischoff, Cleveland and Renison and Pb/Zn/Ag mineralization at Magnet and Confidence/Washington/Washington Hag/Godkin.

During the Tertiary, much of northwest Tasmania was inundated by dominantly alkali olivine basalts. Remnants of these, along with intra-basalt layers of sediments and some greybillies occur in the Licence as caps on the higher ground.

6. CURRENT EXPLORATION

6.1 Techniques

EL 47/88 was acquired to cover areas of Cambrian volcanics with either high magnesia andesites or low titania thoeliites. These were thought to be possible sources of gold mineralization similar to that found in Victoria, Western Australia and South African goldfields.

A review of previous exploration data showed that although the area has been held under Exploration Licence for some considerable time (1956-1988) and prior to that had been prospected since the 1870's there was very little exploration for gold. The old prospectors knew gold occurred in the area but no source was located. It was thought that the gold may have been associated with the gravels beneath the Tertiary basalts.

Initial broadly spaced drainage sampling was undertaken. This sampling involved the taking of two samples from the major, easily accessible drainages within the area. These samples were:

- a 5kg sample of -6mm active stream sediment for bulk cyanide leaching of extractable gold with additional silver and copper analysis;

- a 1kg conventional stream sediment sample for analysis of the -80 mesh fraction for Cu, Pb, Zn, Bi, As, Sb, Sn and Ag (for reference).

Anomalous sample sites were resampled for both sample types.

Confirmed anomalous drainages were then detail sampled. This sampling involved taking the 5kg bulk leach sample and the 1kg stream sediment sample from sites at all stream intersections upstream of the initial anomalous drainage samples. Check geological mapping was undertaken during this sampling.

One very strong anomalous area was evident in the Magnet Creek area as well as several isolated anomalous samples in the headwaters of the Arthur River. The anomalies in the Arthur River tributaries could not be repeated.

All streams in the Magnet Creek anomalous zone were geographically mapped, rock chip and drainage sampled. The drainage sampling consisted of:

- conventional -80# stream sediment samples at 50m intervals.

- bulk cyanide leach samples at 250m intervals.

All old workings (adits, shafts, trenches and mullock heaps) located were rock chip sampled.

An air photograph geological interpretation of the Magnet area was prepared by M. I'ons.

6.2 Results

The review of previous exploration data showed the only detailed systematic exploration of the Magnet area was by Comstaff in the 1970-80 period. The work was concentrated around the Magnet Mine but included the gridding of the south face of the Magnet Range from the Mine to the Arthur River. The target of this exploration was zinc rich mineralization as either:

- sphalerite left in the Mine during the extraction of the lead/silver ore.

- associated with numerous small workings along the Magnet valley.

No exploration for gold was initiated despite old reports suggesting the presence of small quantities of pannable gold being found in the area.

The initial Placer drainage sampling programme showed:

- a strong bulk leach sample anomaly in Magnet Creek (32.47 ppb Au, 4580 ppb Cu and 456 ppb Ag) confirmed by anomalous Cu, Pb, Zn As and Sn in the stream sediment sample.

- a weak anomaly in the Arthur River bulk leach sample (0.225 ppb Au, 240 ppb Cu and 32 ppb Ag).

Sample points are shown on Plan No SK 55.3-3295 with results being included in Appendices I and II.

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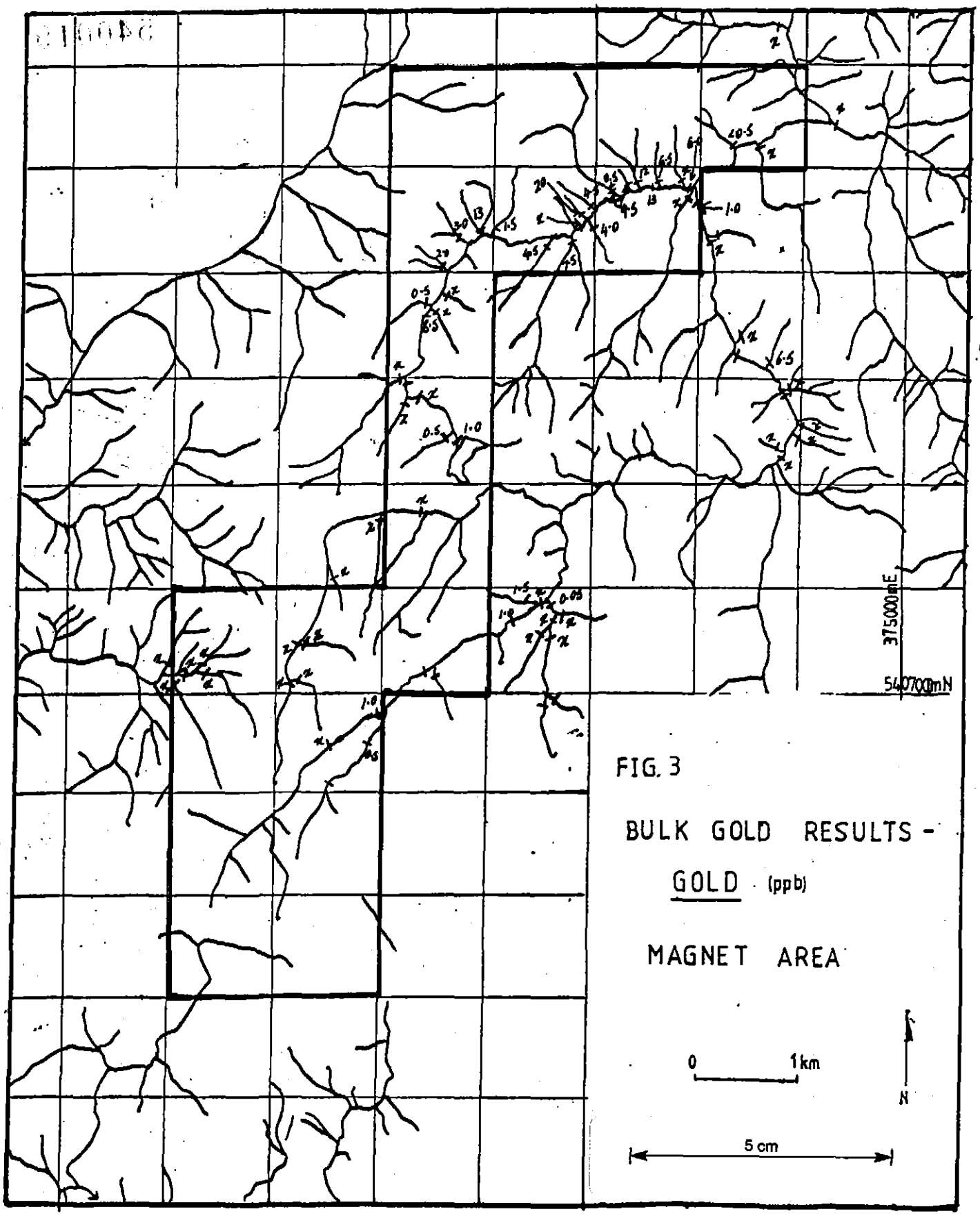

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Further sampling at those anomalous sites confirmed the anomalies (Appendices I and II) with values of 33.245 and 0.580 ppb respectively.

NOTE:

There appears to be a problem with the original analyses of samples from the Magnet area as most later samples (see below) gave gold values of less than 10 ppb Au.

Follow-up sampling of the anomalous drainages was undertaken. This involved sampling all tributaries of the Magnet Creek and Arthur River above the creek intersections. This follow-up showed:

- most of the tributaries of Magnet Creek to 0.5 km upstream of the Mine showed anomalous analyses in both the conventional stream sediment and bulk leach samples.

- isolated anomalous stream sediment and/or bulk cyanide leach samples in the headwaters of the Arthur River.

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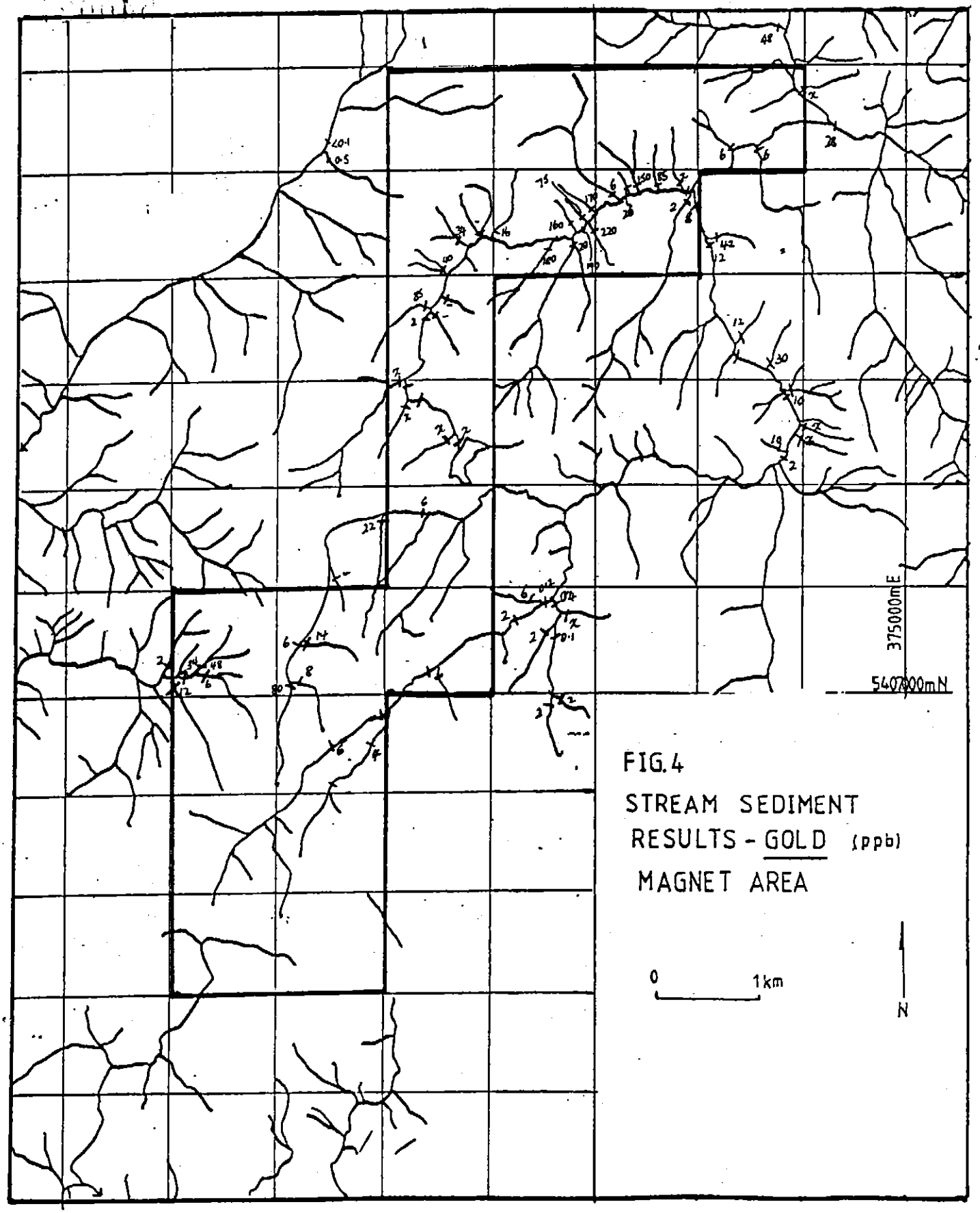

FIG.4

STREAM SEDIMENT RESULTS - GOLD (ppb)

MAGNET AREA

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Samples sites are shown on Plan No. SK 53.3-3295 with results included in Appendices I and II and a summary of Au results in Figs. 3 and 4.

Further sampling of the Arthur River headwaters failed to reproduce the anomalies. This suggested there was little, if any, gold shedding from the area of porphyritic high magnesium andesite and low titanium thoeliitic massive and pillow aphyric basalts in the Whyte Hill/Wombat Hill area.

The only area of significant drainage geochemistry is the Magnet Creek drainage basin.

The M. I'on photo-interpretation Plan No. SK 55.3-3296 shows four areas of possible potential for the location of mineralization:

- a postulated "Magnet shear" with some transcurrent movement following the Magnet Creek/Arthur River valley east-northeast from the Magnet Mine and bending to the southwest at Magnet Mine.

- a second parallel shear 2.5 kms south and east of the Magnet shear extending to the south of Mt. Bischoff.

- an area of possible alteration (mapped as Tertiary basalt) near a bend in the second proposed shear above (to the east of the Lower Magnet Dam).

- a series of postulated veins or dykes in the vicinity of the intersection of Magnet Creek and Arthur River and probably

related to a finger of granite extending north from the main body of the Meredith Granite.

The veins/dykes zone and the southern postulated shear showed no anomalous geochemistry and were not further investigated. Both the Magnet Shear (Magnet Creek) and the possible alteration zone east of the Lower Magnet Dam (headwaters of School Creek) were investigated in the geological and geochemical follow-up of the anomalous Magnet Creek drainage system.

Bulk leach samples taken at 250m intervals up the Magnet Creek tributaries showed no anomalous Au values with a peak value of only 0.3 ppb in Corner Creek. Similarly these samples showed no significant Ag or Cu (peak values of 0.1 and 2.7 ppb, respectively). The small workings observed in some of the drainages apparently did not result in anomalous bulk leach sample geochemistry. Sample points are shown on Plan No. SK 55.3-3297 with results for the bulk leach sample included as Appendix III.

Conventional stream sediment sample geochemistry (Appendix IV) showed some anomalous values. The most obvious anomalous area was below the Magnet Mine (Sat Creek) where the following anomalous values were obtained:

Au	up to 100 ppb
Ag	44 - 46 ppm
Pb	up to 5100 ppm
Zn	0.58 to 1.14%
Cu	105 to 135 ppm
As	0.16 to 1.59%
Sb	64 to 130 ppm

Above the Magnet Mine (in Sat Creek) there is an isolated Au value of 32 ppb. The only other anomalous Au values are:

18 ppb - an isolated sample about 1500m up Kyber Creek.
14 ppb - 100m up Willow Creek.
10 and 14 ppb - isolated values in School Creek.

Anomalous Ag (1.2 ppm), Pb (115-140 ppm), Cu (80 ppm) and Zn (420) in the top of Corner Creek probably relate to a series of small workings noted in the area. Similar anomalies in the lower part of this creek may be due to contamination or from other small trenches.

Similarly anomalous values of Ag, Cu, Pb and Zn as well as As and Sb in the lower parts of Willow and Lunch Creeks may be related to small workings or possibly contamination. When taking the samples care was taken to ensure the first samples in the lower parts of all creeks were taken above areas of possible contamination.

Bruce and Kim Creeks show weak Ag, Pb, Zn and Cu anomalies but these are probably related to the alteration around the Magnet Mine or possibly dust contamination from the old mill.

School Creek showed weak isolated Cu and Sb anomalies. The upper reaches of this drainage showed no significant geochemical anomalies in the area of possible alteration proposed by M. I'ons air photo interpretation. Tertiary basalt float and a basalt dyke in School Creek suggest the air photo anomaly is probably caused by a Tertiary basalt cap.

Geological mapping (Plan No's SK 55.3 - 3298 and SK 55.3 - 3299) show the "Bischoff Series" of the Oonah Formation occurring in the lower 2kms of the Magnet Creek and in the Arthur River (between 2km downstream and 0.7km upstream of Magnet Creek). This consists of alternating beds of fine to medium

grained quartzites and fine dark grey thinly laminated shales (slates). Structurally these rocks were complex with several outcrops showing refolded isoclinal folds. A prominent direction is a strike of 230 - 250deg. magnetic with a steep dip (usually to the northwest).

Overlying the "Bischoff Series", possibly with a faulted contract, is a suite of volcanic rocks related to ophiolite complexes. This so called "Magnet Dyke", to the west of the Bischoff Series of PreCambrian sediments was found to be composed of two dominant rock types:

- a lower narrow band of boninitic rocks (high magnesian andesites of Brown, 1986 or the Websterite porphyrite of Nye 1923) consisting of lavas, breccias and tuffs.

- an upper thicker sequence of ophidite associated volcanics (low titanium tholeiitic basalts of Brown, 1986 or the diabase porphyrite of Nye, 1923) with lavas to fine tuffs.

Earlier work (Brown, 1986; Nye, 1923; Rugless, 1976) suggest the boninitic rocks occur only in the vicinity of the Magnet and Persic Mines. Current mapping suggests these rocks occur as a thin horizon (30 - 150m) extending from the Magnet Mine area north-eastwards to at least Kerrie Creek (Plan No. SK 55.3-3299).

Petrology (Appendix V) showed the boninitic lavas to be olivine/low Ca pyroxene-phyric with large euhedral chromite inclusions. Generally the lavas appear to be quenched and glassy.

Glassy shards with remnants of chromite, orthopyroxene and/or olivine tend to make up the bulk of the boninitic epiclastics and breccias.

The ophiolite related basalt/metadolerite has few Fe-Ti oxide grains with relict augite plate. Little of the original mineralogy remains but primary textural details are preserved in the shape of blocky to tabular albite laths in a mass of chlorite with epidote replacing augite plates and mesostabis. Small magnetite grains define the rims of former Fe-Ti oxide grains. These rocks are generally medium to highly altered and in the vicinity of the mineralization (Magnet) are almost completely altered by epidote with chlorite, quartz and calcite.

Interestingly, a sample of an outcrop in the middle reaches of School Creek (to the south of the Magnet Creek outcrop of the Bischoff Series) was thought to be boninitic. This would suggest the boninites may have occurred as a widespread thin sheet above the PreCambrian basement.

Above the ophiolite associated volcanics of the "Magnet Dyke" there is a sequence of volcaniclastics with interbedded tholeiitic basalts.

Overlying the "Magnet Dyke" rocks is the Crimson Creek Formation. This consists of turbiditic volcaniclastic sandstones, siltstones, tuffs, shales, mudstones and cherts interbedded with thoeliitic basalts. The finer sediments are generally buff to red-brown with some of the cherts being dark grey. The coarser sediments vary in colour from mauve/purple to green/grey to red/brown depending on the degree of iron oxidation. The basalts tend to be aphyric with intergranular intergrowths of fresh anhedral to subhedral plates of fresh augite wedged between elongate albite prisms. The Fe-Ti oxide grains are large and blocky with some more elongate ilmenite needles.

The Crimson Creek Formation basalts and volcaniclastics forming the Magnet Ridge are capped by Tertiary alkaline basalts.

Rock chip sampling of the gossan outcrops, old trenches, adits and shafts, mullock heaps and drill core mineralization (Appendix VI) failed to locate an Au source for the anomalous drainage geochemistry. Weak gold values of up to 0.065 ppm were obtained from drill core obtained by Comstaff from the Magnet mineralization. A rock chip sample from a pryrite/chalcopyrite vein in boninitic lavas and tuffs in Willow Creek showed 0.034 ppm Au and 13400 ppm Cu. This suggests the Au mineralization may have been associated with the boninitic volcanics and may have led to a weak gold signature in the Magnet mineralization.

6.3 Proposed Exploration

The above work traced a gold anomaly to the Magnet Creek area. Possible sources of the gold could be:

- gold associated with the boninitic rocks occurring within the "Magnet Dyke".
- gold associated with the Magnet Mine Pb/Zn/Ag mineralization.
- gold associated with the small basemetal shows occurring along the base of the Magnet Range in the area from Magnet to the Arthur River.
- gold leaking along a possible fault between the Magnet Dyke and PreCambrian.

Detailed rock chip sampling of:

- samples of gossans and surrounding altered rocks in the vicinity of Magnet Mine.
- samples of available mineralization at Magnet Mine.
- samples of small workings along the Magnet Creek.
- samples of boninitic rocks.

- samples of altered rocks may accurately locate the source of the gold anomaly.

The Magnet Mine may hold the explanation. Further sampling of the mullock heaps and the tailings may determine if any minor gold is being concentrated from low grade values in the mine. However past work in the mine area suggests any mineralisation is small and of no economic size.

No further work should be undertaken.

7. REFERENCES

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APPENDIX 1

REGIONAL DRAINAGE GEOCHEMISTRY

BULK CYANIDE LEACH SAMPLE ANALYSES

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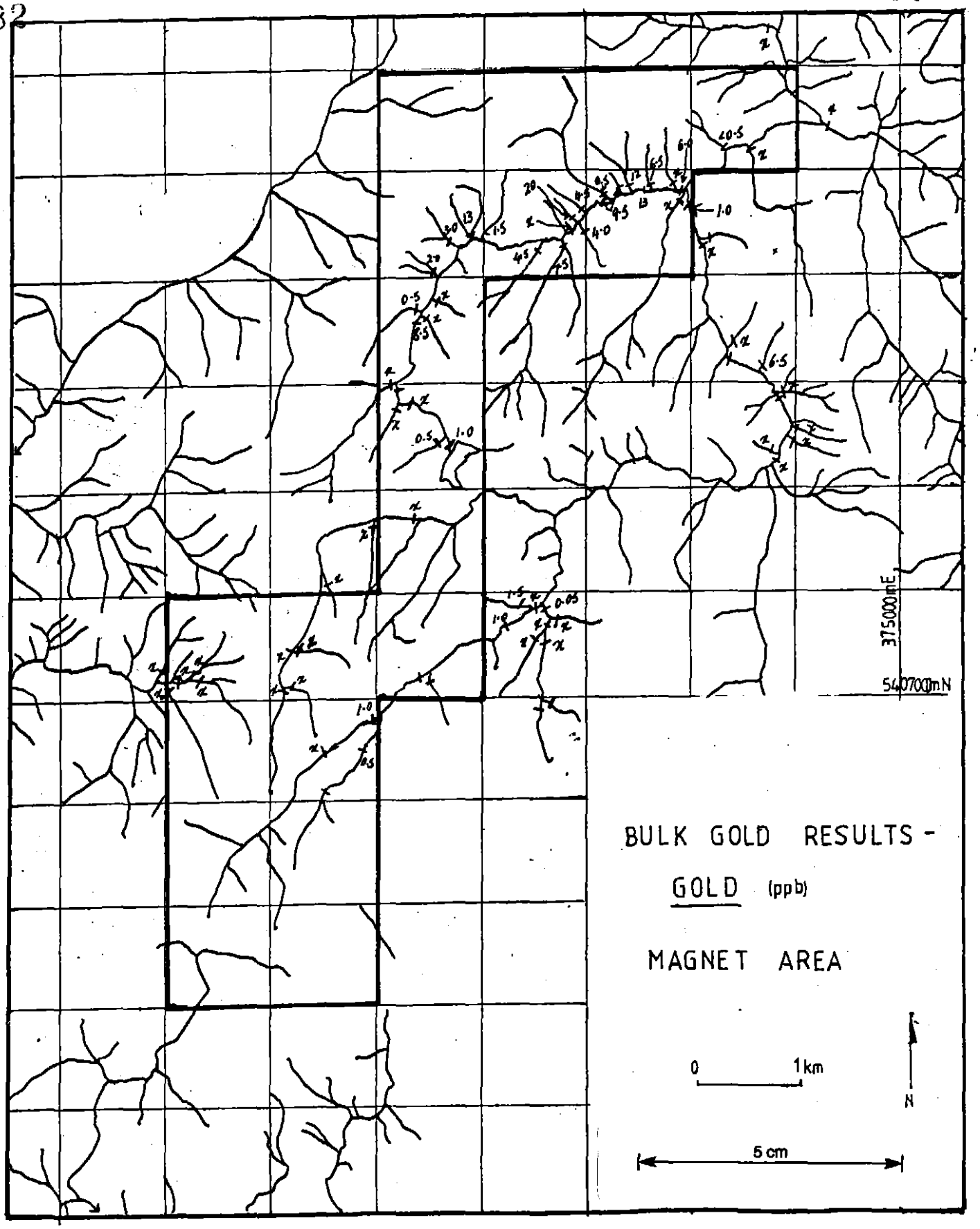
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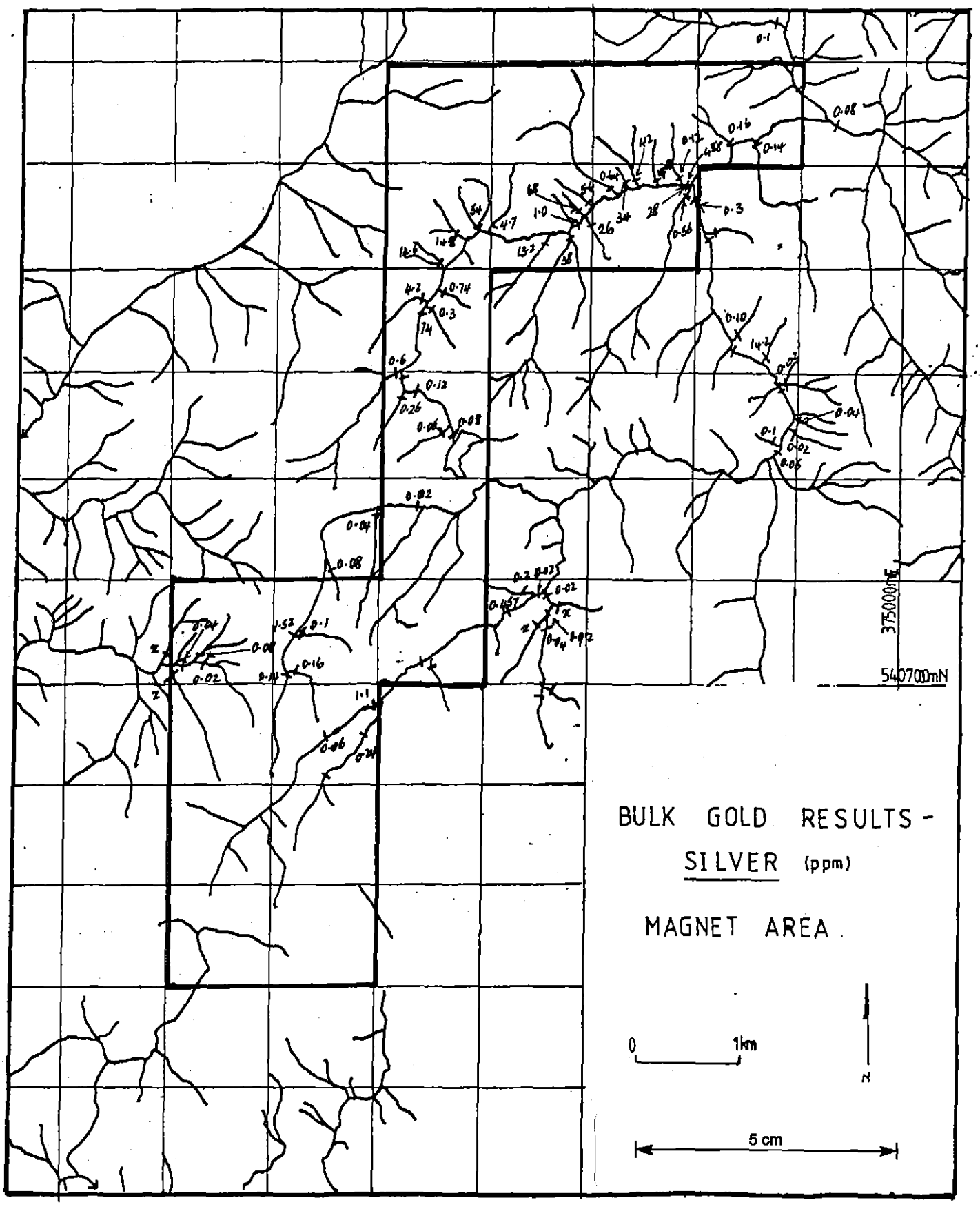
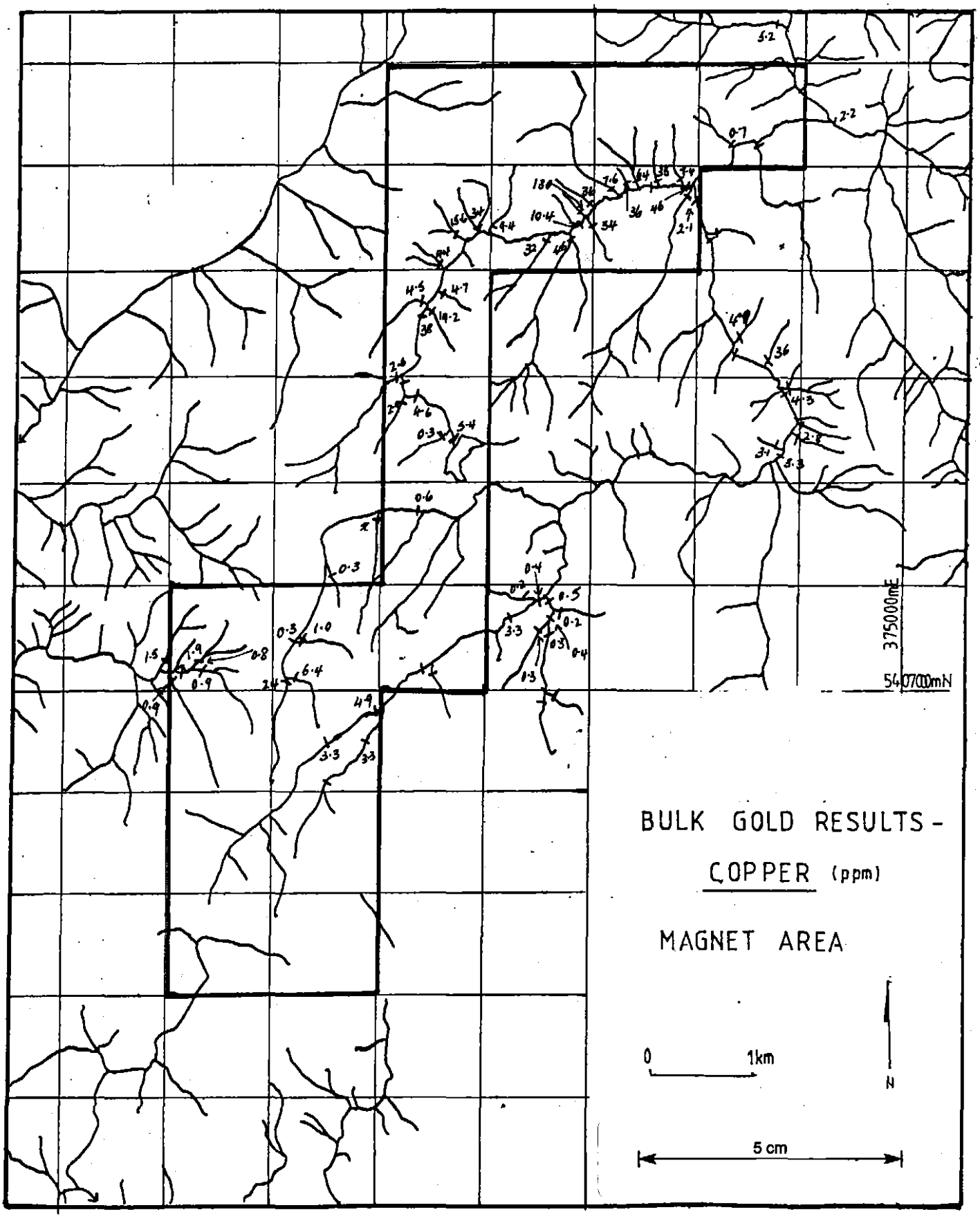
033

540034


375000mE
540700mN
BULK GOLD RESULTS -
SILVER (ppm)
MAGNET AREA
0
1km
N
5 cm

034

540035


375000mE
5407000mN
BULK GOLD RESULTS -
COPPER (ppm)
MAGNET AREA
0
1km
N
5 cm

035

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
A	162.5 13 0700	12.11.8[illegible]	13057	1 OF [illegible]

TUBE No.	SAMPLE No.	DRY WT.	%CN	Au(1)	Au(2)	Au(3)	Ag	Cu		
1	183785	3.7	0.133	0.15	0.8	225	32.2	240	ARTHUR	RIVER
2	183789	3.4	0.158	21.65	110.4	32470	456.0	4580	MAGNET	CREEK
1	183793	3.2	0.145	22.16	106.4	33245	488.0	2580	REPEAT OF	183789
2	183797	2.5	0.170	0.39	1.5	580	90.4	478	"	183793

recorded as ppb actually ppt.

540036

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD0531
O/N: 1455

036

540037

ANALYTICAL REPORT

SAMPLE	Cu	Ag	Au
700051	28	14.4	7.0
700053	0.7	0.16	<0.5
700055	38	15.8	5.0
700057	<0.1	0.14	<0.5
700059	32	17.6	9.0
700061	2.2	0.08	<0.5
700063	20	7.6	3.5
700066	22	5.6	3.0
700068	5.2	0.10	<0.5
700071	36	14.2	6.5
700073	4.6	0.12	<0.5
700075	3.1	0.10	<0.5
700077	3.3	0.06	<0.5
700079	2.8	0.02	<0.5
700081	1.3	0.04	0.5
700083	1.0	0.04	<0.5
700085	4.5	0.12	0.5
700087	4.3	0.02	<0.5
700089	4.4	0.04	0.5
700091	4.9	0.10	<0.5
700093	4.3	0.22	<0.5
700096	4.8	0.14	<0.5
700098	0.9	0.02	<0.5
700108	0.8	0.08	<0.5
700110	1.9	0.04	<0.5
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG1L

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 9AD0531
O/N: 1455

037

ANALYTICAL REPORT

540038

SAMPLE	Cu	Ag	Au
700112	0.9	<0.02	<0.5
700114	1.5	<0.02	<0.5
700116	3.3	0.06	<0.5
700118	L.N.R.	L.N.R.	L.N.R.
700121	0.3	0.08	<0.5
700123	<0.1	0.04	<0.5
700125	0.6	0.02	<0.5
700127	1.0	0.10	<0.5
700129	24	0.14	<0.5
700131	6.4	0.16	<0.5
700134	13.6	22	2.5
700136	16.6	46	4.5
700138	44	14.6	2.0
700140	6.6	5.6	2.5
700142	4.7	0.74	<0.5
700144	4.5	4.2	0.5
700146	19.2	0.30	<0.5
700148	3.4	0.22	<0.5
271951	130	68	20
271953	48	46	10
271955	34	26	4.0
271957	10.4	1.00	<0.5
271961	32	10.2	4.5
271963	46	38	7.5
271965	40	26	5.0
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG1L

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD0531
O/N: 1455

038

ANALYTICAL REPORT

540039

SAMPLE	Cu	Ag	Au
271968A	44	42	6.0
271968B	40	13.0	6.0
271970	32	13.2	4.5
271972	28	28	8.5
271974	38	40	7.5
271976	9.4	4.7	1.5
271978	L.N.R.	L.N.R.	L.N.R.
271980	34	54	13
271982	26	24	2.5
271985	15.6	14.8	3.0
271987	38	34	5.0
271989	22	36	5.5
271991	38	74	8.5
271993	4.9	1.10	1.0
271996	0.3	1.52	<0.5
321502	2.6	0.60	<0.5
321504	2.9	0.26	<0.5
321506	4.6	0.12	<0.5
321508	2.9	0.10	<0.5
321510	0.3	0.06	0.5
321512	5.4	0.08	1.0
321515	0.3	0.02	<0.5
321517	3.2	0.04	<0.5
321519	<0.1	0.02	12
321521	<0.1	0.10	1.0
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG1L

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 9AD0531
O/N: 1455

039

540040

ANALYTICAL REPORT

SAMPLE	Cu	Ag	Au
321523	17.2	50	13
321525	0.2	0.20	1.5
321527	3.3	0.48	1.0
321551	4.8	0.56	<0.5
321554	46	28	6.0
321558	2.1	0.30	1.0
321559	3.3	0.24	0.5
321564	5.4	0.20	1.0
321566	7.4	0.12	<0.5
321568	40	22	6.0
321571	L.N.R.	L.N.R.	L.N.R.
321575	36	15.2	4.0
321577	64	42	12
321579	36	26	5.5
321581	36	34	9.5
321583	54	46	9.5
321585	L.N.R.	L.N.R.	L.N.R.
321587	38	17.0	4.0
321589	L.N.R.	L.N.R.	L.N.R.
321592	56	30	7.5
321594	50	34	6.5
321596	36	5.6	4.5
321598	34	15.4	3.0
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG1L

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

Job: 9AD0531
O/N: 1455

040

ANALYTICAL REPORT

540041

SAMPLE	Cu	Ag	Au
321523B	1.1	0.14	<0.5
321562	2.9	0.44	<0.5
321586	24	28	5.5
321590	7.6	0.64	0.5
NO SAMPLE NUMBER	2.9	0.18	<0.5
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG1L

321561

041

540042

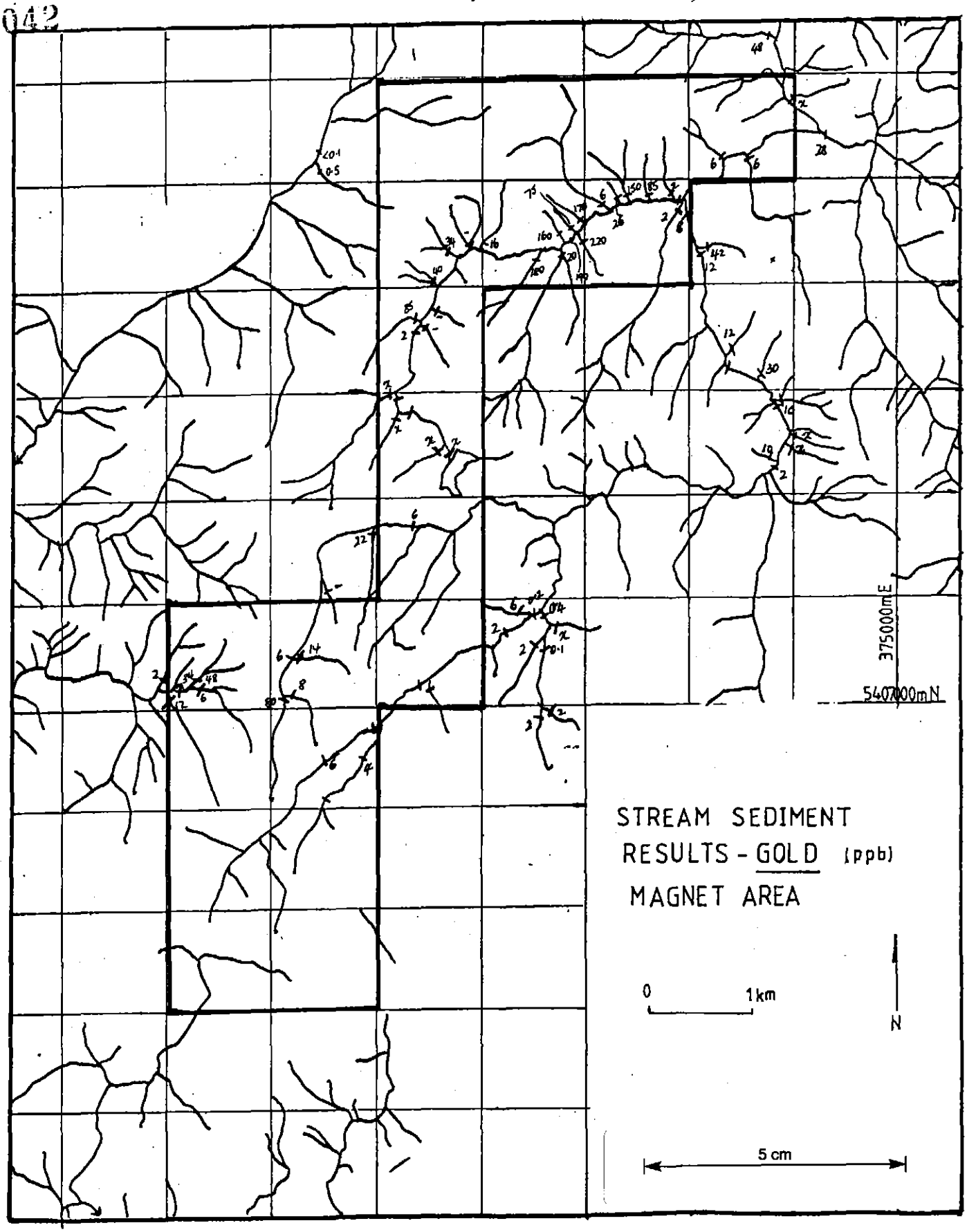
APPENDIX II

REGIONAL DRAINAGE GEOCHEMISTRY

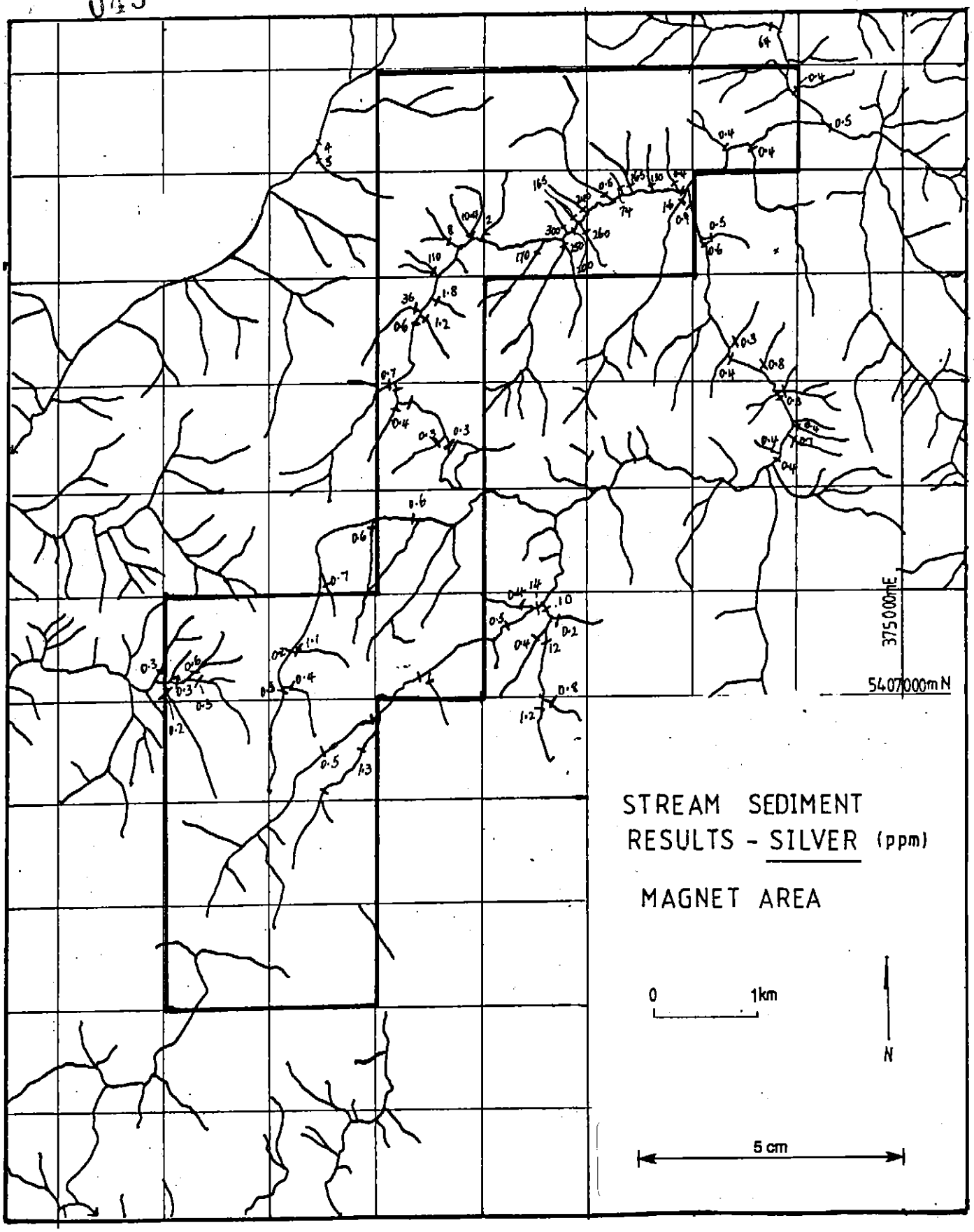
STREAM SEDIMENT SAMPLE ANALYSES

540043

042

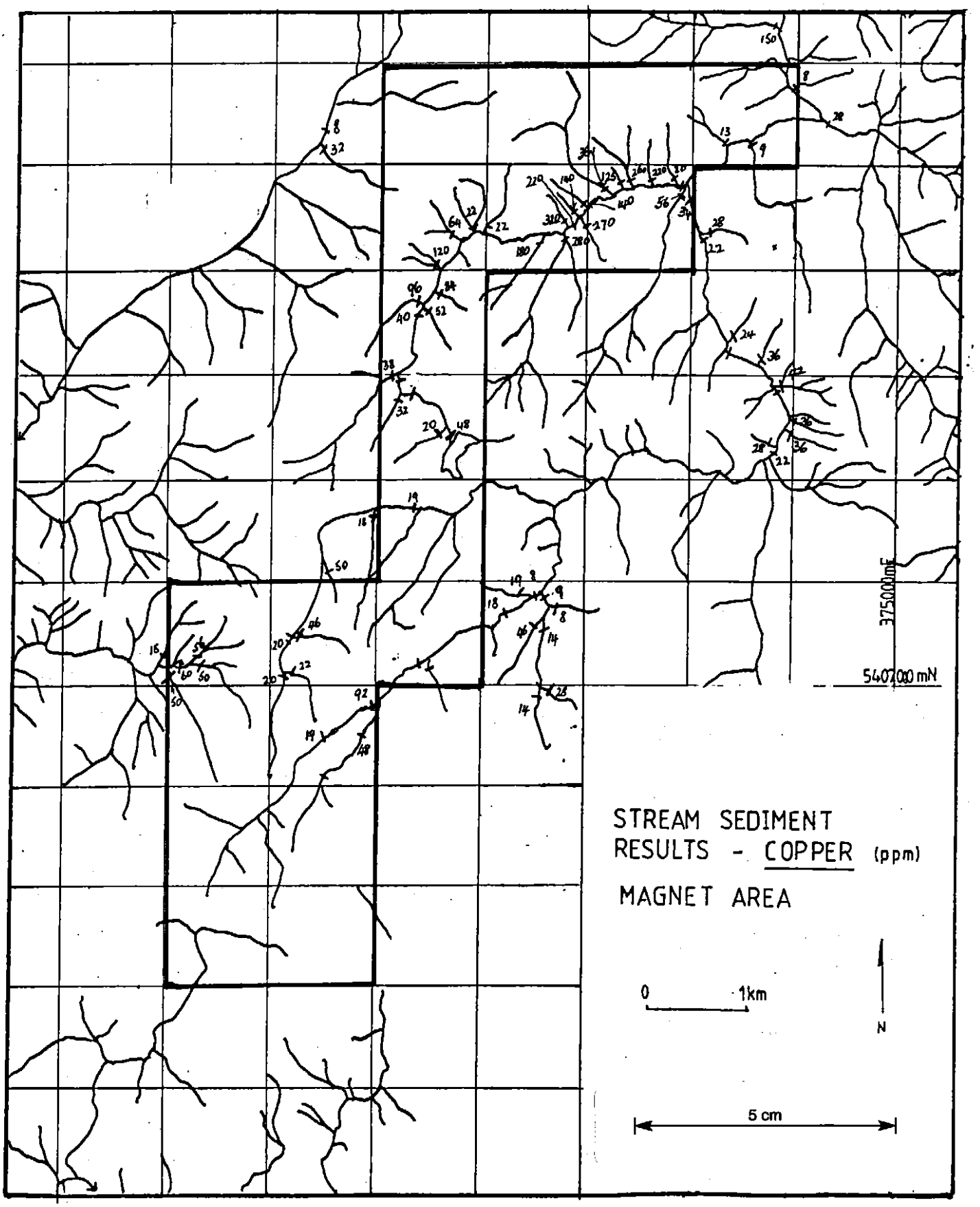

375000mE
540000mN
STREAM SEDIMENT
RESULTS - GOLD (ppb)
MAGNET AREA
0
1km
N
5 cm

043

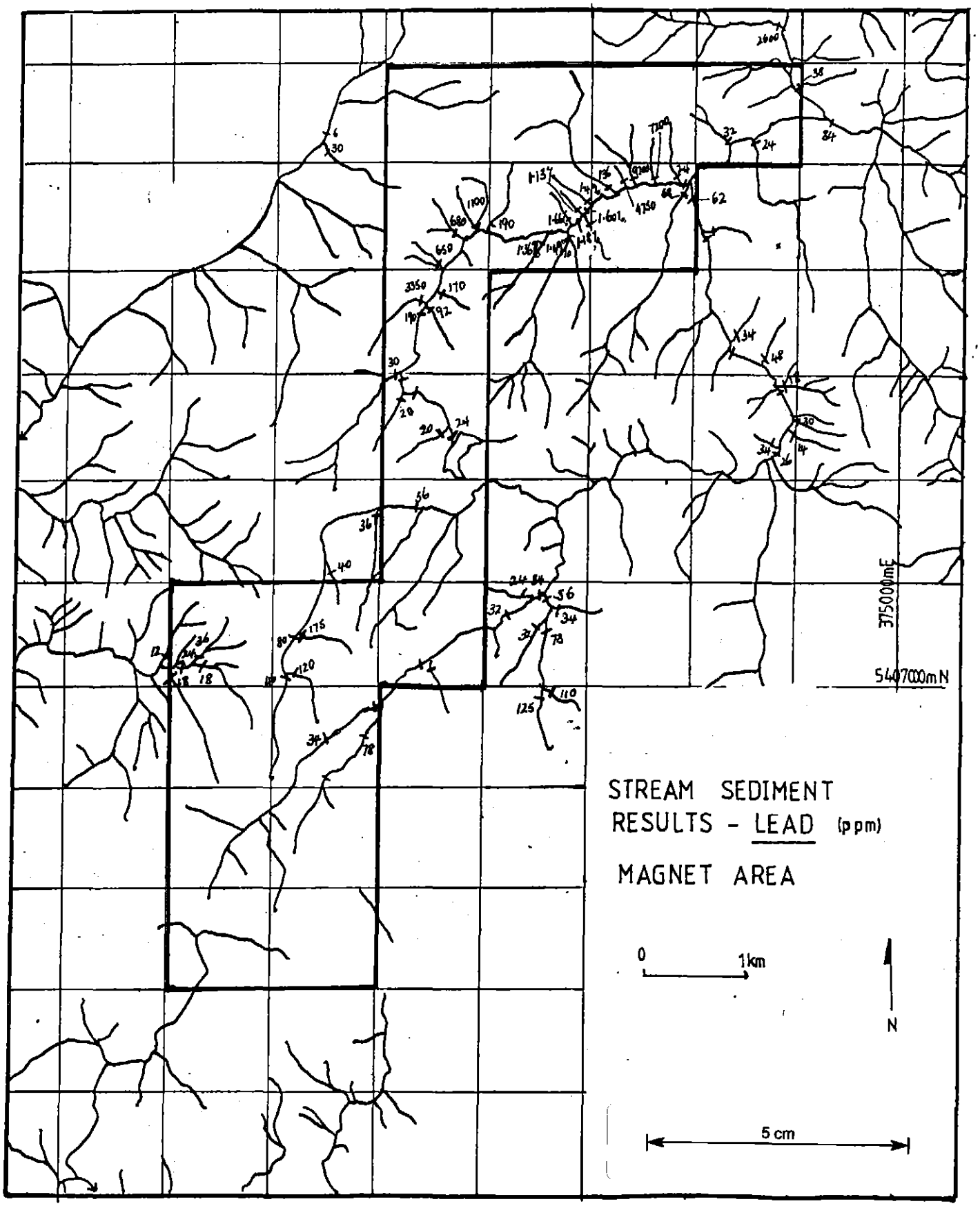

375000mE
5407000mN
STREAM SEDIMENT
RESULTS - SILVER (ppm)
MAGNET AREA
0
1km
N
5 cm

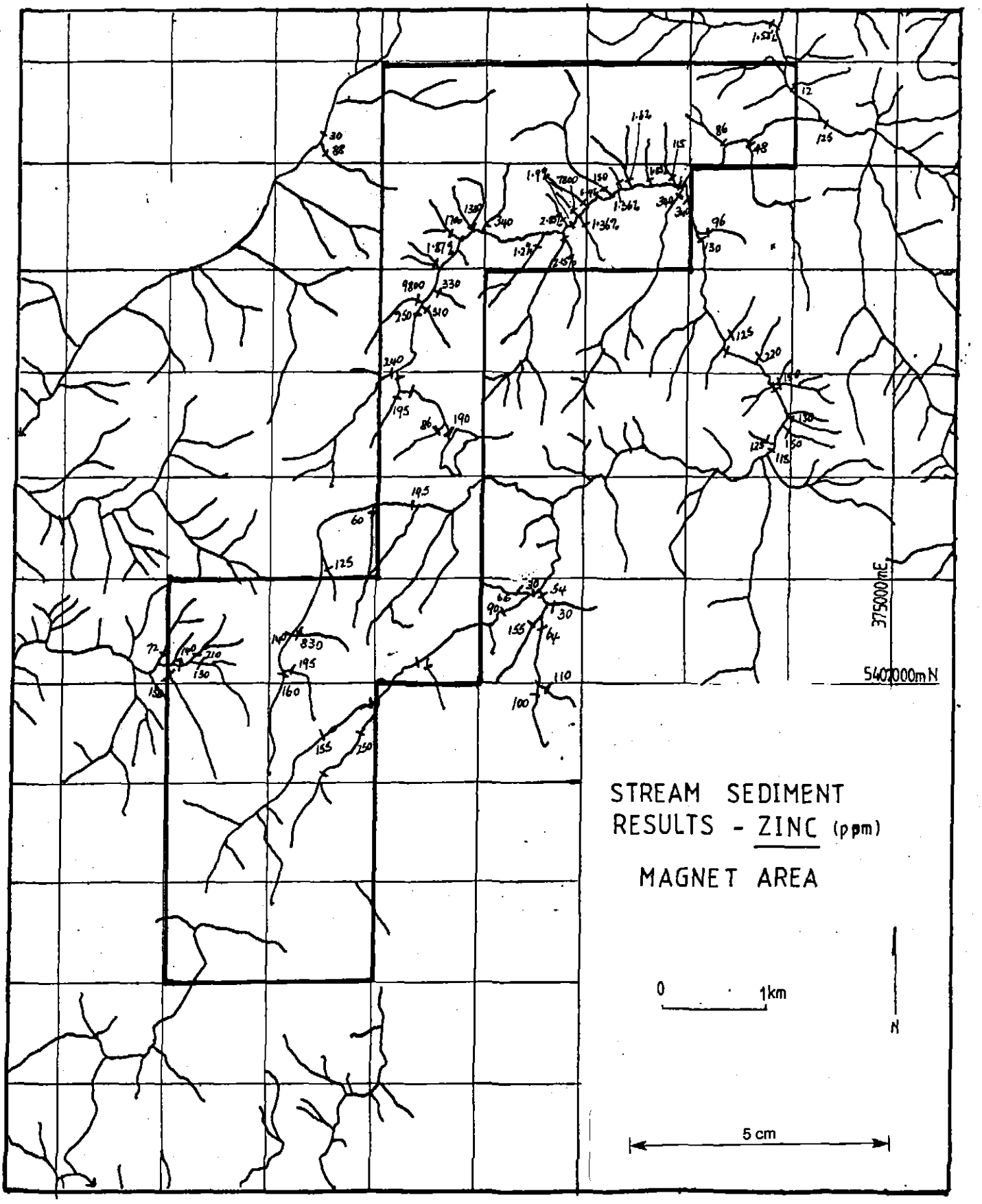
044

540045


375000mE
540700mN
STREAM SEDIMENT
RESULTS - COPPER (ppm)
MAGNET AREA
0 1km
N
5 cm

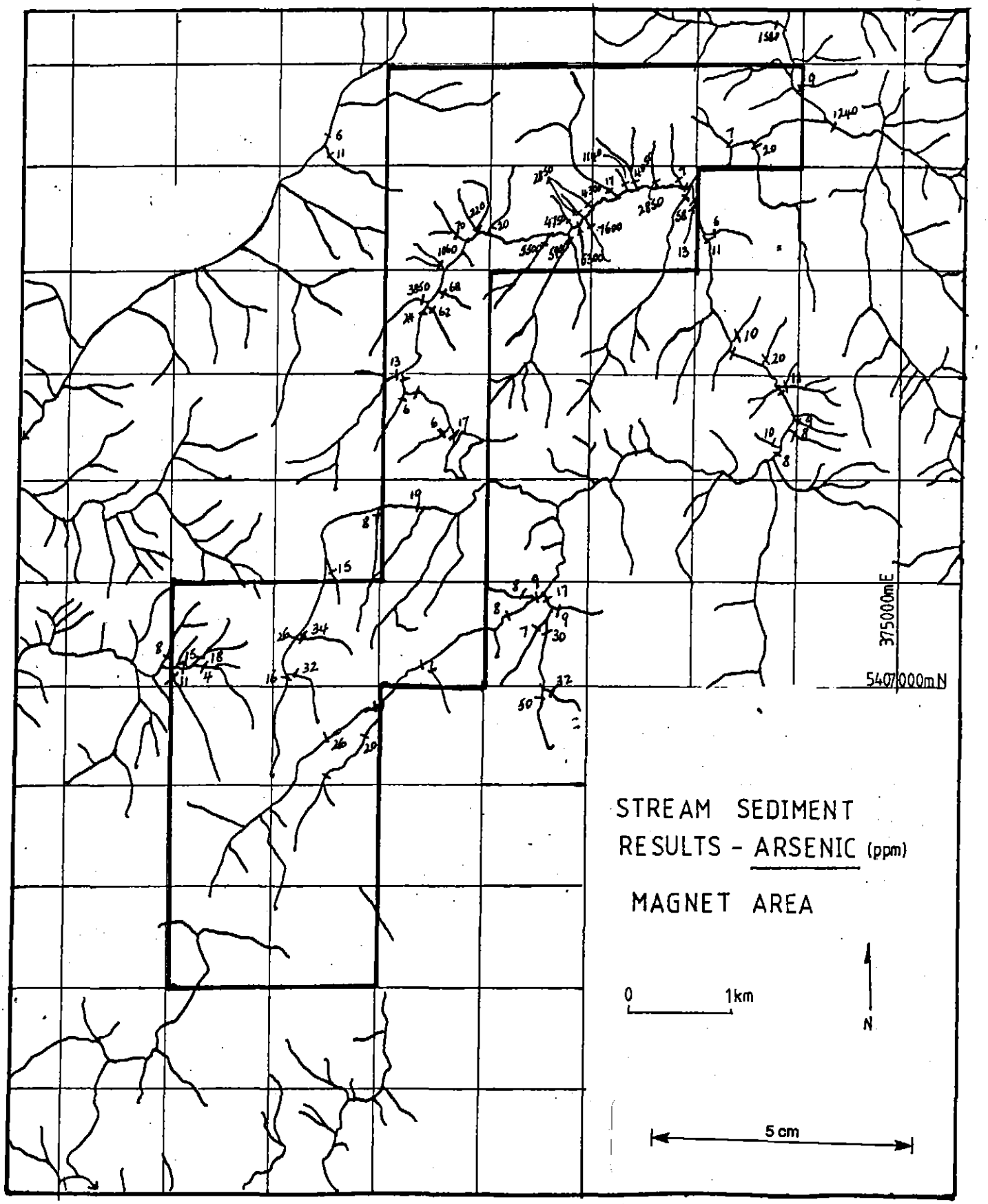
540046

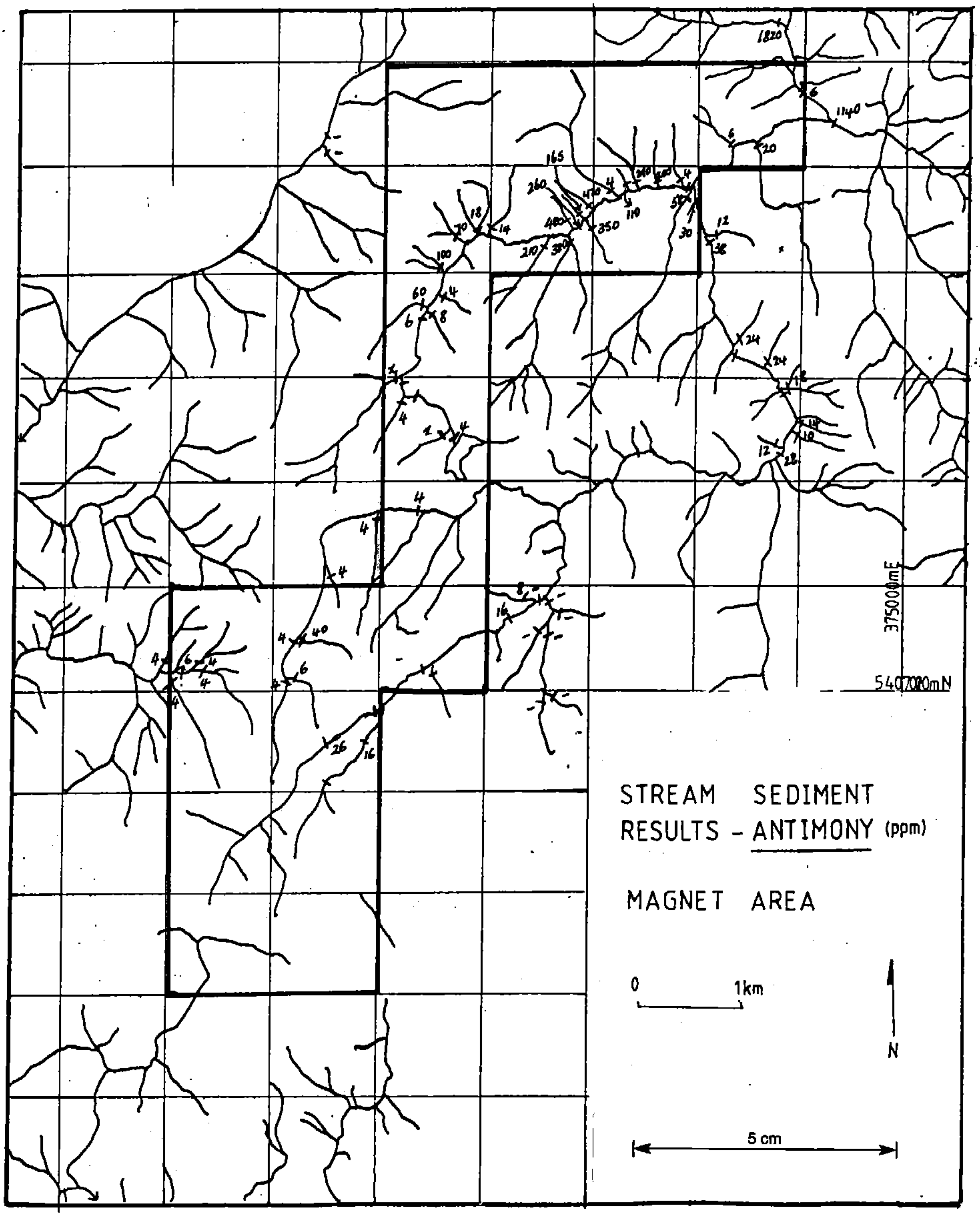

375000mE
5407000mN
STREAM SEDIMENT
RESULTS - LEAD (ppm)
MAGNET AREA
0
1km
N
5 cm


375000mE
5407000mN
STREAM SEDIMENT
RESULTS - ZINC (ppm)
MAGNET AREA
0
1km
N
5 cm

047

540048


375000mE
5407000mN
STREAM SEDIMENT
RESULTS - ARSENIC (ppm)
MAGNET AREA
0
1km
N
5 cm



375000mE
5407000mN
STREAM SEDIMENT
RESULTS - ANTIMONY (ppm)
MAGNET AREA
0
1km
N
5 cm

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

043

540050

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag
700051A	9	6	18	0.3
700052	165	5100	1.77%	100
700054	13	32	86	0.4
700056	68	1320	5700	19.4
700058	9	24	48	0.4
700060	360	5400	4.65%	180
700062	28	84	125	0.5
700064	170	1600	1.34%	58
700065	9	38	12	0.4
700067	74	1060	6300	19.8
700069	150	2600	1.52%	64
700070 GX8	9	30	42	1.5
700072	36	48	220	0.8
700074	19	22	94	0.3
700076	28	34	125	0.4
700078	22	26	115	0.4
700080	36	14	150	0.7
700082	13	20	58	0.4
700084	36	30	130	0.4
700086	32	40	135	0.4
700088	42	18	150	0.3
700090	28	26	135	0.3
700092	24	34	120	0.4
700094	20	34	125	0.6
700095	28	16	96	0.5
UNITS	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS2A
UPPER SCHEME		AAS4	AAS1C	AAS2C

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

050

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

540051

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
700051A	8	--	--	--
700052	65	65	70	--
700054	6	--	--	--
700056	24	--	--	--
700058	6	--	--	--
700060	200	170	240	--
700062	28	26	32	--
700064	I.S.	I.S.	I.S.	I.S.
700065	<2	--	--	--
700067	22	--	--	--
700069	48	--	--	--
700070	8	--	--	--
700072	30	--	--	--
700074	4	--	--	--
700076	10	--	--	--
700078	2	--	--	--
700080	<2	--	--	--
700082	<2	--	--	--
700084	<2	--	--	--
700086	<2	--	--	--
700088	10	--	--	--
700090	140	--	--	--
700092	12	20	6	--
700094	8	--	--	--
700095	42	--	--	--
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

Job: 9AD0602
O/N: 1458 MAGNET

051

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
700051A	6	<4	<4	6
700052	1580	<4	175	74
700054	7	<4	6	6
700056	450	<4	52	18
700058	12	4	20	6
700060	5200	4	450	115
700062	1240	<4	1140	26
700064	I.S.	I.S.	I.S.	I.S.
700065	9	<4	6	12
700067	600	6	230	36
700069	1580	10	1020	82
700070	78	<4	<4	14
700072	20	<4	24	10
700074	12	10	16	6
700076	10	<4	12	6
700078	8	4	28	8
700080	8	<4	10	8
700082	4	4	28	8
700084	9	4	14	6
700086	14	<4	18	6
700088	11	12	18	<4
700090	6	<4	64	10
700092	10	<4	24	10
700094	4	<4	50	12
700095	6	<4	12	8
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

540053

Job: 9AD0602
O/N: 1458 MAGNET

052

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag
700097		22	32	130	0.6
700099		56	18	130	0.3
700100	6x9	11	6	7	0.3
700102		130	3750	1.31%	58
700104		175	5600	1.38%	110
700105	BLANK	14	155	390	2.6
700106	6x1H	58	18	30	0.5
700107	6x12A	14	24	26	0.3
700109		56	38	210	0.6
700111		60	24	140	0.3
700113		50	18	150	0.2
700115		15	12	72	0.3
700117		19	34	155	0.5
700118		120	3450	1.18%	60
700122		50	40	125	0.7
700124		18	36	60	0.6
700126		19	56	195	0.6
700128		46	175	830	1.1
700130		20	46	160	0.5
700132		22	120	195	0.4
700133		185	5900	1.15%	115
700135		195	1.86%	1.24%	210
700137		145	6700	2.50%	94
700139		120	6500	1.87%	110
700141		70	1440	2650	15.2
UNITS		ppm	ppm	ppm	ppm
SCHEME		AAS1	AAS1	AAS1	AAS2A
UPPER SCHEME			AAS4	AAS1C	AAS2C

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540054

053

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
700097	12	--	--	--
700099	6	--	--	--
700100	4	--	--	--
700102	60	65	60	--
700104	120	130	120	--
700105	10	--	--	--
700106	K 38	--	--	--
700107	10	--	--	--
700109	48	--	--	--
700111	34	--	--	--
700113	12	--	--	--
700115	2	--	--	--
700117	6	--	--	--
700118	70	--	--	--
700122	I.S.	I.S.	I.S.	I.S.
700124	22	--	--	--
700126	6	--	--	--
700128	14	--	--	--
700130	80	--	--	--
700132	8	--	--	--
700133	170	180	150	--
700135	130	120	140	--
700137	120	120	120	--
700139	40	40	44	--
700141	I.S.	I.S.	I.S.	I.S.
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540055

Job: 9AD0602
O/N: 1458 MAGNET

054

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
700097	11	<4	38	10
700099	4	<4	4	12
700100	<2	<4	26 21*	8
700102	1700	6	250	70
700104	3600	8	200	82
700105	58	<4	6	8
700106	13	<4	6	14
700107	12	8	300 294	8
700109	18	<4	4	8
700111	15	4	6	8
700113	11	<4	4	6
700115	8	<4	4	8
700117	26	<4	26	12
700118	1480	<4	230	60
700122	15	<4	4	8
700124	8	<4	4	8
700126	19	<4	4	8
700128	34	<4	40	12
700130	16	<4	4	10
700132	32	<4	6	6
700133	4450	16	195	92
700135	4100	<4	190	150
700137	2550	<4	130	90
700139	1060	<4	100	115
700141	490	<4	24	24
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540056

Job: 9AD0602
O/N: 1458 MAGNET

(055

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag
700143	84	170	330	1.8
700145	96	3350	9800	36
700147	52	92	310	1.2
700149	40	190	250	0.6
700150 6x7	50	34	46	0.4
A321552	56	68	340	1.6
A321553 6x9	105	8	11	0.6
A321555	250	6600	3.35%	145
A321557	34	62	340	0.9
A321560	48	78	250	1.3
A321561	60	130	220	1.8
A321563	42	30	82	0.7
A321565	44	30	56	0.6
A321567	20	24	115	0.4
A321567A	18	28	125	0.5
A321569	74	3550	1.07%	60
A321570 6x12	7	20	13	0.5
A321572	220	7200	1.85%	130
A321574	290	8900	1.83%	150
A321576	190	7000	1.58%	130
A321578	260	9700	1.60%	165
A321578A	240	8500	1.40%	155
A321580	22	98	5900	1.3
A321582	125	4750	1.36%	74
A321584	56	1980	4100	24
UNITS	ppm	ppm	ppm	ppm
SCHEME	AAS1	AAS1	AAS1	AAS2A
UPPER SCHEME		AAS4	AAS1C	AAS2C

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA.)

540057

056

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
700143	I.S.	I.S.	I.S.	I.S.
700145	85	130	40	--
700147	I.S.	I.S.	I.S.	I.S.
700149	2	--	--	--
700150	10	--	--	--
A321552	2	--	--	--
A321553	4	--	--	--
A321555	120	120	120	--
A321557	8	--	--	--
A321560	4	--	--	--
A321561	I.S.	I.S.	I.S.	I.S.
A321563	I.S.	I.S.	I.S.	I.S.
A321565	I.S.	I.S.	I.S.	I.S.
A321567	<2	--	--	--
A321567A	2	--	--	--
A321569	30	30	30	--
A321570	4	--	--	--
A321572	85	80	85	--
A321574	140	130	160	120
A321576	160	140	170	--
A321578	150	180	120	--
A321578A	130	140	130	--
A321580	4	--	--	--
A321582	26	--	--	--
A321584	18	--	--	--
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540058

Job: 9AD0602
O/N: 1458 MAGNET

05

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
700143	68	<4	4	10
700145	3850	4	60	74
700147	62	8	8	6
700149	24	8	6	10
700150	28	<4	8	8
A321552	58	6	10	8
A321553	10	6	28 21·4	10 4
A321555	3400	<4	270	100
A321557	13	<4	30	8
A321560	20	6	16	10
A321561	24	<4	8	8
A321563	13	4	6	6
A321565	12	6	4	6
A321567	7	<4	4	6
A321567A	6	6	8	8
A321569	820	4	70	54
A321570	10	8	68 69	8 12
A321572	2850	18	200	92
A321574	4200	<4	290	130
A321576	4000	6	220	94
A321578	4050	<4	290	130
A321578A	3850	8	270	125
A321580	26	4	6	8
A321582	1140	<4	110	64
A321584	350	<4	32	32
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA.)

540059

Job: 9AD0602
O/N: 1458 MAGNET

058

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag
A321586		130	4500	1.42%	92
A321588		210	6900	2.00%	120
A321589	6x12A	12	54	30	0.5
A321591		36	36	150	0.5
A321593		155	1.00%	1.50%	160
A321595		60	1620	8800	30
A321597		400	1.40%	6.90%	240
A321599		36	550	1.07%	3.3
A321600	6x7	48	54	78	0.7
A321501	6x7	48	30	38	0.4
A321503		38	30	240	0.7
A321505		32	20	195	0.4
A321507		40	24	155	0.4
A321509		42	20	210	0.3
A321511		20	20	86	0.3
A321513		48	24	190	0.3
A321514	6x11H	52	12	36	0.5
A321516		20	94	115	0.6
A321518		28	22	82	0.4
A321520		6	30	58	0.4
A321522		24	82	130	0.7
A321524		19	28	98	0.3
A321526		19	24	66	0.4
A321528		18	32	90	0.5
A321529	6x26	620	4350	3350	740
UNITS		ppm	ppm	ppm	ppm
SCHEME		AAS1	AAS1	AAS1	AAS2A
UPPER SCHEME			AAS4	AAS1C	AAS2C

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540060

Job: 9AD0602
O/N: 1458 MAGNET

059

ANALYTICAL REPORT

SAMPLE		Au Avg	Au Dp1	Au Dp2	Au Dp3
A321586		60	--	--	--
A321588		150	160	140	--
A321589		2	--	--	--
A321591		6	--	--	--
A321593		48	--	--	--
A321595		20	--	--	--
A321597		170	150	190	--
A321599		8	--	--	--
A321600		8	--	--	--
A321501		2	--	--	--
A321503		<2	--	--	--
A321505		<2	--	--	--
A321507		<2	--	--	--
A321509		<2	--	--	--
A321511		<2	--	--	--
A321513		<2	--	--	--
A321514	*	36	26	48	--
A321516		4	--	--	--
A321518		4	--	--	--
A321520		<2	--	--	--
A321522		14	--	--	--
A321524		<2	--	--	--
A321526		6	--	--	--
A321528		2	--	--	--
A321529		3000	2700	3400	--
UNITS		ppb	ppb	ppb	ppb
SCHEME		AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540061

Job: 9AD0602
O/N: 1458 MAGNET

060

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
A321586	1520	10	135	60
A321588	3450	<4	195	96
A321589	12	<4	300	6
A321591	17	<4	4	4
A321593	2150	<4	130	125
A321595	570	<4	42	32
A321597	4300	20	470	180
A321599	270	<4	6	20
A321600	16	8	8	6
A321501	16	8	4	6
A321503	13	6	<4	8
A321505	8	<4	4	<4
A321507	8	<4	6	8
A321509	12	<4	4	8
A321511	6	<4	<4	6
A321513	17	<4	4	8
A321514	12	8	8	14
A321516	38	<4	185	10
A321518	7	<4	10	6
A321520	4	<4	280	8
A321522	36	<4	120	6
A321524	11	<4	28	10
A321526	8	<4	8	8
A321528	8	<4	16	6
A321529	270	50	1660	125
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540062

061

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag
A271952		140	1.13%	7800	165
A271954		145	1.52%	2.05%	270
A271956		270	1.60%	1.36%	260
A271958		220	1.18%	1.90%	200
A271960		330	1.66%	2.85%	300
A271960A		290	1.56%	2.25%	280
A271962		78	4050	1.11%	52
A271962A		150	8300	1.95%	110
A271964		280	1.49%	2.15%	250
A271966		220	1.22%	2.20%	150
A271967	BLANK	6	96	40	0.8
A271969		260	1.67%	1.99%	220
A271971		180	1.36%	1.20%	170
A271973		270	1.09%	4.30%	170
A271973A		220	8400	3.35%	135
A271975		230	1.44%	2.45%	260
A271977		22	190	340	2.0
A271979		165	1.14%	1.46%	125
A271981		22	1100	1380	10.4
A271983		115	9200	8500	115
A271984	AXIZ	6	28	32	0.9
A271986		64	680	1700	8.0
A271986A		60	590	1640	6.4
A271988A		190	1.87%	1.72%	290
A271988B		230	1.98%	1.65%	230
UNITS		ppm	ppm	ppm	ppm
SCHEME		AAS1	AAS1	AAS1	AAS2A
UPPER SCHEME			AAS4	AAS1C	AAS2C

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

062

540063

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
A271952	75	75	80	--
A271954	44	--	--	--
A271956	220	220	230	--
A271958	190	200	180	--
A271960	160	150	180	--
A271960A	130	110	150	--
A271962	46	46	46	--
A271962A	100	--	--	--
A271964	210	230	190	--
A271966	130	120	140	--
A271967	14	--	--	--
A271969	130	110	140	--
A271971	180	160	190	--
A271973	100	--	--	--
A271973A	120	--	--	--
A271975	140	140	150	--
A271977	16	--	--	--
A271979	130	--	--	--
A271981	I.S.	I.S.	I.S.	I.S.
A271983	90	100	85	--
A271984	22	--	--	--
A271986	34	--	--	--
A271986A	34	--	--	--
A271988A	75	--	--	--
A271988B	180	160	190	--
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

063

540064

Job: SAD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
A271952	2850	4	165	130
A271954	3650	4	165	210
A271956	7600	6	350	180
A271958	6300	16	260	150
A271960	4750	<4	420	175
A271960A	4200	22	400	170
A271962	1100	6	80	54
A271962A	2800	4	165	105
A271964	5900	20	380	165
A271966	3100	6	200	105
A271967	7	6	<4	4
A271969	4500	6	280	155
A271971	5500	18	210	130
A271973	3350	<4	380	145
A271973A	2400	4	340	115
A271975	3850	6	250	230
A271977	20	<4	14	12
A271979	3350	6	180	92
A271981	270	<4	18	14
A271983	2250	<4	140	88
A271984	5	<4	76	8
A271986	70	<4	70	12
A271986A	58	<4	64	10
A271988A	4400	18	220	250
A271988B	4400	10	195	150
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD
Analytical Laboratories (INC IN WA)

540065

Job: 9AD0602
O/N: 1458 MAGNET

064

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag
A271990		200	1.88%	1.53%	210
A271992		105	1.06%	6300	125
A271994		92	500	1140	2.5
A271995	BLANK	3	24	14	0.2
A271997		20	80	140	0.2
A271998	6x26	680	4300	3700	670
A271999	BLANK	6	22	17	0.7
A272000	BLANK	4	20	14	1.3

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

540066

Job: 9AD0602
O/N: 1458 MAGNET

065

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
A271990	130	130	140	--
A271992	75	--	--	--
A271994	55	--	--	--
A271995	4	--	--	--
A271997	6	--	--	--
A271998	3000	2600	3300	--
A271999	14	--	--	--
A272000	6	--	--	--

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)

066

540067

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
A271990	3100	14	185	160
A271992	1500	8	74	82
A271994	70	<4	135	22
A271995	4	<4	6	6
A271997	26	<4	4	8
A271998	280	64	1660	120
A271999	2	8	<4	<4
A272000	6	<4	4	6

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560
FAX: 004 31 8890

ANALYTICAL REPORT No: 999.52.08.06117

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

P.D. Ellis
Placer Exploration Ltd.
P.O. Box 384
Rosny Park
Tasmania 7018

ORDER No.	PROJECT
1171	DN 1459

DATE RECEIVED	RESULTS REQUIRED
07/04/89	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
4	26/04/89	1	44

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
		Various	SS Prep: 005,007							Cu,Pb,Zn/101,Ag,Bi/102,As/114		
		Various	SS							Au/336,Sn,Sb/401		
		Various	SS Prep: 005,007							Bi/101		
		Various	SS							Sn/401		

RESULTS TO

Liz Fry
Placer Exploration Ltd.,
G.P.O. Box 4315
Sydney
N.S.W. 2001

RESULTS TO

P.D. Ellis
Placer Exploration Ltd.
P.O. Box 384
Rosny Park
Tasmania 7018

REMARKS

STATE OF SAMPLES		ANALYSIS — PREPARATION				ANALYSIS — METHOD	
whole core	WC	perchloric acid	A1	cold acid	CA	atomic absorbtion	AAS
split core	SC	hydrochloric acid	A2	specific sulphide	SS	x-ray fluorescence	XRF
cutting	CU	nitric acid	A3	other mixed acids	Ma	spectrophotometry	SPEC
rock	Ro	aqua regia	A4	alkaline attack	AA	colorimetry	COL
soil	SO	nitric-perchloric	A5	volatilization	VO	chromatography	CHR
pulp	PU	HF mixture	A6	ignition	IG	titration	TTN
water	WA	HF under pressure	A7	pressed powder (XRF)	PP	other chemicals means	CHEM
tissue	TI	fusion	A8	glass fusion (XRF)	GF	miscellaneous	MISC
stream sediment	SS					fluorescence	FLUOR
heavy mineral	HM					inductively coupled plasma	ICP

AUTHORISED OFFICER

540068

068

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE

			999.52.08.06117			26/04/89	1171		1 OF 4	
TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Bi	Bi	As	Au	Au
1	A271952	135	8700	8600	38.0	–	2	2300	–	0.053
2	A271954	250	16500	34500	51.5	–	<1	4300	–	0.072
3	A271956	345	13000	24000	81.5	–	<1	10000	0.27	–
4	A271958	280	13500	21500	63.0	–	<1	6400	0.15	–
5	A271964	320	15000	23000	62.0	–	1	5900	0.18	–
6	A271966	295	13500	19500	53.0	–	1	4800	0.13	–
BLANK 7	A271967	<5	100	155	<0.5	–	1	21	–	<0.001
8	A271969	340	18500	23500	67.0	–	<1	6300	0.16	–
9	A271971	215	14500	13500	58.0	–	1	6700	–	IS
10	A271975	370	17500	28000	75.5	–	<1	5400	0.13	–
11	A271977	30	220	550	2.5	–	2	39	–	0.001
12	A271979	215	12000	11500	60.0	–	<1	4200	0.14	–
13	A271981	20	400	1000	5.0	–	1	120	–	0.003
14	A271983	180	11500	9850	63.5	–	2	3100	0.14	–
15	GX12. A271984	5 45	5 150	10 135	2 1.0	–	X <1	3 11	–	<0.001
16	A271990	305	2100	17500	51.5	–	<1	4100	0.11	–
17	A271992	105	7000	5700	49.5	–	<1	1400	–	0.043
18	BLANK A271995	<5	40	65	<0.5	–	1	8	–	<0.001
19	GX24 A271998	830 840	5900 4650	5745 4000	680 465.0	–	50 48	285 460	2.38	–
20	Blank A271999	<5	5	30	<0.5	–	1	2	–	<0.001
21	Blank A272000	5	75	110	5.5	–	2	22	–	0.021
22	A321552	30	75	380	1.0	–	<1	44	–	0.003
23	6x9 A321553	4 5	3 15	4 25	X <0.5	–	X 2	5 5	–	IS
24	A321555	245	5550	27500	60.5	–	<1	470	–	0.042
25	A321557	35	50	330	<0.5	–	<1	14	–	<0.001

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

540069

069

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX | REPORT NUMBER: 999.52.08.06117 | REPORT DATE: 26/04/89 | CLIENT ORDER No.: 1171 | PAGE: 2 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Bi	Bi	As	Au	Au
1	A321561	140	3000	9400	37.0	<10	-	720	-	IS
2	A321563	160	90	300	1.5	<10	-	24	-	IS
3	A321565	80	1100	2700	12.0	<10	-	100	-	IS
4	A321569	130	4350	14500	45.5	-	<1	1800	-	0.032
5	A321570 (6x12)	5 80	5 160	10 145	x 3.0	-	x <1	3 14	-	0.008
6	A321572	245	7750	19000	46.0	-	<1	4200	-	IS
7	A321574	375	10000	20500	23.0	-	<1	5700	0.16	-
8	A321576	245	7500	20000	57.0	-	1	5700	0.14	-
9	A321580	35	300	6250	5.0	-	<1	86	-	IS
10	A321582	130	3750	13000	34.0	-	<1	1200	-	0.007
11	A321584	80	2000	4750	34.0	-	1	240	-	0.014
12	A321588	265	7550	22000	71.0	-	<1	5600	0.14	-
13	A321589 (6x12A)	10 20	25 50	12 60	x 1.0	-	3 1	x 12	-	<0.001
14	A321591	50	140	480	2.5	-	<1	26	-	<0.001
15	A321593	100	3950	6850	55.5	-	<1	440	-	0.026
16	A321595	85	2000	9800	35.5	-	<1	620	-	0.024
17	A321597	500	13000	75500	115.0	-	<1	4100	-	IS
18	A321599	200	7000	23500	58.5	-	<1	4300	-	0.084
19	A321600 (6x7)	75	55	80	<0.5	-	5	23	-	0.002
20		60	25 91	29			4	7 14		
21										
22										
23	DETECTION	5	5	5	0.5	10	1	1	0.02	0.001
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	101	101	101	101	101	102	114	329	336

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

540070

070

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX | REPORT NUMBER 999.52.08.06117 | REPORT DATE 26/04/89 | CLIENT ORDER No. 1171 | PAGE 3 OF 4

TUBE No.	SAMPLE No.	Sb	Sn							
1	A271952	90	200							
2	A271954	230	270							
3	A271956	160	350							
4	A271958	150	320							
5	A271964	140	370							
6	A271966	120	310							
7	BLANK A271967	<3	7							
8	A271969	200	380							
9	A271971	140	340							
10	A271975	250	410							
11	A271977	3	25							
12	A271979	120	240							
13	A271981	7	<3							
14	A271983	95	230							
15	G×12 A271984	~~<3~~ <3	69 85							
16	A271990	160	310							
17	A271992	70	75							
18	BLANK A271995	3	10							
19	G×26 A271998	98 85	2160 1950							
20	BLANK A271999	<3	10							
21	Blank A272000	<3	25							
22	A321552	<3	10							
23	G×9 A321553	1 <3	21.4 <3							
24	A321555	70	230							
25	A321557	3	50							

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

540071

07 L

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	999.52.08.06117	26/04/89	1171	4 OF 4

TUBE No.	SAMPLE No.	Sb	Sn							
1	A321561	-	-							
2	A321563	-	-							
3	A321565	-	-							
4	A321569	70	140							
5	6x1L A321570	X 25	68 <3							
6	A321572	95	300							
7	A321574	140	390							
8	A321576	130	240							
9	A321580	10	30							
10	A321582	70	140							
11	A321584	25	45							
12	A321588	110	280							
13	6x12A A321589	X <3	290 10							
14	A321591	<3	10							
15	A321593	60	80							
16	A321595	30	80							
17	A321597	180	520							
18	A321599	110	230							
19	6x7 A321600	<3	15							
20	"	"								
21										
22										
23	DETECTION	3	3							
24	UNITS	PPM	PPM							
25	METHOD	401	401							

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

540072

APPENDIX III

MAGNET CREEK TRIBUTARIES DRAINAGE GEOCHEMISTRY

BULK CYANIDE LEACH SAMPLING ANALYSES

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD1048
O/N: 1461

073

540074

ANALYTICAL REPORT

SAMPLE	Cu	Ag	Au
702002	1.0	1.20	4.3
702004	0.2	0.04	0.40
702006	4.0	0.14	0.35
702009	1.0	1.66	1.80
702011	0.3	0.08	<0.05
702013	1.2	1.52	2.9
702015	0.1	0.06	<0.05
702055	0.3	<0.02	<0.05
702057	0.3	0.04	<0.05
702059	0.2	<0.02	<0.05
702061	0.5	0.02	0.05
702063	0.4	0.02	<0.05
702066	0.4	0.02	<0.05
702068	1.1	<0.02	<0.05
702070	<0.1	<0.02	<0.05
702138	0.1	<0.02	<0.05
702140	0.2	<0.02	0.05
702142	0.2	<0.02	0.10
702144	0.2	<0.02	<0.05
702159	0.4	<0.02	<0.05
702164	0.2	<0.02	0.10
702167	0.5	<0.02	0.10
702177	1.1	<0.02	<0.05
702183	1.0	<0.02	0.10
702190	1.6	<0.02	0.10
702196	0.2	<0.02	<0.05
702206	1.6	<0.02	0.10
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG2

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

074

Job: 9AD1048
O/N: 1461

540075

ANALYTICAL REPORT

SAMPLE	Cu	Ag	Au
702212	1.2	0.04	<0.05
702218	0.7	<0.02	<0.05
702223	1.2	<0.02	<0.05
702225	0.6	0.04	0.15
702227	2.7	<0.02	<0.05
702229	0.4	0.04	<0.05
702235	0.8	<0.02	<0.05
702240	0.9	<0.02	<0.05
702246	0.8	<0.02	<0.05
702254	0.4	<0.02	0.20
702261	0.4	<0.02	<0.05
702267	0.6	<0.02	<0.05
702291	0.5	<0.02	0.50
702310	0.8	0.10	0.20
702316	0.6	0.02	0.05
702327	0.3	<0.02	0.05
702335	2.0	0.04	0.30
702345	0.9	<0.02	0.10
702358	0.3	<0.02	0.10
702297	0.5	<0.02	0.10
702364	0.1	<0.02	<0.05
702377	0.2	<0.02	0.05
702387	0.7	0.06	0.05
702395	1.1	<0.02	0.05
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG2

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

Job: 9AD1048
O/N: 1461

540076

SAMPLE	Cu	Ag	Au
	ppm	ppm	ppb
700452	1.5	<0.02	0.05
700454	0.9	0.04	0.10
700456	0.7	0.08	<0.05
700458	11.2	0.52	3.3
700460	1.0	0.06	0.20
700462	11.6	0.64	5.0
700464	0.9	<0.02	<0.05
700466	24	1.25	7.0
700468	1.3	0.02	<0.05
700470	1.1	<0.02	0.05
700472	9.4	0.44	3.2
700474	0.8	0.04	0.10
700476	13.0	0.62	4.1
700479	0.3	0.04	<0.05
700481	0.8	<0.02	0.10
700483	1.3	<0.02	<0.05
700485	11.6	0.90	4.7
700487	2.0	0.04	0.05
700489	7.8	0.56	2.7
700491	0.8	0.08	0.20
700493	0.8	0.34	0.30
700495	9.6	1.22	3.2
700498	0.5	<0.02	0.20
700500	0.7	0.02	0.20
700506	0.6	0.06	0.10
700512	1.0	0.06	0.25
700518	0.5	0.02	0.15
700524	0.6	0.08	0.30
UNITS	ppm	ppm	ppb
SCHEME	BLEG1	BLEG1	BLEG2

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Analytical Laboratories (INC. IN W.A.)

Job: 9AD1500
O/N: 1180

076

ANALYTICAL REPORT

540077

Sample	Cu	Ag	Au
700803	0.3	<0.02	0.75
700805	0.8	<0.02	0.15
700815	1.2	<0.02	0.15
700821	0.6	<0.02	7.5
700828	0.2	<0.02	0.85
Units	ppm	ppm	ppb
Detn Limit	0.1	0.02	0.05
Scheme	BLEG1	BLEG1	BLEG2

077

540078

APPENDIX IV

MAGNET CREEK TRIBUTARIES DRAINAGE GEOCHEMISTRY

STREAM SEDIMENT SAMPLE ANALYSES

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078

Job: SAD1049
O/N: 1462

540079

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702001 - 80#		62	62	470	0.7	7	10	85	--	--	--
702003 - 80#		185	1.40%	1.53%	105	1460	115	30	--	--	--
702005 - 80#		115	4400	5700	44	400	28	28	22	32	--
702007 - 80#		70	84	270	0.8	10	8	4	--	--	--
702008 - 80#	Gx19	32	12	30	0.4	46	14	10	--	--	--
702010 - 80#		160	1.60%	1.23%	160	1400	130	38	44	34	--
702012 - 80#		76	280	1040	2.1	42	4	6	--	--	--
702014 - 80#		180	1.43%	2.40%	130	1840	94	55	95	20	--
702016 - 80#		28	28	110	0.4	10	4	4	--	--	--
702056 - 80#		46	32	155	0.4	7	6	2	--	--	--
702058 - 80#		14	78	84	0.6	30	12	8	--	--	--
702060 - 80#		8	34	30	0.2	9	14	<2	--	--	--
702062 - 80#		9	56	54	0.4	17	10	<2	--	--	--
702064 - 80#		18	22	98	0.7	13	10	<2	--	--	--
702065 - 80#	Gx21	145	210	800	1.0	20	26	<2	--	--	--
702067 - 80#		16	88	66	0.8	32	8	4	--	--	--
702069 - 80#		22	110	110	0.8	32	12	2	--	--	--
702071 - 80#		14	125	100	1.2	50	12	2	4	<2	--
702139 - 80#		32	30	88	0.5	11	6	<2	--	--	--
702141 - 80#		8	6	30	<0.1	5	4	<2	--	--	--
702143 - 80#		5	<4	26	<0.1	6	4	<2	--	--	--
702145 - 80#		8	4	38	0.2	4	8	<2	--	--	--
702151 - 80#		14	20	96	0.1	12	8	4	--	--	--
702152 - 80#		12	30	105	0.3	11	16	<2	--	--	--
702153 - 80#		13	22	94	0.2	6	12	<2	--	--	--
UNITS		ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME		AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME			AAS4	AAS1C	AAS2C						

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Job: 9AD1049
O/N: 1462

073

ANALYTICAL REPORT

540080

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702156 - 80#	12	24	82	<0.1	6	8	<2	--	--	--
702157 - 80#	19	16	72	0.4	9	10	2	--	--	--
702158 - 80#	19	110	58	<0.1	11	30	<2	--	--	--
702160 - 80#	13	18	84	0.2	5	4	2	--	--	--
702161 - 80#	11	22	76	0.4	7	12	4	--	--	--
702162 - 80#	16	18	80	0.5	9	6	<2	--	--	--
702163 - 80#	24	40	155	0.5	8	12	4	--	--	--
702165 - 80#	22	22	86	0.5	11	8	4	--	--	--
702166 - 80#	22	22	90	0.8	7	10	4	--	--	--
702168 - 80#	8	14	46	<0.1	7	8	2	--	--	--
702169 - 80#	38	26	145	0.9	10	10	2	--	--	--
702171 - 80# Gx24	1680	1.35%	5200	270	3300	210	120	130	120	--
702172 - 80#	22	22	105	0.6	10	12	6	--	--	--
702173 - 80#	22	24	98	0.4	13	12	4	--	--	--
702174 - 80#	24	28	120	0.5	11	8	2	--	--	--
702175 - 80#	24	26	90	0.3	9	12	6	--	--	--
702176 - 80#	24	24	105	0.6	11	12	4	--	--	--
702178 - 80#	34	26	96	0.3	12	8	2	--	--	--
702179 - 80#	40	28	115	0.6	10	10	4	--	--	--
702180 - 80#	52	36	135	0.7	11	12	4	--	--	--
702181 - 80#	70	36	140	0.8	10	10	<2	--	--	--
702182 - 80#	56	38	115	0.8	9	10	2	--	--	--
702184 - 80#	38	20	125	0.5	13	6	2	--	--	--
702186 - 80#	32	18	105	0.3	10	<4	<2	<2	<2	--
702187 - 80#	32	18	105	0.4	11	6	<2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME		AAS4		AAS2C						

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540081

080

Job: 9AD1049

O/N: 1462

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702188 - 80#	32	14	80	0.3	11	4	2	--	--	--
702189 - 80#	28	14	74	0.4	8	6	<2	--	--	--
702191 - 80#	26	14	72	0.3	9	8	<2	--	--	--
702192 - 80#	38	18	98	0.4	13	8	<2	<2	<2	--
702193 - 80#	36	16	76	0.4	11	6	<2	--	--	--
702194 - 80#	42	18	130	0.3	10	10	<2	--	--	--
702195 - 80#	34	44	195	0.4	12	6	<2	--	--	--
702201 - 80#	40	14	125	0.4	9	14	<2	--	--	--
702202 - 80#	42	16	130	0.4	13	6	<2	--	--	--
702203 - 80#	48	14	135	0.5	9	8	<2	--	--	--
702204 - 80#	40	14	105	0.7	10	12	<2	--	--	--
702205 - 80#	46	16	125	0.5	14	4	<2	--	--	--
702207 - 80#	40	16	105	0.7	7	8	<2	--	--	--
702208 - 80#	36	12	110	0.3	9	12	<2	--	--	--
702209 - 80#	46	16	110	0.7	7	14	<2	--	--	--
702210 - 80#	32	14	110	0.2	10	8	<2	--	--	--
702211 - 80#	36	12	110	0.2	9	8	<2	--	--	--
702213 - 80#	36	14	110	0.1	9	12	<2	--	--	--
702214 - 80#	52	18	135	0.2	10	<4	6	--	--	--
702215 - 80#	44	24	90	0.3	12	12	<2	--	--	--
702216 - 80#	44	16	76	<0.1	11	6	<2	--	--	--
702217 - 80#	24	14	98	0.1	5	6	<2	--	--	--
702219 - 80#	570	16	115	0.5	6	<4	18	14	22	--
702220 - 80#	38	28	150	0.1	7	6	<2	--	--	--
702221 - 80#	30	14	115	0.1	8	10	<2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10

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Analytical Laboratories (INC. IN WA)

540083

081

Job: 9AD1049
O/N: 1462

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702222 - 80#	42	16	135	<0.1	9	4	<2	--	--	--
702224 - 80#	48	18	140	<0.1	10	12	<2	--	--	--
702226 - 80#	28	14	90	<0.1	5	8	<2	--	--	--
702228 - 80#	30	12	125	0.3	8	4	<2	--	--	--
702230 - 80#	42	28	150	0.3	12	8	<2	--	--	--
702231 - 80# Gx26	690	5000	3800	750	270	120	3200	3100	3300	--
702232 - 80#	58	36	240	0.3	13	10	4	6	4	--
702233 - 80#	34	26	200	0.2	13	8	2	--	--	--
702234 - 80#	38	28	165	0.2	10	10	2	4	<2	--
702236 - 80#	38	24	170	0.1	11	12	<2	--	--	--
702237 - 80#	42	24	170	0.3	13	12	<2	--	--	--
702238 - 80#	32	26	135	0.2	11	18	<2	--	--	--
702239 - 80#	40	26	145	0.2	11	16	<2	--	--	--
702241 - 80#	52	36	125	0.4	7	12	14	18	10	--
702242 - 80#	38	26	140	0.2	8	6	<2	--	--	--
702243 - 80#	38	26	140	0.1	12	12	<2	--	--	--
702244 - 80#	36	26	125	<0.1	13	10	<2	--	--	--
702245 - 80#	46	24	135	<0.1	14	12	2	--	--	--
702247 - 80#	42	26	140	0.2	11	12	4	--	--	--
702248 - 80#	48	26	140	0.1	11	14	4	--	--	--
702249 - 80#	48	28	150	0.2	13	14	2	--	--	--
702252 - 80#	40	26	135	<0.1	10	8	4	--	--	--
702253 - 80#	46	26	140	0.3	11	6	2	--	--	--
702255 - 80#	40	24	140	<0.1	11	6	4	--	--	--
702256 - 80#	42	26	145	<0.1	11	20	2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME				AAS2C						

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN WA)

540083

Job: 9AD1049

O/N: 1462

082

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702257 - 80#	125	20	150	0.5	5	12	6	--	--	--
702258 - 80#	38	26	145	0.1	9	14	2	--	--	--
702259 - 80#	32	24	140	0.3	6	18	4	--	--	--
702260 - 80#	190	42	185	0.2	6	12	10	12	8	--
702262 - 80#	36	24	125	<0.1	9	8	2	--	--	--
702263 - 80#	34	38	230	0.5	13	10	2	--	--	--
702264 - 80#	34	28	150	0.1	12	14	2	--	--	--
702265 - 80#	28	28	125	<0.1	13	8	2	6	<2	--
702266 - 80#	58	26	220	<0.1	16	12	2	--	--	--
702268 - 80#	56	26	210	0.2	13	16	8	--	--	--
702269 - 80#	86	30	220	<0.1	14	20	4	--	--	--
702270 - 80#	62	32	240	0.3	13	8	4	--	--	--
702271 - 80#	66	30	250	0.3	9	6	4	--	--	--
702272 - 80#	72	34	200	0.2	12	12	4	--	--	--
702273 - 80#	68	30	300	0.1	13	14	<2	--	--	--
702274 - 80#	92	56	240	0.1	28	26	<2	--	--	--
702276 - 80#	32	34	135	<0.1	14	10	<2	--	--	--
702277 - 80#	48	20	135	<0.1	7	14	<2	--	--	--
702278 - 80#	78	16	130	<0.1	14	4	<2	--	--	--
702279 - 80#	74	22	145	<0.1	10	16	<2	--	--	--
702280 - 80#	66	36	200	0.4	11	6	<2	--	--	--
702281 - 80#	42	20	84	<0.1	9	14	<2	--	--	--
702282 - 80#	68	34	230	<0.1	12	14	<2	--	--	--
702283 - 80#	64	30	270	0.2	10	6	<2	--	--	--
702286 - 80#	26	28	155	<0.1	15	10	<2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

540034

Job: 9AD1049
O/N: 1462

083

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702287 - 80#	18	18	110	<0.1	13	10	<2	--	--	--
702288 - 80#	26	22	130	0.2	11	16	4	--	--	--
702289 - 80#	19	18	130	<0.1	14	10	<2	--	--	--
702290 - 80#	24	20	130	<0.1	12	8	4	--	--	--
702292 - 80#	26	20	140	<0.1	13	4	2	--	--	--
702293 - 80#	24	18	135	<0.1	10	10	<2	--	--	--
702294 - 80#	20	16	92	<0.1	10	8	2	--	--	--
702295 - 80#	32	24	100	<0.1	13	10	4	8	<2	--
702296 - 80#	28	22	94	<0.1	11	12	<2	--	--	--
702298 - 80#	36	24	115	<0.1	12	6	<2	--	--	--
702299 - 80#	40	26	94	<0.1	11	8	<2	--	--	--
702300 - 80# GX21	52	22	125	<0.1	13	12	<2	--	--	--
702302 - 80#	140	200	850	<0.1	22	28	<2	--	--	--
702303 - 80#	66	26	140	<0.1	9	4	<2	--	--	--
702304 - 80#	28	24	105	<0.1	12	8	<2	--	--	--
702305 - 80#	26	24	66	<0.1	20	18	<2	--	--	--
702306 - 80#	135	4500	8200	44	1920	76	100	38	160	--
702307 - 80#	125	3000	6200	24	1620	64	12	10	14	--
702308 - 80#	105	5100	5800	46	2600	88	10	--	--	--
702309 - 80#	38	3500	1.14%	22	1.59%	130	<2	<2	<2	--
702311 - 80#	76	890	820	5.2	66	18	<2	--	--	--
702313 - 80#	82	250	490	2.3	54	18	<2	--	--	--
702314 - 80#	34	50	220	0.2	28	12	<2	--	--	--
702315 - 80#	34	30	170	0.2	26	12	2	--	--	--
702317 - 80#	36	26	140	0.1	20	8	4	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME		AAS4	AAS1C		XRF2					

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Analytical Laboratories (INC. IN WA.)

540085

Job: 9AD1049

O/N: 1462

084

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702318 - 80#	36	22	170	0.2	26	10	4	--	--	--
702319 - 80#	26	16	92	<0.1	11	8	4	10	<2	--
702322 - 80#	48	175	720	2.1	42	8	6	--	--	--
702323 - 80#	26	38	185	0.4	8	6	<2	--	--	--
702324 - 80#	28	34	160	0.4	20	4	<2	--	--	--
702325 - 80#	20	40	140	0.3	10	8	<2	--	--	--
702326 - 80#	20	34	125	<0.1	9	8	<2	--	--	--
702328 - 80#	20	42	115	0.2	5	6	<2	--	--	--
702329 - 80#	15	38	66	<0.1	8	12	<2	--	--	--
702331 - 80#	76	125	330	1.0	8	12	2	--	--	--
702332 - 80#	54	58	250	0.6	6	6	<2	--	--	--
702333 - 80#	68	58	260	0.7	6	6	<2	--	--	--
702334 - 80#	52	66	270	0.8	6	8	<2	--	--	--
702336 - 80#	40	90	420	0.9	9	4	2	--	--	--
702337 - 80#	62	140	240	1.2	4	<4	<2	--	--	--
702338 - 80#	62	46	230	0.6	8	8	<2	--	--	--
702339 - 80#	74	42	210	0.7	6	6	<2	--	--	--
702340 - 80#	80	115	190	1.2	8	10	<2	--	--	--
702341 - 80#	160	1080	1720	6.8	74	16	14	18	10	--
702342 - 80#	34	22	145	0.6	7	12	<2	--	--	--
702343 - 80#	18	20	125	<0.1	7	6	<2	--	--	--
702344 - 80#	24	26	175	0.1	7	4	<2	--	--	--
702346 - 80#	18	24	135	<0.1	9	8	<2	--	--	--
702347 - 80#	19	24	120	0.3	9	6	2	--	--	--
702348 - 80#	15	30	64	<0.1	9	4	<2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10

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540086

Job: 9AD1049
O/N: 1462

085

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702349 - 80#	13	14	34	<0.1	8	8	<2	--	--	--
702353 - 80#	7	12	44	<0.1	8	10	<2	--	--	--
702354 - 80#	12	30	80	<0.1	2	12	2	--	--	--
702355 - 80#	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
702356 - 80#	5	6	19	<0.1	7	6	4	8	2	--
702357 - 80#	8	8	28	0.2	2	4	6	--	--	--
702359 - 80#	8	8	22	<0.1	3	8	2	--	--	--
702360 - 80#	4	10	28	<0.1	5	8	<2	--	--	--
702361 - 80#	8	10	32	<0.1	24	10	<2	2	<2	--
702362 - 80#	5	8	20	<0.1	5	10	<2	--	--	--
702363 - 80#	5	8	22	<0.1	9	8	<2	--	--	--
702365 - 80#	7	6	18	<0.1	7	10	<2	--	--	--
702366 - 80#	6	10	24	<0.1	4	12	<2	--	--	--
702367 - 80#	4	10	14	<0.1	7	8	<2	--	--	--
702368 - 80#	15	14	48	<0.1	8	10	<2	--	--	--
702369 - 80#	5	4	16	<0.1	5	4	<2	--	--	--
702370 - 80#	8	4	20	<0.1	5	10	<2	--	--	--
702371 - 80#	2	6	12	<0.1	4	6	<2	--	--	--
702372 - 80#	9	10	19	0.3	2	4	<2	--	--	--
702373 - 80#	20	26	140	0.5	11	10	<2	<2	<2	--
702376 - 80#	14	18	50	0.1	7	4	<2	--	--	--
702378 - 80#	7	12	26	<0.1	7	8	<2	--	--	--
702379 - 80#	5	14	14	0.3	2	6	<2	--	--	--
702380 - 80#	26	34	200	0.5	14	4	<2	--	--	--
702381 - 80#	30	26	250	0.2	8	4	4	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10

Job: 9AD1049

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540087

086

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
702382 - 80#	42	46	330	0.6	7	8	<2	--	--	--
702383 - 80#	38	46	300	0.4	10	8	<2	--	--	--
702384 - 80#	36	56	440	0.1	6	<4	<2	--	--	--
702385 - 80#	32	54	420	<0.1	7	6	<2	--	--	--
702386 - 80#	34	98	520	0.5	7	12	<2	--	--	--
702388 - 80# Gx7	54	24	19	<0.1	18	6	<2	--	--	--
702390 - 80#	18	32	220	0.3	6	<4	2	4	<2	--
702391 - 80#	16	12	50	0.1	4	8	<2	--	--	--
702392 - 80#	17	14	58	0.2	4	<4	<2	--	--	--
702393 - 80#	14	10	54	<0.1	5	<4	<2	--	--	--
702394 - 80#	13	10	56	0.4	4	4	<2	--	--	--
702396 - 80#	14	10	58	0.3	5	6	<2	--	--	--
702397 - 80#	13	10	50	<0.1	4	6	<2	--	--	--
702398 - 80#	11	12	44	0.2	6	10	<2	--	--	--
702399 - 80#	10	12	38	0.3	4	6	2	--	--	--
702400 - 80#	11	14	44	0.5	7	10	6	--	--	--
702154 - 80#	14	18	68	0.1	8	8	<2	--	--	--
702155 - 80#	6	12	50	0.2	22	8	2	4	<2	--
700453 - 80#	20	18	190	0.4	10	4	<2	--	--	--
700455 - 80#	32	26	160	0.7	9	8	<2	--	--	--
700457 - 80#	58	30	195	<0.1	17	14	<2	--	--	--
700459 - 80#	240	6700	3.75%	130	1820	90	60	60	60	--
700461 - 80#	14	40	180	<0.1	13	<4	2	--	--	--
700463 - 80#	250	5800	4.20%	100	2200	94	70	80	60	--
700465 - 80#	18	24	135	0.3	9	16	<2	--	--	--
700467 - 80#	220	6400	3.10%	90	2250	88	85	100	70	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME		AAS4	AAS1C	AAS2C						

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087

540088

Job: 9AD1048

O/N: 1462

ANALYTICAL REPORT

SAMPLE	Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
700469 - 80#	38	18	175	0.3	13	10	10	--	--	--
700471 - 80#	26	26	170	0.3	13	8	<2	--	--	--
700473 - 80#	280	8800	4.45%	140	2400	105	65	110	20	--
700475 - 80#	30	28	185	0.3	14	8	<2	--	--	--
700477 - 80#	260	8900	5.05%	125	2400	110	75	75	70	--
700480 - 80#	30	90	250	0.7	14	8	4	--	--	--
700482 - 80#	48	125	970	1.6	30	8	<2	--	--	--
700484 - 80#	38	34	390	0.4	14	12	<2	--	--	--
700486 - 80#	230	1.27%	3.70%	125	2500	120	70	65	75	--
700488 - 80#	24	38	185	<0.1	18	6	4	--	--	--
700490 - 80#	270	1.48%	3.00%	165	4800	155	150	160	150	--
700492 - 80#	16	62	220	0.5	16	12	8	--	--	--
700494 - 80#	8	56	140	0.2	11	6	2	--	--	--
700496 - 80#	360	2.05%	4.85%	210	3850	160	110	90	140	--
700498 - 80#	40	115	510	1.4	17	8	4	--	--	--
700502 - 80#	46	72	390	0.7	130	10	<2	--	--	--
700503 - 80#	52	120	380	1.7	38	6	<2	--	--	--
700504 - 80#	46	74	390	0.4	92	14	38	32	44	--
700505 - 80#	56	58	380	0.4	70	16	4	--	--	--
700507 - 80#	50	24	185	0.7	9	8	8	12	4	--
700508 - 80#	40	18	185	0.6	8	6	2	--	--	--
700509 - 80#	42	18	175	<0.1	6	4	2	--	--	--
700510 - 80#	32	16	180	<0.1	9	4	<2	--	--	--
700511 - 80#	38	18	170	0.2	9	8	<2	--	--	--
700513 - 80#	34	24	195	0.1	10	6	<2	--	--	--
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME	AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10
UPPER SCHEME		AAS4	AAS1C	AAS2C						

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540039

Job: 9AD1049
O/N: 1462

088

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag	As	Sb	Au Avg	Au Dp1	Au Dp2	Au Dp3
700514 - 80#		36	30	175	0.3	8	8	<2	--	--	--
700515 - 80#		28	18	210	0.2	9	4	6	--	--	--
700516 - 80#		28	24	185	0.6	7	4	<2	--	--	--
700517 - 80#		30	24	195	0.7	7	8	4	--	--	--
700519 - 80#		26	20	195	0.8	8	10	<2	--	--	--
700520 - 80#		34	28	200	0.7	10	12	<2	--	--	--
700521 - 80#	Gx10	4	4	4	<0.1	5	4	2	--	--	--
700522 - 80#		52	38	210	1.2	9	<4	<2	--	--	--
700523 - 80#		56	40	230	1.1	13	14	4	--	--	--
700525 - 80#		56	42	210	1.0	14	8	<2	--	--	--
700526 - 80#		68	230	1320	2.6	32	8	2	--	--	--
700527 - 80#		66	38	175	1.0	14	8	<2	--	--	--
700528 - 80#		92	36	195	1.1	10	<4	<2	--	--	--
700529 - 80#		36	18	94	0.5	5	10	2	--	--	--
UNITS		ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
SCHEME		AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	AAS10	AAS10	AAS10	AAS10

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540090

Job: 9AD1499

O/N: 1463

ANALYTICAL REPORT

Sample		Cu	Pb	Zn	Ag	As	Sb	Sn	Au Avg	Au Dp1	Au Dp2	Au Dp3
700826 - 80#		56	28	200	0.8	6	<4	6	<2	--	--	--
700827 - 80#		62	26	230	0.8	7	4	<4	<2	--	--	--
700828 - 80#		50	25	200	0.7	8	6	<4	<2	--	--	--
700830 - 80#		50	22	180	0.5	7	<4	<4	<2	--	--	--
700831 - 80#		64	22	135	0.8	7	4	4	2	--	--	--
700832 - 80#		52	22	145	0.8	5	<4	5	<2	--	--	--
700833 - 80#	G×7	62	28	48	0.8	19	4	6	<2	--	--	--
700801 - 80#		22	25	110	0.7	6	<4	5	<2	--	--	--
700802 - 80#		30	20	110	0.9	6	5	4	<2	--	--	--
700804 - 80#		40	22	115	1.0	6	<4	5	6	--	--	--
700806 - 80#		56	28	145	0.9	10	4	8	I.S.	--	--	--
700807 - 80#		60	26	135	0.7	8	<4	<4	I.S.	--	--	--
700808 - 80#		62	25	120	1.0	10	<4	<4	I.S.	--	--	--
700809 - 80#		68	26	140	1.1	10	<4	5	I.S.	--	--	--
700810 - 80#		I.S.	I.S.	I.S.	I.S.	3	<4	6	I.S.	--	--	--
700811 - 80#		70	38	125	1.1	11	<4	5	I.S.	--	--	--
700812 - 80#		50	32	210	0.8	14	<4	4	<2	--	--	--
700813 - 80#		25	25	170	0.7	8	<4	4	<2	--	--	--
700814 - 80#		24	28	175	0.6	6	<4	4	<2	--	--	--
700816 - 80#		25	25	185	0.8	8	<4	<4	<2	--	--	--
700818 - 80#		30	30	220	0.9	8	4	<4	<2	--	--	--
700819 - 80#		28	30	190	0.8	6	<4	5	<2	--	--	--
700820 - 80#		35	22	120	0.9	6	4	6	<2	--	--	--
700822 - 80#		35	25	110	0.8	8	<4	<4	<2	--	--	--
700823 - 80#		22	18	85	0.3	13	<4	<4	<2	--	--	--
700824 - 80#		14	12	58	0.4	6	<4	4	<2	--	--	--
700825 - 80#	G×13	13	20	8	<0.1	2	4	490	2	--	--	--
700817 - 80#		44	25	260	0.8	9	<4	4	6	--	--	--
Units		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb
Detn Limit		2	4	2	0.1	2	4	4	2	2	2	2
Scheme		AAS1	AAS1	AAS1	AAS2A	XRF1	XRF1	XRF1	AAS9	AAS9	AAS9	AAS9

090

540091

APPENDIX V

PETROLOGY

PETROGRAPHIC REPORT

ROCKS FROM MAGNET MINE AREA

FOR PLACER EXPLN. (Attn. Peter Ellis)

ANTHONY J. CRAWFORD
Geology Dept
University of Tasmania
9/8/89

092

540093

SAMPLE NUMBER: 702467 (KY3)

SUMMARY:

This is a former olivine+pyroxene-phyric glassy boninitic lava that has undergone intense hydrothermal alteration and recrystallization, including strong carbonate alteration and the introduction of some pyrite(?).

HAND SPECIMEN:

This is a highly weathered and strongly carbonated buff and brown coloured medium grained formerly igneous (?) rock.

THIN SECTION DESCRIPTION:

This is the most intensely altered and recrystallized sample examined in this batch of rocks. It is now composed of over 60 modal% of calcite that occurs as large patches, veins, and tiny granules throughout the sample. No trace of the original texture of this sample is preserved. Abundant fine-grained quartz and albite intergrown with calcite throughout the rock might suggest a felsic precursor for this sample. An opaque phase, probably pyrite, is common and seems to be associated with the calcite, but some grains have outlines and reddish fringes more suggestive of chromite. Occasional almost euhedral areas composed of extremely fine-grained quartz and chlorite appear to have been large pyroxene or olivine phenocrysts.

My best guess is that this sample was originally an olivine +pyroxene-phyric glassy boninite that underwent extensive recrystallization of glass to quartz, albite and chlorite, then this altered sample underwent a dynamic and intense recrystallization associated with hydrothermal alteration and carbonate alteration, to produce the present very difficult-to-diagnose sample. A Cr analysis (high Cr would support this story) might confirm or deny this diagnosis. The intense alteration of this sample suggests proximity to a zone of strong fluid flow (Fault zone?).

SAMPLE NUMBER: 702468 (M9)

SUMMARY:

This is a low-grade burial metamorphosed aphyric evolved tholeiitic ferrobasalt typical of Crimson Creek Formation basalts and their correlates in W Tasmania. It is essentially identical to 702480.

HAND SPECIMEN:

This is a massive, uniform textured aphyric metabasalt.

THIN SECTION DESCRIPTION:

In most respects, this sample is very close petrographically to that described above (702480). It is a virtually aphyric holocrystalline metabasalt containing fresh augite and partially sericitized albitized plagioclase laths intergrown in a relatively coarse-grained subophitic textured groundmass that contains abundant (more than the previous sample) FeTi oxide grains and more elongate ilmenite (?) needles. Mesostasis has been replaced by bright green chlorite that grades in marginal areas to pleochroic tan biotite that might be a late crystallizing phase; the chlorite frequently contains euhedral pencil-shaped grains of apatite.

Unlike the previous sample, this metabasalt is cut by relatively common very narrow fractures that are filled by calcite. The amount of FeTi oxides in the sample suggests that this is a very evolved tholeiitic ferrobasalt, and as for 702480, it is easily correlated with the Crimson Creek Formation basalts and their correlates in NW Tasmania.

SAMPLE NUMBER: 702469 (L11)

SUMMARY:

This sample is a graded epiclastic sediment derived largely from the glassy boninitic lavas in the ophiolite, but also including feldspars and altered clinopyroxenes that may have been derived from the gabbroic section of the ophiolite.

HAND SPECIMEN:

This is a massive extremely fine-grained almost black aphyric metabasaltic lava or tuff.

THIN SECTION DESCRIPTION:

It is immediately obvious from thin section examination that this sample is a graded polygenetic lithic lapilli tuff or epiclastic sandstone. The grainsize varies regularly across the slide from fine-sand (~0.2mm) to silt and shale. The dominant detrital component in this sample is devitrified and frequently finely-vesicular basaltic or boninitic glass that occurs as brownish angular grains composed of extremely fine-grained quartz, albite, chlorite and probably actinolite. Their vesicularity, and the fact that they sometimes show chromite inclusions or parts of chloritized orthopyroxene or olivine phenocrysts, suggests that most vitric fragments in this rock were boninitic. The dominant boninitic component is further demonstrated by common large detrital chromite grains and single crystals of chloritized orthopyroxene. Considerably less abundant detrital grains include small fragments of albitized feldspar and actinolitized augite crystals. These suggest some input from a tholeiitic source; this could either be gabbros, such as those which dominate the ophiolites at Heazelwood, Serpentine and MacIvor Hills, and are parts of the ophiolite, or else Crimson Creek-type tholeiitic basalts similar to those described earlier in this report.

The very fine-grained groundmass of this sample was probably dominated by a vitric component, but it has recrystallized to secondary quartz, and abundant chlorite and actinolite. Some of the secondary quartz forms quite large areas that resemble detrital quartz grains at first glance.

This sample was probably an epiclastic sediment derived largely from the ophiolitic rocks, that were largely glassy boninitic lavas, but that may also have included gabbros or dolerites.

SAMPLE NUMBER: 702470 (KY13)

SUMMARY:

This is a titanaugite+calcic plagioclase+ilmenite-bearing Tertiary alkaline basalt.

HAND SPECIMEN:

This is a dark grey-green uniform textured relatively coarse-textured basaltic lava.

THIN SECTION DESCRIPTION:

In thin section, this sample is seen to be a holocrystalline, slightly vesicular basaltic lava with fresh calcic plagioclase and sparse altered olivine phenocrysts in a crystalline groundmass of plagioclase, titanaugite and ilmenite needles. The phenocrysts are relatively sparse, and are mainly quite large (to 2mm) sieve-textured plagioclase euhedra and subhedra. A couple of subhedral crystal shapes replaced by pale green chlorite and calcite were probably former phenocrystal olivine sites.

The groundmass of this sample is a subophitic intergrowth of tabular calcic plagioclase (~An_{50-74}) and plates of quite strongly pink titanaugite, with less abundant but quite common ilmenite needles and more blocky FeTi oxide grains. Any mesostasis originally present has been altered to olive green chlorite and less abundant calcite, and the same material replaces vesicles that make up about 3-5 modal% of the sample.

The presence of titanaugite, calcic plagioclase and ilmenite, and the excellent textural preservation of this sample suggest to me that it is a Tertiary alkaline basalt that has suffered mild hydrothermal alteration, probably in the regional groundwater system during eruption and solidification.

SAMPLE NUMBER: 702471 (MA13)

SUMMARY:

This sample is a well-preserved formerly olivine+ orthopyroxene-phyric boninitic lava, associated with the ophiolite suite.

HAND SPECIMEN:

This is a relatively coarsely-porphyritic boninitic lava with a chlorite-rich groundmass hosting large (to 4mm long) serpentinized or chloritized olivine and low-Ca pyroxene phenocrysts.

THIN SECTION DESCRIPTION:

This is a texturally very well-preserved formerly olivine+low-Ca pyroxene-phyric boninitic lava. The olivine and low-Ca pyroxene phenocrysts occur as large chlorite-serpentine pseudomorphs after euhedral phenocrysts to around 4mm long. Both contain common quite large chromite euhedra. There is no sign of the polysynthetic twinning indicative of the former presence of clinoenstatite. The groundmass texture of this sample is also well preserved. It is dominated by radiating sheaves and bundles of elongate, almost acicular subparallel quench pyroxene crystallites growing in glass that has been replaced by a mosaic intergrowth of albite and quartz. The acicular pyroxenes are now composed of pale green actinolite.

This sample is cut by a quartz vein about 8mm thick, and also by several meandering epidote-dominated veinlets.

SAMPLE NUMBER: 702472 (Z6)

SUMMARY:

This is a tholeiitic metadolerite related to the Crimson Creek Formation tholeiitic basalts and their correlates (samples 702480 and 702468 described above). It is not ophiolite-associated.

HAND SPECIMEN:

This is a fractured dark green relatively coarse-grained metabasalt or fine-grained metadolerite, with abundant chlorite veinlets and patches.

THIN SECTION DESCRIPTION:

This sample is seen to be a relatively strongly altered metadolerite in thin section. It is composed of subequal amounts of intergrown anhedral plates of fresh augite, usually about 1mm across, and smaller more euhedral plagioclase grains that are albitized and almost entirely replaced by a very fine-grained dirty brown clayey aggregate. The plagioclase frequently occurs ophitically included in the augite. Less abundant than augite or plagioclase, but not uncommon, are FeTi oxide grains (mainly < 0.4mm) that have been partially or totally leucoxenized. Any former mesostasis in this sample has been replaced by pale green chlorite.

The rock is transected by a series of brittle fractures that are filled with green chlorite, and several slightly wider veins (1-2mm) cut the sample and are filled with green chlorite that is often oxidized to reddish material, spherulitic rosttes of secondary quartz and colourless sericite.

The relatively coarse-grained texture of this sample suggests that it is either a dolerite dyke or the core of a very thick lava flow. The presence of relatively common FeTi oxides and the lack of any greenschist facies metamorphic minerals (mainly epidote-actinolite association) suggest that it is related to the Crimson Creek Formation basalts described above, and not to the ophiolitic lava carapace.

SAMPLE NUMBER: 702473 (MA10)

SUMMARY:

This is a cumulus-pyroxene (now actinolite-chlorite altered) -enriched boninitic lava probably taken from the base of a flow. It is part of the ophiolitic suite.

HAND SPECIMEN:

This sample appears to be the top or base of a mafic lava flow, with a dark grey fine-grained interior portion grading into a coarser, more altered and brecciated flow margin.

THIN SECTION DESCRIPTION:

This sample shows clearly in thin section that it was a strongly pyroxene-phyric boninitic lava. It is composed of abundant (at least 50 modal%) subhedral to euhedral phenocrysts of low-Ca pyroxene that have been altered to fibrous chlorite-actinolite intergrowths. Matrix between the phenocrysts was glassy, and has recrystallized to albite-secondary quartz and chlorite. Large euhedral chromites are quite common as inclusions in the pseudomorphed pyroxene grains. An interesting feature of this sample is the relatively abundant curved angular fragments of quenched glassy lava crust incorporated into the rock. These are pale brown and contain actinolite pseudomorphed almost spinifex pyroxene grains. They probably represent spalled off fragments of the glassy quenched crust of this flowtop or base incorporated into the flow during convective overturn and flow. The very high modal abundance of pyroxene phenocrysts in this sample, and the fact that they are almost 'framework supporting' the rock, suggest that this may be the cumulus pyroxene-enriched base of a boninite flow.

There is no doubt that this is a boninite lava associated with the ophiolite.

099

SAMPLE NUMBER: 702474 (K21)

SUMMARY:

This was a strongly opx-phyric slightly vesicular glassy boninitic lava, that has suffered an unusual recrystallization of the glassy groundmass to produce globular cells of quartz separated by chlorite and actinolite. It is ophiolite related.

HAND SPECIMEN:

This sample has an unusual texture, dominated by 1-2mm diameter chlorite or serpentine pseudomorphs after a mafic phase set in a lighter coloured groundmass; the texture is reminiscent of a strongly altered cumulate ultramafic rock.

THIN SECTION DESCRIPTION:

This sample is petrographically simple, being composed of chloritized pseudomorphs after euhedral orthopyroxene crystals that are up to 3mm long, set in a most unusual textured matrix composed of almost globular quartz and actinolite-chlorite. The orthopyroxene phenocrysts have been totally replaced by a fibrous, variably pleochroic green chlorite. They frequently include small euhedral chromite grains, and never show any trace of former polysynthetic twinning indicative of former clinoenstatite. These orthopyroxene euhedral, that probably make up at least 40-50 modal% of the sample, were set in a vesicular glassy matrix that has totally devitrified to a strange intergrowth dominated by globular cells of polycrystalline secondary quartz, mainly 0.2-0.3mm across, separated one from the other by interstitial chlorite and very fine-grained actinolite.

This sample is believed to have originally been a somewhat vesicular strongly orthopyroxene-phyric glassy boninitic lava. Similar lavas with a similar alteration of glass have been seen by the author near MacIvor Hill in W Tasmania, and at Howqua in Victoria. This sample is clearly ophiolite-related.

SAMPLE NUMBER: 702475 (MA20)

SUMMARY:

This is a well-preserved aphyric tholeiitic basalt easily correlated with the Crimson Creek and related basaslts in W Tasmania.

HAND SPECIMEN:

This is an aphyric fine-grained metabasic lava.

THIN SECTION DESCRIPTION:

This is a texturally well-preserved completely aphyric basaltic lava composed dominantly of an intergranular intergrowth of fresh augite, sericitized plagioclase and blocky FeTi oxide grains. The plagioclase grains are stout to elongate albite prisms showing almost total replacement by very fine-grained sericite. Augite occurs as anhedral to subhedral plates wedged between better former plagioclase grains; it is completely fresh, colourless, and sometimes contains thin plagioclase laths. FeTi oxide grains are quite large and blocky, and probably make up around 10 modal% of the sample. A feature of the sample is the relatively abundant angular interstices between plagioclase crystals that are filled by bright green chlorite replacing mesostasis. Small apatite needles and globular leucoxene grains are common in the chlorite replacing mesostasis.

This sample is a typical tholeiitic ferrobasalt that is easily correlated with the Crimson Creek basalts and their correlates elsewhere in Tasmania. The abundant FeTi oxides rule out any relationship with the low-Ti basalts and boninites in the ophiolite.

SAMPLE NUMBER: 702476 (K9)

SUMMARY:

This is a plagioclase+olivine-phyric trachytic textured Tertairy hawaiitic lava.

HAND SPECIMEN:

This is a dark grey, fine-grained uniform sparsely pag-phyric basaltic lava.

THIN SECTION DESCRIPTION:

This sample is a mafic-crystal poor hawaiitic or more evolved basaltic lava. It consists of about 5 modal% of narrow, quite elongate phenocrysts of intermediate to calcic plagioclase to about 1.5mm long in a very fine-grained trachytic textured groundmass dominated by small amygdales and plagioclase microlites. Less abundant than the plagioclase phenocrysts, but not uncommon are small phenocrysts of totally altered former olivine pseudomorphed by messy calcite and a rim of magnetite. These are rarely larger than 0.4mm.

About 5 modal% of the sample is composed of very small (<0.2mm diameter) vesicles lined with a colourless zeolite and minor sericite or some other clay mineral, and generally cored by calcite or dolomite. Specks of an alteration carbonate pervade the sample. The groundmass is a pilotaxitic intergrowth of tiny plagioclase microlites, tiny ilmenite needles and altered mesostasis, and is remarkable for the apparent absence of a pyroxene.

This sample is almost certainly a Tertiary alkali basalt, although the rarity of pyroxene, and the trchytic texture suggest that it is a very evolved composition, probably a hawaiite (alkaline equivalent of a basaltic andesite).

SAMPLE NUMBER: 702477 (MA2)

SUMMARY:

This sample is a quenched boninitic lava that contained abundant orthopyroxene microphenocrysts and less abundant chromite microphenocrysts. It is clearly associated with the ophiolites, and similar rocks are known from Heazelwood and Serpentine Hill.

HAND SPECIMEN:

This is a dark green fairly strongly altered fine-grained and relatively uniform-textured metabasic lava.

THIN SECTION DESCRIPTION:

This sample is seen in thin section to be a fairly thoroughly recrystallized quenched aphyric metabasalt. It is composed dominantly of radiating bundles and sheaves of intergrown quartz, albite and actinolite that are almost certainly replacing former spherultic fanlike aggregates of calcic pyroxene that crystallized extremely rapidly in glass during quenching of a superheated lava. Small euhedral microphenocrysts of chloritized orthopyroxene occur embedded in the sheaves of albite-quartz-actinolite. Areas in between the sheaves of albite-actinolite-quartz are composed of a relatively coarse-grained intergrowth of secondary quartz, albite and chlorite replacing glass. These sometimes contain pale brownish actinolite grains after less acicular, more blocky clinopyroxene groundmass microlites. Small chromite euhedra are quite common scattered through the groundmass of this quenched lava. The sample is cut by some small quartz veinlets that sometimes contain euhedral epidote grains.

This sample is texturally and mineralogically (especially the abundant opx and chromite microphenocrysts) similar to many quenched formerly glassy boninitic lavas that occur in the ophiolitic suite lava carapace in the Cambrian ophiolites in both Victoria and Tasmania. The abundant secondary quartz in this sample suggests that it has suffered some degree of silicification.

SAMPLE NUMBER: 702478 (S19)

SUMMARY:

This is a sparsely plagioclase-phyric formerly glassy felsic lava that has devitrified to a snowflake texture microscopically. It may be a dacitic extrusive analogue of the relatively abundant tonalites that occur in the upper levels of the plutonic sections of most of the ophiolites sections in W Tasmania.

HAND SPECIMEN:

This is a massive, cream coloured sparsely feldspar-phyric felsic volcanic or shallow intrusive rock.

THIN SECTION DESCRIPTION:

This sample consists of about 5 modal% of euhedral albitized and sericitized feldspar phenocrysts to about 1-2mm long set in a mosaic-textured felsic groundmass that contains abundant speckles and patches of calcite. The groundmass texture in this unusual sample is rather distinctive, being composed of interlocking regular patches to about 0.5mm across of albite in which are embedded almost microcrystalline plagioclase laths. The texture is highly reminiscent of a snowflake texture derived from devitrification of felsic glass. Well-formed apatite microphenocrysts are well represented in this sample, and are up to 0.2mm long. Several small clusters of euhedral sphene crystals may be replacing a former FeTi oxide phase.

I suggest that this sample was a glassy felsic lava originally. It is unlike Mt Read Volcanics felsic lavas texturally, and in the abundance of apatite. It may be an extrusive dacitic equivalent of the not uncommon tonalites that occur in the Heazelwood, Serpentine Hill and MacIvor Hill ophiolite slices. If this is the case, the common small zircons in this sample may offer a good avenue to date the ophiolite and constrain the crystallization history. Can you get more of this stuff?

SAMPLE NUMBER: 702479 (W26)

SUMMARY:

This is a strongly hydrothermally altered former doleritic rock probably with affinities to the low-Ti ophiolite association. The intense alteration may indicate proximity to a major fault structure, although the texture is not dynamically recrystallized.

HAND SPECIMEN:

This is a fractured and highly altered mafic lava or dolerite with alteration patches of quartz, epidote, calcite(?) and chlorite to 2 or 3mm across visible in hand specimen on the cut face.

THIN SECTION DESCRIPTION:

This sample is seen in thin section to be a former basaltic lava or fine-grained dolerite that has suffered intense quartz-epidote-chlorite alteration. Little is left of the primary mineralogy, although primary textural details are still preserved in the shape of blocky to tabular albite laths mainly 0.5-1mm long that are immersed in a mass of bright green chlorite and exceedingly fine-grained dirty epidote that replace augite plates and mesostasis. Large areas of the slide are riddled with a relatively coarse-grained intergrowth of patchy secondary quartz and radiating sheaves of fibrous yellow epidote. Former FeTi oxide grain sites are notably less abundant than in the previously described dolerite, and all that remains are tiny magnetite grains defining the rims of former grains with chlorite-epidote in the cores. Poorly crystalline calcite is abundant as irregular patches throughout the sample, and also occurs in a few tiny veinlets.

The intense hydrothermal alteration of this sample renders determination of its affinities difficult. I suggest that it is an ophiolite-related metadolerite, mainly on the basis of the intense alteration (near a bounding fault?) and the apparent paucity of former FeTi oxide grains. The rock is so altered as to almost be worth calling an epidosite.

SAMPLE NUMBER: 702480 (W12)

SUMMARY:

This is a typical Crimson Creek Formation correlate tholeiitic metabasalt.

HAND SPECIMEN:

This is a uniform textured virtually aphyric massive dark grey metabasalt.

THIN SECTION DESCRIPTION:

This sample in thin section is seen to be a very well preserved sparsely clinopyroxene+plagioclase-phyric metabasalt, with a well-crystallized groundmass. The phenocrysts constitute less than 1 modal% of the rock, and are dominantly anhedral to subhedral fresh augite that sometimes subophitically includes narrow albitized plagioclase laths.; these augite phenocrysts are generally less than 0.5mm across. Even less abundant are rare plagioclase phenocrysts that occur as elongate euhedral tabular prisms, much less than 1mm long, that have been albitized and partially or totally replaced by sericite.

The groundmass of this sample is quite well-crystallized, and contains only a small formerly glassy mesostasis component in angular interstices between blocky groundmass plagioclase grains. This mesostasis has altered to bright green chlorite that contains tiny subspherical leucoxene grains and needle-like prisms of ilmenite(?). The latter may have been a very late-crystallizing phase in the residual liquid trapped between groundmass crystals of plagioclase and augite. Augite and plagioclase make up the bulk of the groundmass, plagioclase as albitized elongate blocky laths liberally flecked with sericite, and augite as fresh anhedral plates set in more modally abundant plagioclase. Quite large blocky FeTi oxide grains are also common in the groundmass.

The metamorphic assemblage in this sample, albite-chlorite -leucoxene, is typical of the prehnite-pumpellyite facies of low-grade burial metamorphism. The abundance of FeTi oxides and possible ilmenite in the groundmass, and the poorly cpx+plag-phyric nature of the sample, are typical of the Late Proterozoic or Early Cambrian tholeiitic basalts that are a dominant component of the Crimson Creek Formation and correlates elsewhere in Tasmania, including the Motton Spilite in the Dial Range Trough, the Smithton-Montague basalts in the Smithton Trough, and those outcropping along Double Cove on Macquarie Harbour. The rock is definitely not related to the ophiolite sheets in this area, but would be better considered as a part of the passive margin sequence onto which the ophiolite was thrust in the late Middle Cambrian.

54010;

SAMPLE NUMBER: 702481 (SA19)

SUMMARY:

This is a volcanogenic greywacke with a major ophiolitic detrital component.It is petrographically very similar to many basal Dundas Group greywackes.

HAND SPECIMEN:

This is a structureless dark grey fine-grained massive mafic lava or tuff.

THIN SECTION DESCRIPTION:

This sample in thin section is clearly a volcanogenic greywacke, with detrital grains of fine-sand size that are derived from at least three main sources. Detrital lithic clasts make up about 90 modal% of this sample, and are set in a very fine grained indeterminate-chlorite-rich(?) matrix.

The most abundant and obvious grains are subrounded to angular grains of green serpentine that occasionally contain chromite inclusions. Discrete chromite grains also occur in the sample, although not abundantly. A second abundant lithic clast type consists of chlorite containing tiny plagioclase laths and actinolite after quench pyroxenes. These could be either rapidly cooled Crimson Creek-type tholeiitic bassalt-derived, or else be derived from the abundant low-Ti tholeiitic basalts that make up the dominant part of the lava carapace in the ophiolites in W Tasmania. A third clast type consists of a very fine-grained intergrowth of chalcedonic silica; these may be derived from weathered cherts or interpillow material. Quite blocky almost euhedral albitized plagioclase crystals, mainly less than 0.5mm long, are also not uncommon, and could be derived from ophiolitic gabbros or Crimson Creek-related basalts.

This is clearly a volcanogenic greywacke with a major contribution from the ophiolitic rocks. Whether any of the detrital grains are derived from Crimson Creek Formation basalt correlates cannot be demonstrated petrographically. The sample is like many of the basal Dundas Group greywackes in the Dundas and Smithton Troughs.

SAMPLE NUMBER: 702482 (C12)

SUMMARY:

This is a formerly glassy and strongly vesicular boninitic lava breccia, definitely associated with the ophiolites in W Tasmania, and unrelated to the previously described tholeiitic metabasits.

HAND SPECIMEN:

This is a highly chlorite-altered dark green lava breccia, with poorly defined diverse mafic (?) volcanic lithic fragments from 1mm to 1.4cm set in a very fine grained matrix.

THIN SECTION DESCRIPTION:

This sample is an exceptionally altered and recrystallized monogenmetic lava breccia. Lava fragments are poorly defined microscopically, but where best developed, are seen to be composed of a chlorite-pseudomorphed strongly vesicular glass that contained abundant large phenocrysts of both olivine and a low-Ca pyroxene. Vesicles make up at least 20-30 modal% of many of the fragments are are filled by pale green chlorite that shows anomalous blue pleochroism. The formerly glassy groundmass of the lava fragments was charged with tiny pyroxene microlites that have altered to fibrous dirty brown tremolite-actinolite matted intergrowths, and the glass has recrystallized to chlorite - fan spherulitic secondary quartz intergrowths.

Former olivine phenocrysts, with characteristic sharply terminated crystal shapes, are up to 3mm long, although most are smaller than this. They are euhedral, replaced by pale green chlorite and intergrown fan-spherulitic secondary quartz, and frequently contain well-formed chromite inclusions. The other phenocryst phase represented is replaced by pale brown tremolite- actinolite, retains some well-preserved polysynthetic twinning in places, and was clearly mainly clinoenstatite. Occasional grains lacking preserved twinning were probably orthoenstatite. Quite large chromite euhedra are not uncommon in the matrix of this lava breccia.

The matrix of this sample was almost certainly comminuted material of identical composition to the preserved clasts, and had a high glassy component. Like the groundmass of the fragments, it has recrystallized as a distinctive intergrowth of pale green chlorite and fan-spherulitic quartz. The metamorphic assemblage is low greenschist facies, higher than noted in the two previously described basalts, possibly due to dynamothermal metamorphism accompanying thrust emplacement of the ophiolite that I believe this sample was associated with (ie. a part of).

The texture, phenocryst assemblage and abundant chromite in this sample are all characteristic of a magnesian boninitic lava breccia

precursor for this sample. Similar formerly glassy vesicular boninitic lavas and lava breciias are known from Serpentine Hill and the Heazelwood River Complex, as well as from the Howqua area of Central Victoria. In all cases, they are best interpreted as components of one or more allochthonous slices of ophiolitic rocks that were thrust over the passive margin that contained the Crimson Creek Basalts in the late Middle Cambrian.

SAMPLE NUMBER: 702483 (SC18)

SUMMARY:

This is a volcanogenic greywacke containing detrital components from both the ophiolitic pile (chromites and serpentinized and chloritized rock fragments) and a feldspar-bearing source that might be either ophiolitic gabbros or a Crimson Creek-type basaltic source. It is essentially very similar to 702481.

HAND SPECIMEN:

This is a structureless fine-grained dark grey volcanogenic greywacke or epiclastic sediment.

THIN SECTION DESCRIPTION:

In most respects, this sample is very similar to relatively fine-grained volcanogenic greywacke 702481. However, some notable differences are:

1. that detrital serpentine fragments and clasts and chromite grains are much less abundant in the present sample, and feldspar grains (albitized) much more abundant than in 702481, and
2. that calcite is more abundant in this sample than 702481, occurring both as veinlets and replacing occasional detrital grains.

As for 702481, this sample contains detritus from the ophiolite and another, feldspar-bearing source that could be either the gabbroic levels of the ophiolite, or a Crimson Creek-type basalt pile.

SAMPLE NUMBER: 702484 (SC7)

SUMMARY:

This is a low greenschist facies metamorphosed tholeiitic dolerite, probably ophiolite-related.

HAND SPECIMEN:

This is a uniform textured speckled dark grey doleritic rock with chloritized mafic crystals in a lighter, finer-grained matrix.

THIN SECTION DESCRIPTION:

This sample shows a well preserved doleritic texture in thin section, dominated by relatively long, narrow albitized plagioclase euhedra that often have fresh augite growing in their cores. Plagioclase is modally much more abundant than augite in the sample, and is always flecked by chlorite and minor sericite. Fresh augite occurs in triangular interstices between adjacent plagioclase crystals, and less commonly as more elongate grains (to 3mm) intergrown with slivers of plagioclase. Formwe FeTi oxide grains are not common, but are evenly distributed through the slide as small leucoxenized grains with magnetite(?) rims. Angular mesostasis areas have been replaced by pale green chlorite and intergrown fibrous actinolite.

The sample is cut by several narrow high strain zones in which both augite and plagioclase have been granulated and largely recrystallized as chlorite, very fine-grained epidote(?) aggregates and seams of sericite.

The affinities of this sample are difficult to determine. It is clearly a tholeiitic dolerite, although it is difficul to choose between an ophiolite-related or a Crimson Creek-type basalt-related affinity. Dolerites in the ophiolite often contain small amounts of FeTi oxide, and are often actinolite-bearing (ie lower greenschist facies), so I lean towards this alternative, although only analytical data could settle this one for certain.

SAMPLE NUMBER: 702485 (SC22)

SUMMARY:

This is a weakly foliated formerly vesicular highly glassy olivine+low-Ca pyroxene-phyric boninitic lava. It has undergone more intense alteration than generated during regional alteration of similar rocks, and, with abundant calcite, has clearly undergone hydrothermal alteration. It is an ophiolite-related sample.

HAND SPECIMEN:

This is an intensely calcite-veined and highly altered mafic lava.

THIN SECTION DESCRIPTION:

This rock in thin section is seen to be intensely altered, and dominated by anomalous blue-pleochroic chlorite, calcite and secondary quartz. There are, however, a few clear clues to the protolith of this very altered sample. Abundant quite large chromite euhedra, and clear chlorite-serpentine pseudomorphs after olivine and low-Ca pyroxene are evident, and indicate a boninitic affinity for this sample. Mafic phenocrysts were euhedral and up to at least 2mm long, but it is not possible to determine their former modal abundance due to the strong textural obliteration over most of the section.

I am fairly certain that this sample was a vesicular, highly glassy boninitic lava, and that the magnesian glass was readily replaced by chlorite and finely globular secondary quartz during more intense than normal hydrothermal alteration, that probably involved the introduction of the abundant calcite present in this rock. The highly altered groundmass or matrix shows a weak foliation defined by stringers of chlorite and secondary quartz, suggesting that some deformation accompanied the hydrothermal alteration. The calcite occurs as patches and veinlets throughout the sample.

SAMPLE NUMBER: 702486 (C14)

SUMMARY:

This is a formerly highly glassy orthopyroxene-phyric boninitic lava that has suffered varying degrees of glassy groundmass recrystallization, imparting an almost brecciated appearance to the sample.

HAND SPECIMEN:

This is a heterogeneous-textured mottled grey-green lava or lava breccia with areas or fragments of altered lava to 1.5 cm set in a darker matrix. Occasional spherical bodies up to almost 1cm across occur in feldspar(?)-lined pockets, and sometimes weather out, leaving semi-circular 'craters' in the rock.

THIN SECTION DESCRIPTION:

The breccia-like appearance of this sample in hand specimen is much less obvious in thin section. The sample was originally a quenched highly glassy boninitic lava containing euhedral phenocrysts of low-Ca pyroxene. The low-Ca pyroxene phenocrysts probably total around 5-8 modal% of this sample; they are mainly less than 1mm long, and are replaced by pale green chlorite. They occasionally include small chromite grains. These phenocrysts are embedded in a formerly glassy texturally highly variable groundmass, that has suffered strong recrystallization. The most common groundmass texture of this sample is sheaves of radiating former quench pyroxenes growing out through former glass that has recrystallized to chlorite-quartz and albite intergrowths. These domains of more rapid growth are interspersed with areas in which the pyroxenes in the groundmass grew more slowly, to form small euhedral equidimensional to elongate microlite, that are also set in albite-quartz-chlorite after glass. Many of these were hollow, a characteristic of boninite groundmass pyroxenes; these hollow crystals are now composed of a shell of albite hosting a core of chlorite.

The almost brecciated appearance of this sample in hand specimen appears to be an artifact of the grainsize of recrystallization products of the groundmass glass that was a dominant component of this boninitic lava. Lighter coloured areas are coarser-grained, with plenty of quartz and albite after glass, whereas darker areas are dominated by more common fan spherulitic quench pyroxenes with chlorite pseudomorphing these structures. The 'micro-cannon ball' structures notable in the hand specimen have been seen elsewhere in the Tasmanian ophiolitic boninite sections, and probably represent spherulitic masses of intimately intergrown former cpx-plag, set in altered and recrystallized glass. There is no doubt that this sample was a glassy, fairly evolved (due to lack of olivine and clinoenstatite phenocrysts) boninitic lava, associated with the ophiolitic sequence.

SAMPLE NUMBER: 702487 (SC15)

SUMMARY:

This sample is a Tertiary alkaline picritic basalt with extensive alteration of former olivine to talc.

HAND SPECIMEN:

This is a massive slightly vesicular porphyritic relatively coarse-grained mafic lava or dolerite, with abundant pseudomorphs after olivine(?) phenocrysts.

THIN SECTION DESCRIPTION:

This sample in thin section is seen to be a dolerite, composed of abundant altered olivine euhedra to 2mm long, intergrown with abundant lath-like plagioclase and more equidimensional interstitial augite. Th former olivine crystals make up at least 20 modal% of this sample, and are totally altered to talc. Plagioclase occurs as elongate laths of andesine and labradorite composition, that are often intergrown with each other and flecked by sericite. Augite occurs as anhedral pinkish plates that sometimes show excellent ilmenite exsolution lamellae, and breakdown to a chlorite(?)-ilmenite-magnetite aggregate. Mssostasis occurs in small amounts in angular interstices between plagioclase prisms, and is replaced by pale green chlorite, and pleochroic brown-olive biotite. Vesicles are filled with pale green chlorite and calcite.

This sample is clearly a hydrothermally altered Tertiary picritic alkali basalt, and is notable for the amount of former olivine it carries.

APPENDIX VI

ROCK CHIP GEOCHEMISTRY

340116

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Analytical Laboratories (INC. IN W.A.)

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag	
704505	6x12A	10	22	14	<0.1	
704512		170	8.40%	2.15%	190	MAGNET OPEN CUT - GOSSAN - NORTH
704513		270	7.75%	2.80%	300	" " " - CENTRE
704514		240	8.55%	2.35%	570	" " " " - SOUTH
704515		88	5100	2.80%	40	MAGNET MINE DUMP - NORTH
704516		16	1340	590	7.8	" " " - CENTRE
704517		140	2.05%	6.90%	105	" " " - SOUTH
704521	6x9	8	105	28	0.5	
700215	6x13	<2	8	<2	<0.1	
700216		1680	300	1.08%	3.8	COMSTAFF DRILLING DDH MAG 2 198.0 - 203.0
700217		160	34	250	0.1	203.0 - 218.0
700218		40	450	2350	2.6	218.0 - 220.0
700219		290	1.48%	9.10%	230	243.7 - 251.5
700220		70	1000	1.84%	24	251.5 - 255.0
700221		185	2550	5.00%	52	255.0 - 259.8
700222		24	1200	5100	10.2	259.8 - 265.4
700223		40	68	490	0.7	265.4 - 284.3
700224		88	690	6100	8.4	220.0 - 232.6
700225		72	870	2500	14.4	232.6 - 240.0
700226		32	730	4300	9.0	240.0 - 242.0
700227		48	4150	1.51%	78	242.0 - 243.7
700228	6x26	650	4350	3400	710	
700251		32	60	1460	1.1	DDH MAG 1 28.1 - 30.3
700252		40	48	230	0.8	50.3 - 72.5
700253		13	690	1160	1.5	72.5 - 74.3
700254		36	18	115	0.1	74.3 - 111.6
700255		250	105	160	0.1	111.6 - 117.0
700256		36	30	130	0.2	117.0 - 124.8
UNITS		ppm	ppm	ppm	ppm	
SCHEME		AAS1	AAS1	AAS1	AAS2A	

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Analytical Laboratories (INC. IN W.A.)

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Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
704505	26	--	--	--
704512	18	--	--	--
704513	22	--	--	--
704514	26	--	--	--
704515	30	--	--	--
704516	2	--	--	--
704517	24	--	--	--
704521	38	--	--	--
700215	10	--	--	--
700216	4	--	--	--
700217	4	--	--	--
700218	2	--	--	--
700219	65	55	70	--
700220	16	--	--	--
700221	6	--	--	--
700222	2	--	--	--
700223	2	--	--	--
700224	4	--	--	--
700225	4	--	--	--
700226	10	--	--	--
700227	22	--	--	--
700228	3300	3200	3500	--
700251	8	--	--	--
700252	4	--	--	--
700253	6	--	--	--
700254	4	--	--	--
700255	8	--	--	--
700256	8	--	--	--
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN WA)

540118

Job: 9AD0602
O/N: 1458 MAGNET

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb	
704505	12	<4	300 194	10	12
704512	940	56	100	240	
704513	2200	76	270	980	
704514	1700	30	48	390	
704515	3000	8	98	100	
704516	9	6	6	12	
704517	1600	18	160	62	
704521	2	<4	24 21.4	8	9
700215	<2	6	510 505	<4	13
700216	180	<4	26	22	
700217	34	<4	14	12	
700218	54	<4	18	18	
700219	3100	6	330	140	
700220	590	10	62	68	
700221	1520	<4	185	70	
700222	500	<4	18	72	
700223	26	<4	12	30	
700224	920	<4	10	40	
700225	120	6	8	22	
700226	330	4	<4	36	
700227	390	<4	16	86	
700228	450	52	1660	120	
700251	22	6	4	8	
700252	56	<4	6	8	
700253	88	4	6	10	
700254	15	4	8	10	
700255	14	<4	6	16	
700256	26	4	<4	8	
UNITS	ppm	ppm	ppm	ppm	
SCHEME	XRF1	XRF1	XRF1	XRF1	

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

540119

Job: 9AD0602
O/N: 1458 MAGNET

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ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag			
700257		180	12	115	0.3	DDH	MAG 1	124.8 - 140.2
700258		46	16	185	0.4			140.2 - 155.6
700259		40	10	76	0.2			155.6 - 168.3
700260		28	16	100	0.7			168.3 - 171.1
700262	GX12A	22	10	125	0.6			171.1 - 185.0
700263		185	6	145	0.2			185.0 - 187.5
700264		19	6	105	0.3			187.5 - 191.0
700265		22	24	180	0.8			191.0 - 202.7
700266		46	6	94	0.6			202.7 - 208.5
700267		310	10	105	0.3			208.5 - 217.0
700268		13	14	110	1.5			217.0 - 221.0
700269		150	10	100	0.3			221.0 - 245.0
700270		88	14	96	0.4			245.0 - 247.6
700271		78	115	78	3.8			247.6 - 254.6
700272	GX9	90	<4	3	0.1			
700272A	GX1H	72	42	34	1.1			
700273		52	3350	1700	10.4			254.6 - 259.0
700274		56	7500	1.49%	42			259.0 - 268.0
700275		32	125	790	1.0			268.0 - 278.0
700276		32	94	330	0.5	DDH	BAB 1	38.0 - 43.2
700277		48	16	280	0.1			43.2 - 66.5
700278		38	16	115	<0.1			66.5 - 82.5
700279		74	76	520	<0.1			82.5 - 106.4
700280		78	10	280	0.1			106.4 - 120.18
700281		105	16	180	0.1			120.18 - 130.7
UNITS		ppm	ppm	ppm	ppm			
SCHEME		AAS1	AAS1	AAS1	AAS2A			
UPPER SCHEME			AAS4	AAS1C	AAS2C			

Job: 9AD0602
O/N: 1458 MAGNET

119

ANALYTICAL REPORT

SAMPLE	Au Avg	Au Dp1	Au Dp2	Au Dp3
700257	12	--	--	--
700258	8	--	--	--
700259	8	--	--	--
700260	6	--	--	--
700262	6	--	--	--
700263	4	--	--	--
700264	4	--	--	--
700265	4	--	--	--
700266	6	--	--	--
700267	4	--	--	--
700268	4	--	--	--
700269	4	--	--	--
700270	6	--	--	--
700271	4	--	--	--
700272 q	16	--	--	--
700272A ///	90	100	75	--
700273	14	--	--	--
700274	10	--	--	--
700275	10	--	--	--
700276	<2	--	--	--
700277	2	--	--	--
700278	<2	--	--	--
700279	4	--	--	--
700280	2	--	--	--
700281	4	--	--	--
UNITS	ppb	ppb	ppb	ppb
SCHEME	AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540121

Job: 9AD0602
O/N: 1458 MAGNET

120

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
700257	18	10	6	8
700258	10	4	<4	4
700259	6	<4	<4	14
700260	3	<4	<4	8
700262	8	<4	<4	10
700263	8	4	<4	12
700264	28	<4	4	8
700265	135	<4	<4	20
700266	30	<4	4	12
700267	24	<4	<4	8
700268	20	<4	<4	12
700269	5	<4	<4	12
700270	12	<4	<4	8
700271	13	<4	<4	34
700272	<2	<4	22	4
700272A	14	12	6	22
700273	44	<4	<4	30
700274	670	10	48	70
700275	38	<4	4	12
700276	30	4	<4	8
700277	14	6	4	8
700278	6	<4	6	8
700279	12	<4	<4	8
700280	14	<4	<4	6
700281	15	4	<4	10
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

CLASSIC COMLABS LTD

Analytical Laboratories (INC. IN W.A.)

540122

Job: 9AD0602
O/N: 1458 MAGNET

121

ANALYTICAL REPORT

SAMPLE		Cu	Pb	Zn	Ag			
700282		90	16	180	<0.1	DDH	BAB 1	130.7 - 138.6
700283		92	16	195	<0.1			138.6 - 143.1
700284		94	24	195	<0.1			143.1 - 146.3
700285		98	6	140	<0.1			146.3 - 174.0
700286		40	10	110	<0.1			174.0 - 187.0
700287	6x7	54	20	32	0.1			
700288		14	14	155	<0.1	DDH	MAG 2	0 - 40.40
700289		5	20	740	<0.1			40.4 - 43.8
700290		9	8	110	<0.1			43.8 - 49.9
700291		8	100	940	<0.1			49.9 - 52.9
700292		15	8	110	<0.1			52.9 - 88.7
700293		19	14	185	0.2			88.7 - 109.6
700294		6	20	185	0.1			109.6 - 133.6
700295		135	6	115	<0.1			133.6 - 156.2
700296		10	28	1800	0.2			156.2 - 180.6
700297		5	4	100	<0.1			180.6 - 184.0
700298		165	6	110	<0.1			184.0 - 189.2
700299		74	6	105	<0.1			189.2 - 198.0
700300	BLANK	3	<4	8	0.1			
700256B		155	12	92	0.8			
700261	6xnA	9	48	12	<0.1			
UNITS		ppm	ppm	ppm	ppm			
SCHEME		AAS1	AAS1	AAS1	AAS2A			

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540123

Job: 9AD0602
O/N: 1458 MAGNET

122

ANALYTICAL REPORT

SAMPLE		Au Avg	Au Dp1	Au Dp2	Au Dp3
700282		4	--	--	--
700283		2	--	--	--
700284		4	--	--	--
700285		<2	--	--	--
700286		<2	--	--	--
700287	7	10	14	8	--
700288		2	--	--	--
700289		2	--	--	--
700290		<2	--	--	--
700291		<2	--	--	--
700292		<2	--	--	--
700293		6	--	--	--
700294		2	--	--	--
700295		4	--	--	--
700296		<2	--	--	--
700297		2	--	--	--
700298		<2	--	--	--
700299		<2	--	--	--
700300		2	--	--	--
700256B	*	6	--	--	--
700261	12A	24	--	--	--
UNITS		ppb	ppb	ppb	ppb
SCHEME		AAS9	AAS9	AAS9	AAS9

CLASSIC COMLABS LTD
Analytical Laboratories (INC. IN W.A.)

540124

Job: 9AD0602
O/N: 1458 MAGNET

123

ANALYTICAL REPORT

SAMPLE	As	Bi	Sn	Sb
700282	14	<4	4	10
700283	9	6	<4	8
700284	6	<4	<4	8
700285	5	<4	<4	4
700286	6	<4	<4	4
700287	18	6	8	10
700288	9	<4	<4	6
700289	10	12	<4	14
700290	38	4	<4	12
700291	70	4	6	6
700292	8	<4	<4	14
700293	11	8	<4	12
700294	8	<4	4	22
700295	28	<4	<4	12
700296	12	10	6	8
700297	8	<4	4	6
700298	5	<4	<4	14
700299	7	6	<4	10
700300	2	<4	4	6
700256B	19	8	<4	4
700261	11	<4	300 (294)	4
UNITS	ppm	ppm	ppm	ppm
SCHEME	XRF1	XRF1	XRF1	XRF1

12A

124

ANALABS

A Division of Macdonald Hamilton & Co. Pty. Ltd.

540125

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	999.52.08.06435	29/08/89	39001	1 OF 4

TUBE No.	SAMPLE No.	Cu	%Cu	Pb	%Pb	Zn	%Zn	Ag	%Ag	As
1	702488	65	-	10	-	145	-	<0.5	-	2
2	702489	-	13400	20	-	120	-	<0.5	-	3
3	702490	65	-	20	-	120	-	<0.5	-	3
4	702491	60	-	10	-	210	-	<0.5	-	1
5	702492	115	-	30	-	120	-	<0.5	-	13
6	702493	100	-	15	-	200	-	<0.5	-	3
7	702494	40	-	15	-	130	-	<0.5	-	5
8	702495	25	-	25	-	1450	-	<0.5	-	7
9	702496	215	-	90	-	230	-	<0.5	-	2
10	702497	50	-	10	-	65	-	<0.5	-	2
11	702498	90	-	15	-	105	-	<0.5	-	<1
12	702499	65	-	10	-	50	-	<0.5	-	1
13	702500	195	-	10	-	35	-	<0.5	-	6
14	704551	-	275	-	4700	-	7.36	-	340	1
15										
16										
17										
18										
19										
20										
21										
22	DETECTION	5	25	5	25	5	0.01	0.5	2	1
23	UNITS	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM
24	METHOD	101	104	101	104	101	104	101	104	114
25										

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

125

ANALABS

540126

A Division of Macdonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX | REPORT NUMBER | REPORT DATE | CLIENT ORDER No. | PAGE

			999.52.08.06435		29/08/89	39001		3 OF 4	
TUBE No.	SAMPLE No.	Au	AuChk						
1	702488	<0.008	<0.008						
2	702489	0.034	0.035						
3	702490	<0.008	–						
4	702491	<0.008	–						
5	702492	<0.008	–						
6	702493	<0.008	–						
7	702494	<0.008	<0.008						
8	702495	<0.008	–						
9	702496	<0.008	–						
10	702497	<0.008	–						
11	702498	<0.008	–						
12	702499	<0.008	–						
13	702500	0.013	–						
14	704551	0.012	–						
15									
16									
17									
18									
19									
20									
21									
22	DETECTION	0.008	0.008						
23	UNITS	PPM	PPM						
24	METHOD	309	309						
25									

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

9085

5413000N
5412000N
5411000N
5410000N
5409000N
5408000N
5407000N
5406000N
5405000N
5404000N

368000E
369000E
370000E
371000E
372000E
373000E
374000E
375000E

WHYTE RIVER
MAGNET CREEK
ARTHUR RIVER
ARTHUR RIVER
MAGNET MINE
LUINA
WARATAH

RO ADS
TRACKS
4WD TRACKS
STREAMS

SAMPLES
LOCATIONS
Prefix A271 . . .
" A321 . . .
" 700 . . .
" 704 . . .
" A183 . . .
" A184 . . .

TYPES
510* Bulk Gold
511 Stream Sediment
519P Panned Concentrate

90-3070

AMG NORTH

0 0·5 1·0km
1:10,000
5 cm

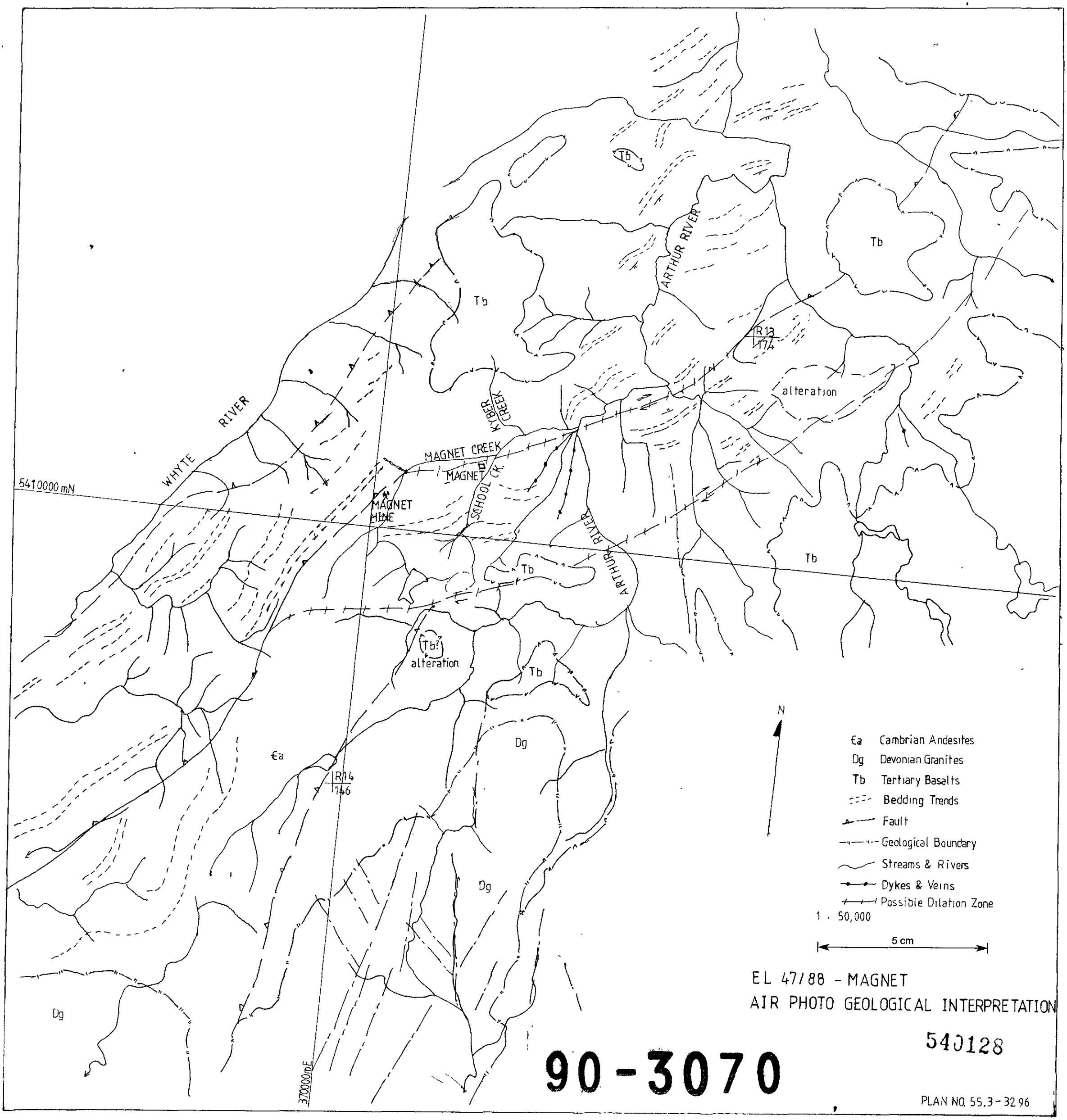
9085

540127

PLACER E.L.47/88-MAGNET TASMANIA

REGIONAL
SAMPLE LOCATIONS
EL47/88 - MAGNET

Date:	Geologist:
Revisions:	Drawn:
	Plan No. SK55.3 - 3295



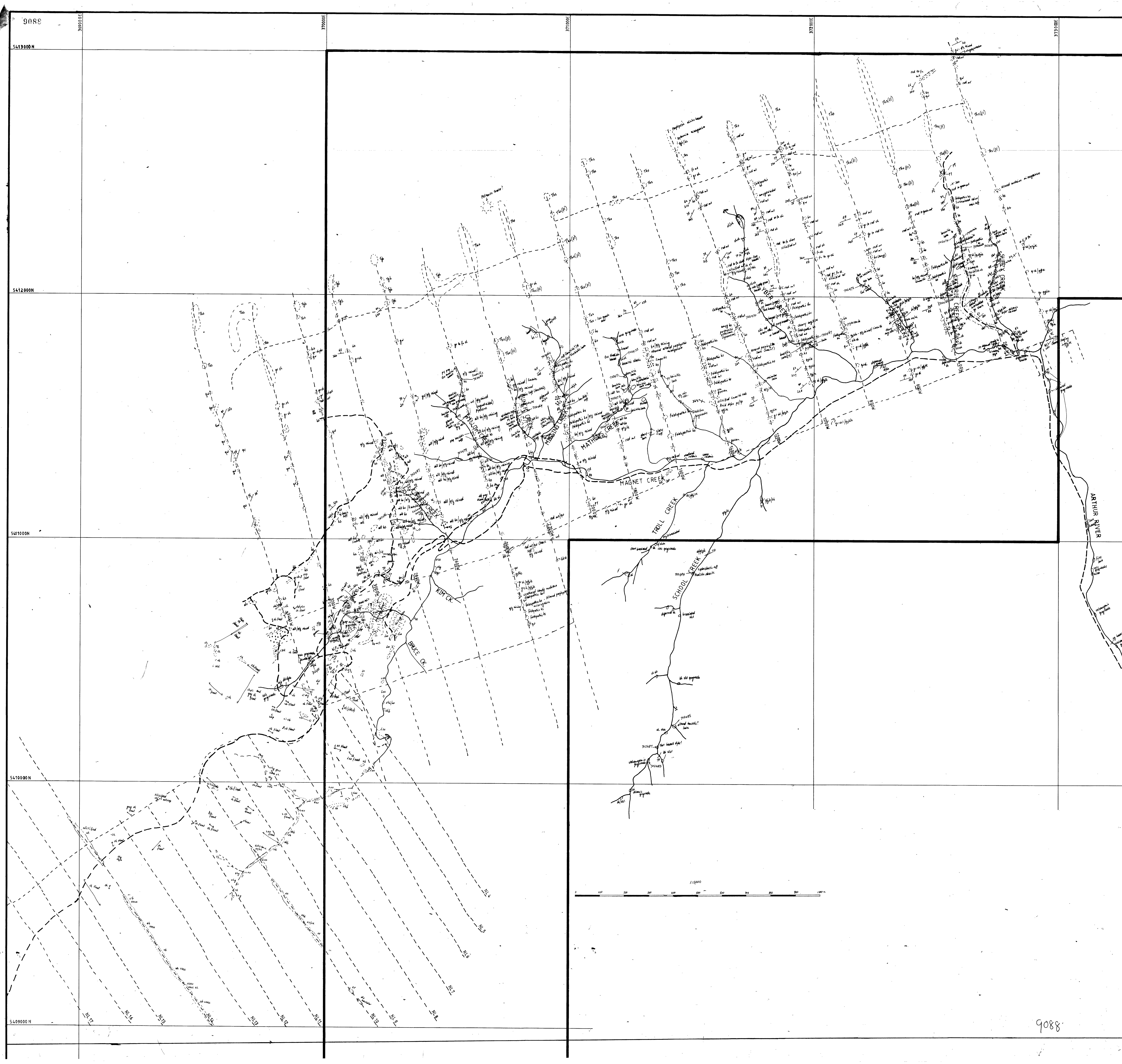
EL 47/88 - MAGNET
AIR PHOTO GEOLOGICAL INTERPRETATION

540128

90-3070

PLAN NO. 55.3-3296

369000E
370000E
371000E
372000E
373000E
374000E
5413000N
5412000N
5411000N
5410000N
5409000N
KYBER CREEK
TAC CREEK
KERRIE CREEK
SUEZY CREEK
MISSING CREEK
MATHEWS CREEK
LUNCH CREEK
MAGNET CREEK
TROLL CREEK
SCHOOL CREEK
ARTHUR RIVER
CARNER CREEK
1:5,000
0 100 200 300 400 500 600 700 800 900 1000m
AMG NORTH
9087 90-3070
5 cm
PLACER MAGNET TASMANIA
EL 47/88 - MAGNET
MAGNET CREEK AREA
SAMPLE LOCATIONS 540129
Date:
Geologist:
Revisions:
Drawn:
Plan No. SK55.3 - 3297



Tbs/do/gb OLIVINE BASALT, DOLERITE, GABBRO

Tcg/sh/ss/mt POORLY SORTED POLYMICTIC CONGLOMERATE SANDSTONE, SILTSTONE, MUDSTONE

mt RED, FAWN TO GREEN MUDSTONE

ch RED, FAWN & GREY CHERTS

gw/mt FAWN TO KHAKI INTERBEDDED GREYWACKE & MUDSTONES

bs AMYGDALOIDAL BASALT / SPHERULITIC BASALT - VARIOLITE MICROGABBRO (FELDSPATHIC BASALT)

GABBRO - INCLUDING PORPHYRITIC OLIVINE AND GABBRO

px PYROXENITE

um ULTRAMAFIC (PERIDOTITIC?) FLOWS & TUFFS

KHAKI GREYWACKE, MUDSTONE EXHIBITING SLUMP TEXTURES - STRONGLY FRACTURED IN PART

qtzite / sh GREY QUARTZITE, SHALE, BLACK SHALE & CHERT, STRONGLY CONTORTED, CHEVRON FOLDED

GOSSAN.

Qtz QUARTZ VEINING

alt ALTERATION OF BASITES INCLUDING SILICIFICATION CHLORITISATION, EPIDOTISATION

py PYRITE

cp CHALCOPYRITE

gl GALENA

sp SPHALERITE

og PORPHYRITIC OLIVINE GABBRO

umc ALTERED CARBONITISED ULTRAMAFIC

g GOSSAN

702483 THIN SECTION SAMPLE NUMBERS

PLACER MAGNET TASMANIA

MAGNET CREEK AREA - EL 47/88
GEOLOGICAL FACT

540130

Date:	Geologist:
Revisions:	Drawn:
	Plan No. SK55.3 - 3298

90-3070

369 000 E | 370 000 E | 371 000 E | 372 000 E | 373 000 E | 374 000 E

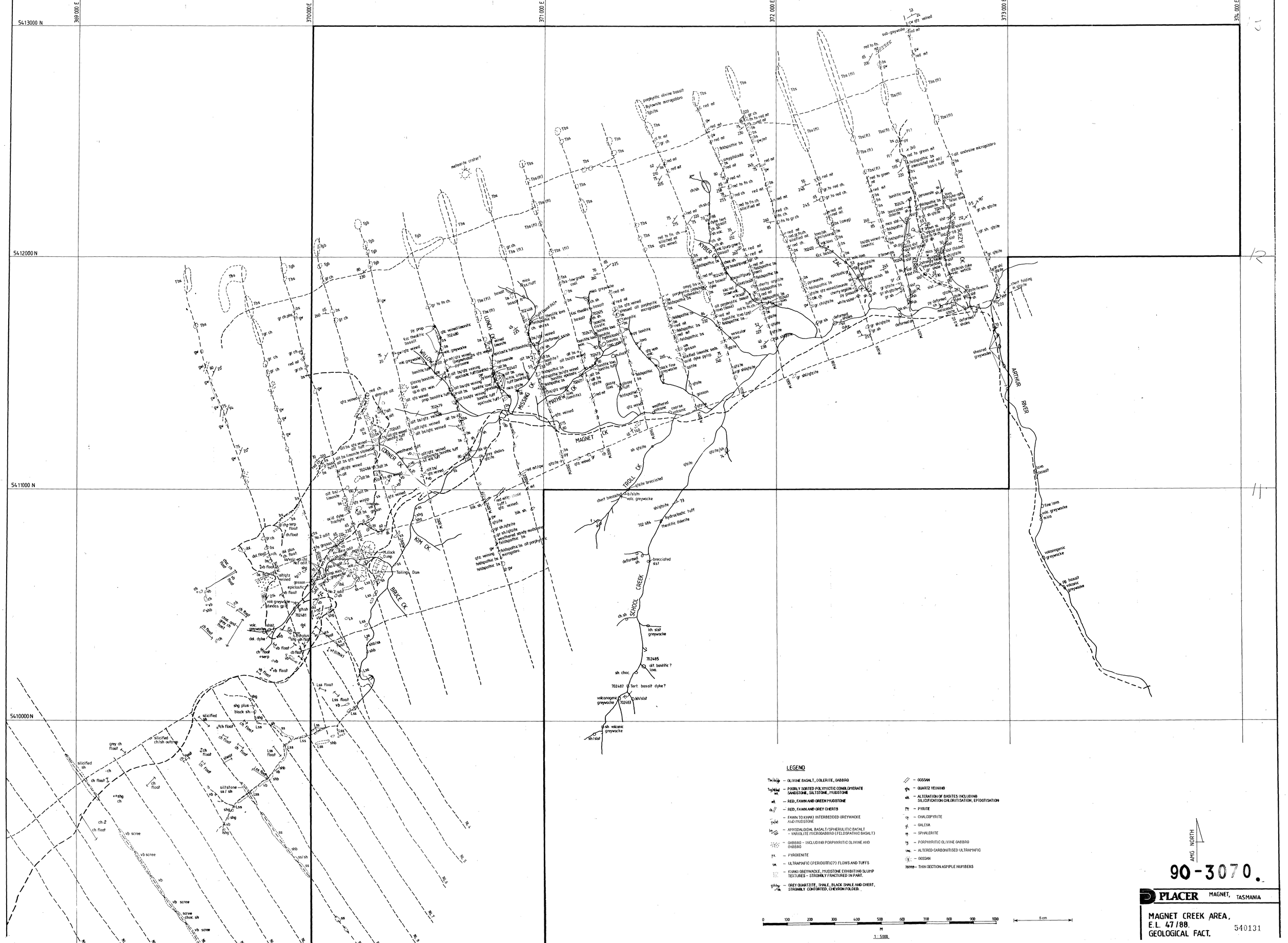
5413000 N

5412000 N

5411000 N

5410000 N

09000 N



LEGEND

- Tbs/Tbgb – OLIVINE BASALT, DOLERITE, GABBRO
- Tss/Tsbw/wt – POORLY SORTED POLYMICTIC CONGLOMERATE SANDSTONE, SILTSTONE, MUDSTONE
- wt – RED, FAWN AND GREEN MUDSTONE
- ch – RED, FAWN AND GREY CHERTS
- gw/wt – FAWN TO KHAKI INTERBEDDED GREYWACKE AND MUDSTONE
- bs – AMYGDALOIDAL BASALT/SPHERULITIC BASALT - VARIOLITE MICROGABBRO (FELDSPATHIC BASALT)
- – GABBRO - INCLUDING PORPHYRITIC OLIVINE AND GABBRO
- px – PYROXENITE
- um – ULTRAMAFIC (PERIDOTITIC?) FLOWS AND TUFFS
- – KHAKI GREYWACKE, MUDSTONE EXHIBITING SLUMP TEXTURES - STRONGLY FRACTURED IN PART.
- gh/sh/qz – GREY QUARTZITE, SHALE, BLACK SHALE AND CHERT, STRONGLY CONTORTED, CHEVRON FOLDED.
- – GOSSAN
- qtz – QUARTZ VEINING
- alt – ALTERATION OF BASITES INCLUDING SILICIFICATION CHLORITISATION, EPIDOTISATION
- py – PYRITE
- cp – CHALCOPYRITE
- gl – GALENA
- sp – SPHALERITE
- pg – PORPHYRITIC OLIVINE GABBRO
- umc – ALTERED CARBONITISED ULTRAMAFIC
- – OSSAN
- 702469 – THIN SECTION ASMPLE NUMBERS

0 100 200 300 400 500 600 700 800 900 1000 M

1 : 5000

5 cm

AMG NORTH

90-3070.

PLACER MAGNET, TASMANIA

MAGNET CREEK AREA,
E.L. 47/88.
GEOLOGICAL FACT.

540131

9089

5413000N
5412000N
5411000N
5410000N
5409000N

Tb
Tb
Tb
Ecc
Ecc
Ecc
Ecc
Ecc
Ecc
Po
Po

THOELIITIC BASALT
THOELIITIC BASALT WITH SHALES
BONINITIC TUFFS AND LAVAS
THOELIITIC BASALT / META DOLERITE
BONINITIC LAVAS AND BRECCIAS
BONINITIC LAVAS
BASALTS
BONINITIC LAVA?

WILLOW CREEK
LUNCH CREEK
MASSINA CREEK
MATHEWS CREEK
MAGNET CREEK
TROLL CREEK
SCHOOL CREEK
KIM CK
BRUCE CK
CRIPPS CREEK
KYBER CREEK
ZAC CREEK
MERRIE CREEK
SUEZY CREEK
ARTHUR RIVER

90-3070

1:5000

8cm

9089 540132

PLACER MAGNET TASMANIA

EL 47/88 - MAGNET
MAGNET CREEK AREA
GEOLOGICAL INTERPRETATION

Date:	Geologist:
Revisions:	Drawn:
	Plan No. SK55.3 -3299

AMG NORTH